

Central Plains Regional Health Care Foundation
Project Access Program
Wichita/Sedgwick County, KS

Call-A-Nurse
Program Evaluation

Ruth Wetta-Hall, RN, MPH, MSN, PhD Candidate

Gina Copas, PhD Candidate

Department of Preventive Medicine and Public Health
University of Kansas School of Medicine

Contact: Gina Copas, PhD Candidate
University of Kansas School of Medicine – Wichita
1010 North Kansas, Wichita, KS 67214-3199
Phone: 316-293-2627 Fax: 316-293-2695 Email: gcopas@kumc.edu

Index

Executive Summary

Project Access Call-A-Nurse Report

Patient Demographics

Participants' Reasons for Utilizing Call-A-Nurse Program

Participant Self-Reported Health Complaints

Participant Reported Care-Seeking Activity

Participant Health Care Resolution

Participant Satisfaction with Call-A-Nurse Program

Figures

Figure 1. Participant Reasons for Utilizing CAN

Figure 2. Participant Health Concerns by Body System

Figure 3. Participant Self-Rated Severity

Figure 4. CAN Staff Rating of Urgency

Figure 5. Difference in Self-Reported Care-Seeking Behavior Without vs. With CAN

Figure 6. Participant Overall Satisfaction

Tables

Table 1. ICD-9 Groupings

Table 2: Types of Health Concerns Categorized by Urgency per Call-A-Nurse Staff

Table 3: Reasons for Reporting Health Concern Not Resolved

Table 4. Reasons Why Participants Did Not Follow-up with Nurse's Advice

Table 5. Consumer Improvement Suggestions for Call-A-Nurse Program

Table 6. Consumer Comments for Call-A-Nurse Program

Appendix

CALL-A-NURSE TELEPHONE SURVEY INSTRUMENT

Executive Summary

The Call-A-Nurse (CAN) telephone triage program answered health related questions and supported health care decision-making for Project Access patients. Patients enrolled in Project Access received a magnet with the CAN telephone number they could use to connect with a registered nurse for health care questions and concerns.

There were a total of 320 calls presenting health concerns to the Call-A-Nurse staff from July 2002 to August 2004. These were made from a total of 207 unique individuals which utilized the CAN service. Approximately two-thirds of the callers were female. The average of callers was 42.

A total of 80 patients responded to the Call-A-Nurse follow-up phone survey (See Appendix A) from November 2002 through August 2004. Based on survey response, CAN users are generally middle-aged, mostly female, mostly single, not highly educated, and Caucasian. About half of them perceive their health to be good. Most of the respondents were seeking medical advice and/or health information.

Project Access patients appear to perceive their health problems as slightly more severe than the CAN staff. However, patients' reports of health concerns highly concur with the nurses' records, suggesting strong nurse-patient communication, resulting in better understanding.

The data suggest that callers are following the CAN advice. Findings suggest that the telephone consultation service is effective in helping uninsured patients seek the most appropriate level of care based upon comparison of self-reported health resource use with telephone consultation versus no phone consultation. The data also shows that CAN users are very satisfied with the service. Although these findings are positive, it is based on self-report and sample size is small, thus should be interpreted with caution.

Project Access Call-A-Nurse Report

Project Access connects adult, low-income uninsured residents of Sedgwick County to volunteer health care providers (physicians, hospitals, clinics, pharmacies, medical equipment) for treatment of acute and chronic health care needs. The goal of the program is to help patients make better health care decisions and improve appropriate use of health care resources.

Patients enrolled in Project Access were informed about and invited to use the Call-A-Nurse (CAN) received via a three-part program outreach. First, each patient received a magnet with a telephone number they could call to connect with a registered nurse for health care questions and concerns. Two weeks later, each enrollee received an introductory phone call from the CAN staff again welcoming them into the program and inviting them to use the telephone consultation service. Finally after another two-week period, colorful postcards were mailed to each Project Access enrollee to remind them of the health consultation service.

The Call-A-Nurse (CAN) telephone triage program answered health related questions and supported health care decision-making for Project Access patients. The RNs that staffed CAN were trained in telephone triage techniques, and used a specialized health problem querying software, which guides the patient interview process. The purpose of Call-A-Nurse evaluation survey was to assess the impact of a telephone triage program for low-income, uninsured residents enrolled in Project Access in Sedgwick County, Kansas.

