

Controlled Trial of a Patient-Completed History Questionnaire: Effects on Quality of Documentation and Patient and Physician Satisfaction

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The purpose of this work was to study the impact of a patient-self-completed history questionnaire upon the quality of the information in the medical record, resource utilization, patient satisfaction, and physician satisfaction. A controlled trial was performed in a primary care clinic of a public supported, urban, university hospital. The patients were mainly poor, minority, urban individuals visiting the clinic for their first primary care visit. The providers were attending physicians, nurse practitioners, and medical residents associated with the Department of Medicine teaching program. A self-administered history questionnaire was given to approximately half the new patients in a randomized, prospective manner. The physicians completed an assessment form on all new patients estimating the time spent, complexity of the case, and listing studies requested. If a history questionnaire was completed by the patient, the physician completed an assessment irrespective of whether it helped or hindered the evaluation of the patient. After the visit, nurses called the patient by telephone and asked questions concerning the patient's satisfaction. The patients' records were reviewed for the initial history papers. There were 127 patients receiving the history questionnaire and 114 controls. The presence of the history questionnaire in the medical record added to both the quantity and the quality of the information present. Of the provider responses, 87% (95% confidence interval: 78–93%) wanted all new patients to complete the questionnaire. Of the patients who received the questionnaire, all who were asked felt that all their issues were addressed, compared with only 83% in the control group ($P = .015$). No increases in physician time or in utilization of medical resources were found. The implementation of a self-administered

history questionnaire in an urban primary care clinic resulted in improved chart quality and improved satisfaction of physicians and patients.

Key words: CAGE questionnaire, documentation, history, patient satisfaction, physician satisfaction.

The patient's history has long been accepted as the most important tool in making the diagnoses for a patient (1). The history of present illness is usually emphasized, and the other portions including past history, social history, occupational history, family history, and review of symptoms may or may not contribute to the analysis of the problem for which the patient consults the physician. We teach a complete history to our medical students in order that they understand all parts of the task, yet clinical practice with its emphasis on speed and efficiency often leaves portions omitted or underdocumented (2, 3). The review of systems has been studied and shown to be a useful screening tool yielding between 5 and 10% new diagnoses (4–6). The cost effectiveness of taking a review of systems in the new practice environment has been questioned (7).

The classical method of history taking is labor intensive, and the task may consume a sizable portion of the time available for the patient-provider encounter. In the new economic environment, time utilization must be optimized. Self-administered questionnaires have been used both to optimize the physician's time spent with the patient and to improve the quality of the record, improving the quantity and quality of the information (8, 9). The reliability and accuracy of self-administered history questionnaires completed by patients has been shown to be good (10–17). In one controlled prospective study, new patient self-administered questionnaires increased the completeness of the recorded data in the chart without consuming more

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physician time (18). Reports of physician and patient satisfaction and acceptance have been positive but anecdotal and unquantified. No administrative difficulties have been reported (8). Many reports contain the experience of one or a few physicians, which may reflect some self-selection in the use and positive evaluation.

Despite support from the literature, self-administered questionnaires for new patients have not been widely adopted (19). In general, offices with primarily managed-care patients were more likely to use a questionnaire than were offices caring for primarily Medicare and Medicaid patients. Few barriers were reported; these included language or illiteracy, fear that the questionnaires would consume more physician time rather than less, and a perception that the questionnaires were impersonal and detracted from the patient-physician interaction.

As part of our quality improvement program, we initiated a prospective controlled study with a self-administered health questionnaire for new patients in our primary health care clinic. We assessed physician time spent, physician satisfaction, patient satisfaction, and the quality of the medical record. Our clinic population has high levels of reading, language, and psychiatric problems, alcoholism, and substance abuse. The clinic is staffed by up to 10 attending physicians and 30 or more internal medicine residents, providing a spectrum of attitudes and opinions. Our clinic is located within a publicly administered urban hospital with civil service rules and union contracts. Most prior studies have been in private offices. It was a legitimate question whether this type of initiative could be effective in our practice environment.