A total of 320 calls were received from July 2002 through August 2004 from 207 unique patients. The ages of the callers ranged from 20 to 65 with the average age 42. Just over two-thirds (67%) of the Project Access callers with health concern calls were female.

A total of 80 patients responded to the follow-up survey. There were actually 89 survey responses, however, nine patients responded to the survey more than once, thus this report is

based on the first survey response of each patient. This report describes the Call-A-Nurse data gathered from November 18, 2002 through August 6, 2004.

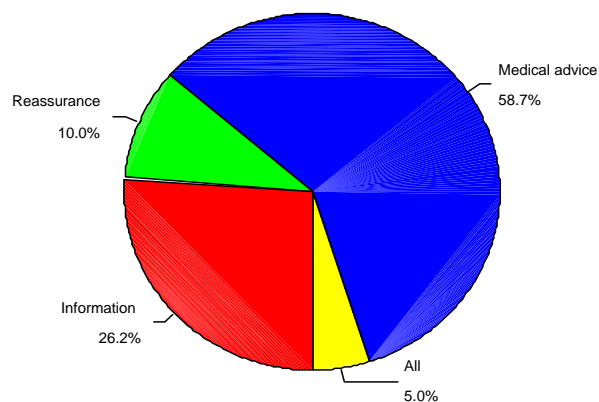
Participant Demographics

Participant ages ranged from 19 to 63 and the average age was 42 (median 44) years. Seventy-five percent of the survey participants were female. Of the 80 survey participants, 64% identified themselves as Caucasian, 21% as African American, 4% as Hispanic, 5% as Native American, and 6% did not respond to this question. The majority of participants (63%) live alone either single or live by themselves (39%) or were divorced or widowed (24%). Thirty-four percent (34%) reported being married or living with a significant other and 4% did not respond. Only one of the survey participants reported completing high school, 32% reported completing some high school, 35% reported an eighth grade education or less, and 3% did not respond to this question. Participants' self-rating of their personal health varied from Excellent (1%), Very Good (16%), Good (38%), Fair (25%), Poor (19%), and 1% did not respond.

Participants' Reasons for Utilizing Call-A-Nurse Program

The primary reason the participants (59%) reported using the Call-A-Nurse service was to get medical advice, although 26% reported requesting health information, 10% sought reassurance, and 5% reported calling for all three reasons (See Figure 1). Data regarding whether or not the participants had tried contacting their doctor or clinic was not provided, thus cannot be reported here.

Figure 1. Participants' Reason for Utilizing CAN

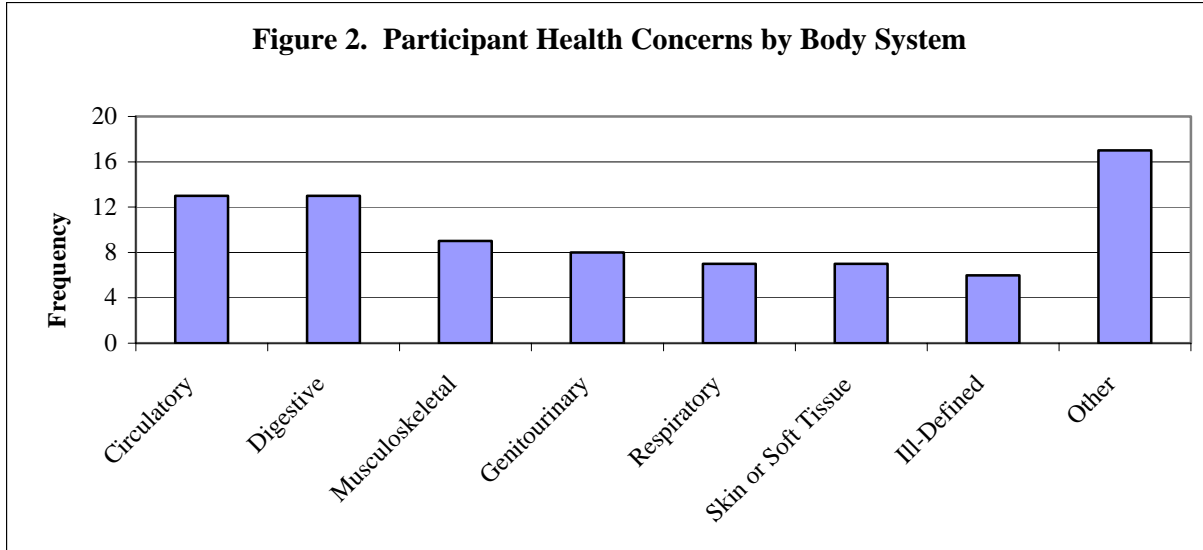


Participant Self-Reported Health Complaints

Call-A-Nurse staff also categorized participants' chief complaints into ICD-9 groupings as listed in Table 1. The chief complaints reported by the participants varied from: digestive (16%), circulatory, (16%), musculoskeletal (11%), genitourinary (10%), respiratory (9%), and ill-defined signs & symptoms, (9%) see Figure 2.

Table 1. ICD-9 Groupings

-
- **Digestive system diseases (16%):** Diagnoses in this category included tooth, pulp and other mouth diseases, esophagitis, peptic ulcer, reflux disease, gastritis and hemorrhage, appendicitis w/ peritonitis, hernia repair, ulcerative colitis, fistula, lower gastrointestinal hemorrhage, chronic hepatitis, gall bladder surgery, pancreatic disease.
 - **Circulatory system diseases (16%):** Diagnoses in this category included heart disease, hypertension, heart attack, atherosclerosis, dysrhythmias, enlarged heart, arteriosclerosis, peripheral venous insufficiency, and hemorrhoid.
 - **Musculoskeletal system (11%):** This category is a high volume category affecting a large number of patients in the data set. The category includes such diagnoses as osteo and rheumatoid arthritis, spine and joint pain/procedures.
 - **Genitourinary system diseases (10%):** A wide range of diagnoses were observed in this category including acute and chronic renal disease, kidney stones in kidney and ureter, ureteral obstruction, blood in urine, disorders of male and female reproductive systems.
 - **Respiratory system diseases (9%):** Patients in this category were treated for nasal cavity problems and sinusitis, bronchitis, bronchiolitis, chronic tonsillitis, pneumonia, chronic airway obstruction, breathing difficulties related to radiation therapy.
 - **Ill-defined conditions, signs and symptoms (9%):** A wide range of diagnoses were observed in this category including dizziness, sleep disturbances, malaise, and various types of chest pain, nausea, vomiting, abdominal pain, abdominal swelling, abnormal laboratory and radiological results.
 - **Skin and subcutaneous tissue diseases (8%):** Patients in this category were treated for cellulitis and abscesses, dermatitis, or skin ulcers.
 - **Injury and poisoning (3%):** This category is also wide-ranging, and includes such diagnoses as fractures of the face, ribs and extremity, open wounds, contusions, burns, post procedure complications, and postoperative infections.
 - **Endocrine, metabolic, nutritional disorders (1%):** Diagnoses in this category included diabetes, goiter, thyrotoxicosis, and hypothyroidism.
 - **Blood and blood-forming diseases (1%):** Patients in this grouping were treated for anemia, thrombocytopenia and lymphadenitis.
-



Call-A-Nurse staff categorized caller complaints by intensity of need. Almost half of the calls by participants were categorized by CAN staff as requiring a follow-up with a medical provider within 24 hours (46.3%). The remaining calls were categorized as emergent (20%), urgent (11.3%) or other (20%). The descriptions of need intensity are in Table 2.

Table 2: Types of Health Concerns Categorized by Urgency per Call-A-Nurse Staff

- **Emergent:** abdominal pain, back pain, chemical burn/ poison control, chest pain, shortness of breath, painful urination
- **Urgent:** headache, leg swelling, vaginal bleeding
- **24 hour:** abdominal pain, back pain, congestion/ sinus, constipation, dizziness, face pain, joint pain/ swelling wrist, nausea/vomiting, urinary tract infection
- **Other:** congestion/cough/fever, diabetes and health information, sinus pain, trauma/limb physician reference

Callers were also asked to rate the severity of their health problems. On a scale of 1 (not severe at all) to 3 (very severe), mean perceived severity of health problem was 2.1. More than three-fourths of the participants (88%) perceived their health problem to be very severe (34%) or severe (44%). When self-rated severity was compared to CAN staff rating of urgency, it appears that Project Access patients appear to perceive their health condition as slightly more severe than the CAN staff (See Figures 3 & 4).