METHODS

Setting

The Erie County Medical Center is a publicly supported hospital providing primary care services to the citizens of Erie County and subspecialty referral services to western New York. It is a major teaching hospital of the State University of New York at Buffalo Medical School. The Primary Health Care Center (PHCC) is the main platform for the delivery of primary care within the hospital complex.

Population

The patients served are predominantly from an urban poor population. All patients scheduled to see pro-

viders in the PHCC between October 1999 and March 2000 were screened for inclusion. To be eligible, the patient had to be a new patient to the PHCC. They should not have been seen in the PHCC at any time in the past. Patients referred by other clinics, referred from the wards or emergency department, or walking in were eligible. Prisoners, patients scheduled for disability evaluations, patients scheduled to the refugee clinic, and patients scheduled to the anticoagulation service were excluded. A comparison group comprised all other patients followed at the PHCC seen during the study interval.

Study

The university human subjects investigation review board approved the study. Patients telephoning the PHCC requesting a new appointment were mailed a letter giving them directions to the clinic and introductory information. Half were mailed a history questionnaire with a letter, which included a description of its purpose and guidance on how to complete it. The letters with and without the history questionnaires were alternated. Many patients were given appointments too soon to be mailed a letter. Half of these patients were given a history questionnaire with the letter when they registered. The history questionnaire was modeled on one reported by Hall and is shown in Appendix A (8). The reading level of the history questionnaire was appropriate to the fourth grade. New walk-in patients were treated in the same manner as new scheduled patients.

Patients who completed the history questionnaires gave them to the medical office assistant who escorted the patient to the room and prepared him or her for the visit. The provider was able to review the history questionnaire before the patient interview. Providers were given an assessment form for all new patients whether or not a history questionnaire was given to the patient. This assessment included items concerning the amount of time spent, the complexity of the patient, and whether the history questionnaire helped or impeded their evaluation.

The day after the visit, a clinic nurse called the patient and asked a number of standard quality assurance questions, which were recorded on a standardized nurse quality assurance form. Also included were questions regarding the acceptability of the history questionnaire and whether the patient felt it helped their evaluation.

Table 1
Distribution of Appointments and Patients

	Totals	New	Other
Appointments	5536	450	5086
Patients	2455	411	2044
Attended appointment	1934	253	1681

Data

Patient demographics, insurance, diagnoses, and years followed were abstracted electronically from clinic databases and entered into a database using Dbase V. Entries from the provider assessment form and the nurse quality assurance survey were entered into the database separately.

The charts of the new patients were reviewed to determine the completeness of the provider's written history. The history questionnaire was intended to assist the provider; it was not intended to replace the provider's history. The form began with the chief complaint or topic the patient wished to discuss with the doctor. The reviewer did not assess this item. The rest of the form contained 9 elements: past medical history, allergies, cigarette history, alcohol history including the CAGE questions (20–22), vaccinations, occupational history, family history, social history, and review of systems. The physician's history was scored as positive if there were any data entered under one of the aforementioned elements. With these guidelines, a missing item or an item such as "family history: none" would be coded *not present*, whereas an entry such as "family history: not contributory" would be coded *present*. The history questionnaire was scored similarly if the patient answered any of the questions within the history element. The alcohol element was scored *present* if the patient answered the question "Do you drink any alcohol?". Additionally, we recorded whether the physician's history agreed with the history questionnaire and whether the CAGE was positive. A summation score of the 9 elements was constructed valuing each at 1 (range 0–9) for both the providers written history and the history questionnaire.

Analysis

Demographic variables of the new patients were compared with those of a comparison group (all other patients scheduled with information available). Time consumed, chart completeness, physician satisfaction, and patient satisfaction were compared between new patients completing the history questionnaire and

Table 2
Demographics of new Patients and Comparison Group

	Comparison Group	New Patients
	<i>n</i> = 2009 ^a	<i>n</i> = 360 ^a
Sex (M/F %)	47/53	59/41 ^b
Race (%)	<i>n</i> = 1957 ^a	<i>n</i> = 258 ^{a,b}
Asian	2.5	1.9
Black	57.8	49.2
Hispanic	3.3	5.0
White	31.5	27.9
Other	5.0	16.0
Insurance (%)	<i>n</i> = 1957 ^a	<i>n</i> = 258 ^{a,b}
Medicaid	14.1	17.4
Medicaid managed care	20.3	6.6
Medicare	33.8	10.9
Managed care	9.5	11.6
Private	4.0	2.3
No insurance	18.3	51.2
Age (years)	52.8	41.5 ^b
Years followed	5.85	0 ^b
Number diagnoses	3.97	2.33 ^b

^a Data were not available for all and the numbers for which each analysis was made are shown. The data missing were primarily from the patients who had never been seen in the PHCC.

^b *P* < .02 after Bonferroni correction.

those not completing the form. Categorical variables were compared with chi square and McNemar chi square and continuous variables with the *t* test and the paired *t* test utilizing the SPSS statistical package.

RESULTS

During the study period, 2455 patients had 5536 appointments, of which 3581 appointments were kept. Table 1 portrays the breakdown of the appointments and patients, the entire group, and the new patients. There was a total of 450 new appointments, which were made for 411 unique new patients. Of the 411 new patients, 253 showed up for their appointment.

Demographics and selected diagnoses for the new patients and the comparison group comprising patients seen previously are shown in Table 2. New patients were more likely to be younger, male, have no insurance, and fewer active diagnoses. The race figures are difficult to interpret because of the large proportion of "other" that included "unknown." The difference in years followed is obvious, but the numbers are presented to show that our typical continuity patient stays with us an average of greater than 5 years.

Table 3 shows the diagnoses of the comparison group and the new patients. New patients had fewer chronic medical diagnoses and greater numbers for cigarette,

Table 3

Diagnoses of the new Patients and Comparison Group

Diagnoses	Comparison Group (<i>n</i> = 2009), %	New Patients (<i>n</i> = 360), %	
Hypertension	45.4	15.8	<i>P</i> < .001
Diabetes mellitus	20.1	7.8	<i>P</i> < .001
Hypercholesterolemia	14.4	4.7	<i>P</i> < .001
Obesity	14.2	6.1	<i>P</i> < .001
Degenerative joint disease	13.7	3.3	<i>P</i> < .001
Peptic ulcer/esophageal reflux	9.6	3.9	<i>P</i> < .001
Asthma	7.6	4.0	<i>P</i> < .017
Chronic lung disease	6.1	1.9	<i>P</i> = .034
Stroke/TIA	5.0	0.8	<i>P</i> < .001
Cigarette abuse	16.5	35.0	<i>P</i> < .001
Alcohol abuse (past & present)	11.8	20.6	<i>P</i> < .001
Substance abuse (past & present)	6.3	12.5	<i>P</i> < .001
S/P violence ^a	1.6	3.9	<i>P</i> = .012
S/P injury ^b	2.4	5.0	<i>P</i> = .014

^a Includes gunshot wounds, stab wounds, and assaults.^b Includes MVA, fall, fracture, and others.

alcohol, and substance abuse. The new patients also had a greater number of injuries related to gunshot wounds, stab wounds, and assault as well as other injuries. There were no significant differences for the diagnoses of dementia, schizophrenia, anxiety, rheumatoid arthritis, cirrhosis, hepatitis C, mental retardation, or chronic renal insufficiency.

Effect of Mailing the History Questionnaire

Of the 411 new patients, 376 had scheduled appointments and 35 walked in. The show rates were 68.6% for those sent both a letter and a history questionnaire (*n* = 35), 62.5% for those sent a letter (*n* = 32), and 56.3% for those who were sent neither (*n* = 309, *P* not significant).

Quality of Documentation

There were 253 (61.6% of 411) new patients who kept their appointments. Five charts could not be obtained for review, leaving 248 patients. Of these, 162 (65.3%) received a history questionnaire by mail or upon registering at the window. The chart indicated that 7 patients had completed the history questionnaire; however, the questionnaire was not in the chart. These 7 were excluded. Of the remaining 155, there were 3 documented refusals and 11 cases where the patient was unable to complete the form because of

Table 4

Presence of Historical Elements in the Chart

History element	Provider History – Questionnaire (<i>n</i> = 114), %	Provider History + Questionnaire (<i>n</i> = 127), %	History Questionnaire (<i>n</i> = 127), %
Allergies	93	94	97 ^a
Past medical history	84	87	58 ^a
Vaccinations	13	19	97 ^a
Cigarettes	77	80	99 ^a
Alcohol:			
CAGE	0	3	98 ^b
History of	72	78	—
Occupational	21	26	87 ^a
Family	66	62	90 ^a
Social	40	38	87 ^a
Review of systems	37	40	94 ^a
Total Score (mean)	5.07	5.25	8.08 ^c

^a *P* < .001 compared to history by McNemar chi square.^b *P* < .001 compared with alcohol history.^c *P* < .001 paired *t* test.

psychiatric illness, neurologic illness, language barrier, or inability to read, and 10 were incomplete and unusable. There was no explanation for noncompletion for 4 patients, resulting in 127 useable history questionnaires.

We performed the analysis both according to whether or not the history questionnaire was given to the patient and by whether or not there was a completed history questionnaire available. There were no differences between the 2 approaches, and we present the analysis by whether or not the form was completed. This analysis covers 241 patients, 127 with and 114 without history questionnaires. The provider's history did not contain more historical elements (mean total scores were 5.25 and 5.07 completed elements, *P* not significant), whether the history questionnaire was available or not (see Table 4). The CAGE was noted by the physician in only 3% of occasions and only when the history questionnaire was available.

The history questionnaire contained many more completed elements with the exception of the past medical history. The mean number of completed elements was 8.08, which was statistically significant at *P* < .001 when compared with the provider's history. We attribute the fact that the past medical history was less complete to the need to write what was often complex information, whereas most of the remaining history questionnaire only required checks or short responses. Although not directly assessed by our study, the patient-completed information was much more detailed than the provider's written history, with the exception of the past medical history.

Table 5
Complexity of the Encounters and Time Utilized

	Patients Without History Questionnaire (<i>n</i> = 65), %	Patients With History Questionnaire (<i>n</i> = 89), %
Working diagnoses		
1-2	69	65
2-4	26	33
≥5	5	2
Services requested		
Laboratory	50	65
EKG	9	22 ^a
Radiology	16	22
Other imaging	11	10
Consultation	29	20
Time utilized (mean), min		
Before	6.60	8.38
During	25.78	23.60
After	13.12	12.39
Total	46.17	44.88

^a *P* = .049.

One question is whether the CAGE presented in this format was effective. Of the 127 patients, 124 (99.2%) answered the "Do you drink any alcohol?" question. The CAGE was positive in 30 patients (24%). Alcohol as a problem was identified in 35 patients. Six of these patients were noted to be in remission, 2 of whom had a positive CAGE. Of the patients who had the diagnosis of alcoholism recorded in their charts, 13 (including 4 in remission) or 35% either did not answer the CAGE questions or answered negatively. At least one of these was an individual in an alcohol rehabilitation program who answered that he did not drink (the physician history noting that he had been abstinent 2 months). For the 127 patients with the history questionnaire, the provider's history and the CAGE were in agreement 80.5% of the time, they were discordant 15.5%, and 4% were unclear. The physician missed a positive CAGE in 9 patients, and the CAGE was negative (or not answered) for patients with alcoholism (active or in remission) for 11 patients.

Provider Assessments

This analysis required a completed provider assessment form and a completed chart review. Of the 253 patients who showed up for their appointment, providers completed 163 assessments, 45 were returned incomplete, and 45 were missing. Of these 163 patients, 112 were given the history questionnaire, of which 92 patients completed it. Of those patients with both provider assessment forms and completed chart review

Table 6
Provider Satisfaction With the History Questionnaire
(*n* = 84)

	Very Much Agree (%)	Some- what Agree (%)	Uncer- tain (%)	Some- what Dis- agree (%)	Very Much Dis- agree (%)
Questionnaire helpful	48.8	40.5	8.3	2.4	0
Speeded interview	42.9	36.9	13.1	6.0	1.2
Improved information	45.2	38.1	9.5	6.0	1.2
Waste of time	0	4.8	10.7	31.0	53.6
Distracting	2.4	2.4	9.8	34.1	51.2
Incomplete/inaccurate	3.6	14.3	16.7	35.7	29.8
Like in-take for all patients	60.2	26.5	7.2	4.8	1.2

(154 patients), 89 completed the history questionnaire and 65 did not.

Physicians were asked to enter the number of working diagnoses, what services they requested for their patients, and an estimate of the time they spent before the interview, during the interview, and after the interview. These data are presented in Table 5 and show that the patients were comparable in complexity and in time utilized. Although there were more electrocardiograms (EKGs) ordered for the patients with the history questionnaire, the univariate *P* value was .049 (not significant after a Bonferroni correction for multiple comparisons). The table shows that use of the history questionnaire did not prolong the interview or result in increased utilization.

Provider Satisfaction

Providers were asked to rate the history questionnaire for each patient by rating 7 questions with a 5-point Likert scale. The options were Very much agree, Somewhat agree, Uncertain, Somewhat disagree, and Very much disagree. The first 3 questions were phrased positively, the second 3 were phrased negatively, and the last was phrased positively and was a summary reaction to the history questionnaire. Briefly, the questions were (a) Did the history questionnaire help with the assessment? (b) Did the history questionnaire speed the assessment? (c) Did the history questionnaire provide additional information? (d) Was the history questionnaire a waste of time? (e) Did the history questionnaire distract the patient and make the interview more complicated? (f) Was the information incomplete or inaccurate? and (g) Would you like all your new patients to have a history questionnaire? The results are shown in Table 6.

In general, the answers were in favor of the history

Table 7

Patient Satisfaction With Visit and History
Questionnaire ($n = 64$)

Question	Patients Without History Question- naire ($n = 24$)	Patients With History Questionnaire ($n = 35$)
	% yes	% yes
Were all your issues addressed?	83	100 ^a
Did MD understand your problem?	83	94
Were you satisfied with your visit?	83	91
Did your history questionnaire help the MD understand your problems?	—	82
Were your nursing instructions clear?	93	97
Do you have any questions?	7	15

^a $P = .015$.

questionnaire, with 80–90% of the responses giving positive ratings. The most negative responses were seen for the question concerning completeness and accuracy. Many of our patients had difficulties, but nevertheless tried to complete the form. The providers (86.7%) agreed with the question that they would like all their new patients to be given the form.

Patient Satisfaction

The nurses in the clinic routinely call patients after their visit as part of nursing follow-up and quality assurance. Of the 253 new patients who showed up for their appointments, 167 (66%) patient satisfaction forms were available for analysis and 86 (34%) were missing. Ninety-nine (39%) were not complete for the following reasons: 9 had no telephone, 20 had given an incorrect telephone number, 34 had no answer despite 3 attempts, 7 were unable to talk on the phone because of mental or physical problems, 23 were other (for instance the phone was answered but the patient was not in), and 8 had no notations. This left 68 (27%) completed patient-satisfaction forms. The results of the nursing patient-satisfaction assessments are shown in Table 7. Four patients were excluded because their history questionnaire was completed but lost or because they left without being seen. All the patients completing the form felt that all their issues were addressed, whereas 17% of the control group did not ($P = .015$). The remaining questions were also overwhelmingly positive although not statistically different between the 2 groups. Patients completing the form felt that it helped the physician understand their case 82% of the time, did not help 14% of the time, and were uncertain 4% of the time.

DISCUSSION

Utility of the History Questionnaire

The use of the history questionnaire improved the quality of the information in the medical record, although it did not improve the physician's note in a statistically significant manner. Our study also shows improved physician and patient satisfaction with the encounter as a result of the form.

The history questionnaire did not add to the physician encounter time or lead to an increase in testing. These were 2 of the principle fears voiced by the physicians when they were briefed on the study. The history questionnaire did not decrease encounter time either. One possible explanation is that the amount of time budgeted for an initial encounter is used as expected. We found a wide range of recorded times and do not feel this explanation likely. Another explanation is that the time spent with a patient is not used solely to assess the patient and formulate a diagnostic and therapeutic plan. It is also used to create a bond with a patient. Patients value contact time with their physician, and if the history questionnaire allows the physician to achieve the primary goals more quickly and efficiently, then more time may be spent on patient-centered concerns in a way that the patient and physician may find valuable. The potential for improved time efficiency remains and may be realized in more efficient settings where time is more an issue as in managed care.

The issue of liability was raised by our physicians and administrators. Concerns centered upon the patient checking "yes" to an item that was not considered by the physician and which might herald a medical problem in the future. In the primary care setting, we have the advantage of seeing the patient over time. Therefore, we prioritize the patients' problems and address them in a medically appropriate and fiscally responsible manner that usually leads to the deferral of some issues. The importance of a single data item depends upon the context, and the presence of an item does not make it important. These extraneous items do not influence the physicians' approach to the patient or the initial care plan. If the issue is important, it will be apparent on a subsequent visit and be addressed then. We would further argue that the better the documentation, the better the physicians' position both from the quality of care and the legal perspectives.

Problems with the History Questionnaire

Ideally the patient was to have received the history questionnaire at home and could take some time to

complete it. Patients with language problems, literacy problems, neurologic disorders, or psychiatric disorders could have a family member help them complete it as previously reported (9). Many patients received the history questionnaire at the reception desk and were required to complete it while in the waiting room or while in the examination room. Many of the disabled patients could not or would not complete the form. Some patients were completing the form while the doctor was trying to interview them. This circumstance was not well received by the physician. Some patients completed the form but did not give it to the physician. Elements of the form that required writing were less complete than the elements where the patient could check a box or fill in a blank. There was a pair of complaints by physicians that 2 patients coded all items in the review of systems positively. Unfortunately, the "positive review of systems" does occur in clinical practice, is not a design flaw of the form, and may have some diagnostic importance in itself. There were also problems with completeness and accuracy noted 18% of the time. These deficiencies can also occur in the standard interview mode. The physicians were able to identify the inaccuracies, and notes were often made regarding the patient's mental, neurologic, or language abilities to explain the problems. Despite the problems noted, the physicians still indicated they wished the patient to complete the form on the provider evaluation form where the problems were identified.

Administrative Problems

By design, patients were to be given introductory paperwork either by mail or at the reception window on an alternating basis. During much of the study period, new patients were given an appointment within 1 to 2 days. This period was not enough time for a timely mailing, and the project depended on randomization at the reception window. Although the mailings initially went out according to plan, the reception personnel at the window rotated frequently, and it was difficult to maintain the study procedures. In order to simplify the process, randomization was changed to all new patients on one day alternating with the next day. Despite the simplification, the randomization process broke down, and we instituted an adaptive sampling system to obtain a more equal grouping. The errors in randomization do not appear to be systematic and were unlikely to have caused bias.

Inclusion of the CAGE questions would also appear to have been successful. The majority of patients completed the initial question, and the CAGE was positive

in many. It missed patients who drank previously and answered "no" to "Do you drink any alcohol?". It also missed a few patients who were in or had been in alcohol rehabilitation, possibly because they were familiar with the CAGE. Unfortunately, physicians did not recognize or did not respond to a number of positive CAGE questionnaires. Despite having an educational program in the clinic for the 2 years before the study concerning alcoholism and screening with the CAGE, the CAGE has not been utilized by our providers. This conclusion is supported by the absence of CAGE questions when the history questionnaire was not present. The presence of the CAGE on the history questionnaire resulted in its utilization, for the most part was accepted by the patients, and resulted in an improvement in the quality of the chart information.

With the advent of the electronic medical record, the possibility of scanning the history questionnaire into the database or having the patient enter information directly into a computer are being explored. We need to remember that although these techniques enhance the quality of the information and improve the physician-patient interaction, they do not replace the physician's history and physical examination.

SUMMARY

This study was performed in an inner city public hospital with multiple physicians, most of whom were residents in training, and a challenging patient population. Nevertheless, both patients and physicians appreciated the history questionnaire. The quality of the medical record was improved by both the number of desired historical elements present and by the improved detail of the information.

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APPENDIX 1

History Questionnaire

NAME: _____ DATE: _____

DATE OF BIRTH: _____

WHAT WOULD YOU LIKE TO TALK TO THE DOCTOR ABOUT?

LIST BELOW ANY ILLNESSES AND OPERATIONS YOU HAVE HAD (with dates if possible):

Are you allergic to any drugs? Yes ☐ No ☐

If yes, which ones? _____

(X one)

Have you received an influenza immunization within the past 12 months?

Yes ☐ No ☐

Have you received an immunization against pneumonia within the past 5 years?

Yes ☐ No ☐

Have you received a tetanus immunization within the past 10 years?

Yes ☐ No ☐

If you use inhalers, have you received instruction in their use in the past 2 years?

Yes ☐ No ☐Did you or do you smoke? Yes ☐ No ☐

Do you drink alcohol?

Yes ☐ No ☐

How many packs? _____ per day

If yes:

For how long? _____ years

Have you ever felt the need to cut down?

Yes ☐ No ☐

If you quit, when? _____ years ago

Have you ever had an eye-opener?

Yes ☐ No ☐If no, would you like to stop? Yes ☐ No ☐

Have people annoyed you with criticism of your drinking?

Yes ☐ No ☐

Have you ever felt guilty about your drinking?

Yes ☐ No ☐

PAST OCCUPATIONS WITH YEARS INVOLVED: _____

CURRENT OCCUPATION WITH STARTING DATE: _____

Were you ever exposed to industrial toxins (eg, asbestos, lead, others)?

Yes ☐ No ☐

If yes, which ones and for how long? _____

Did you use any protective devices (eg, goggles or masks)?

Yes ☐ No ☐

APPENDIX 1

Continued

FAMILY HISTORY	IF ALIVE		IF DEAD	
	Age	State of health	Age at death	Cause of death
Father				
Mother				
Brothers & sisters				
Children				

SOCIOECONOMIC:

Are you single/married/divorced/widow(er)?

Where do you live?

Do you do your own cooking, cleaning, and shopping, or do you need to get help?

Education level: (circle one) Some grade school/Some high school/High school graduate/Some college/ College graduate.

HAVE YOU NOTICED ANY OF THE FOLLOWING:

CIRCLE ANSWER IF IT HAS OCCURRED DURING THE PAST 3 MONTHS.

1. Change in weight	Yes	No	18. Change in sex life	Yes	No
2. Sweats, fever, chills	Yes	No	19. Shortness of breath	Yes	No
3. Lumps anywhere	Yes	No	20. Troublesome coughing	Yes	No
4. Bruise or bleed easily	Yes	No	21. Any blood in sputum	Yes	No
5. Skin problem	Yes	No	22. Wheezing	Yes	No
6. Unusual thirst	Yes	No	23. Pain in the legs	Yes	No
7. Pain in your joints	Yes	No	24. Palpitation of the heart	Yes	No
8. Loss of appetite	Yes	No	25. Dizziness	Yes	No
9. Abdominal pain	Yes	No	26. Headaches	Yes	No
10. Heartburn	Yes	No	27. Trouble with eyesight	Yes	No
11. Nausea or vomiting	Yes	No	28. Trouble with hearing	Yes	No
12. Indigestion	Yes	No	29. Numbness or tingling in hands or feet	Yes	No
13. Constipation or diarrhea	Yes	No	30. Depression or irritability	Yes	No
14. pain on swallowing	Yes	No	31. Difficulty concentrating	Yes	No
15. Change in appearance of urine	Yes	No	32. Forgetfulness	Yes	No
16. Trouble with monthly periods	Yes	No	33. Fatigue or tiredness	Yes	No
17. Pain in the chest	Yes	No	34. Sleep problems	Yes	No