Figure 3. Participant Self-Rated Severity

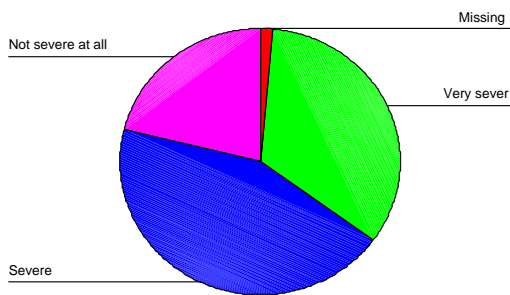
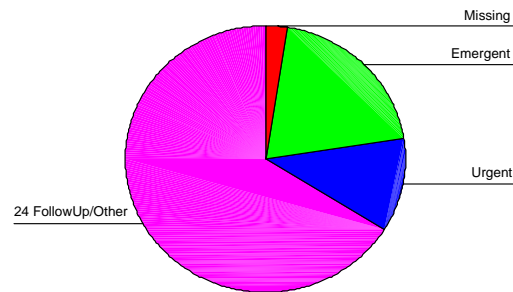


Figure 4. CAN Staff Rating of Urgency

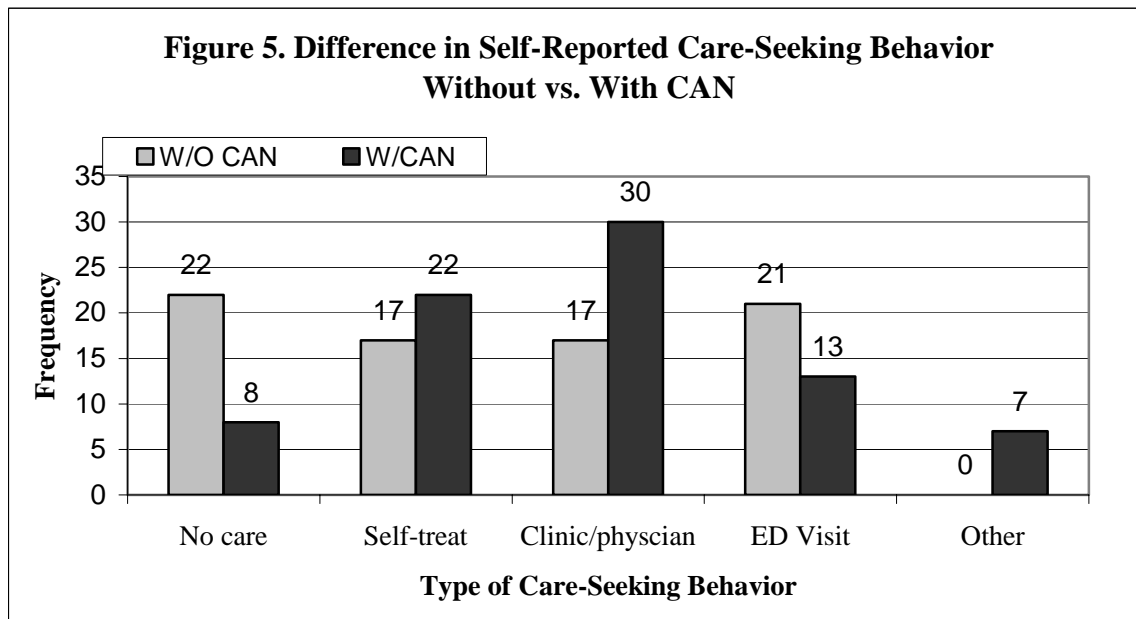


Participant Reported Care-Seeking Activity

When asked what their health care choices would be if not able to speak the CAN nurse, just over one-fourth (26%) of the callers indicated that they would have gone to the emergency department if they had not consulted with the nurse by phone. Moreover, an additional 24% indicated they would have either visited a private physician (15%) or another health care provider (9%). The most common result of the Call-A-Nurse conversation was seeking additional medical care (60%), with 35% of participants visiting a clinic, 16% visiting an emergency department, and 9% of participants reported calling the doctor/poison control for additional medical advice. However, a large percentage chose not to seek additional medical advice (35%) with 25% treating self at home and 10% choosing to not self-care. Health problem resolution as reported by participants

When comparing the care-seeking activities (See Figure 5), the CAN program resulted in more appropriate self-reported behaviors of the participants. Comparisons of respondents' self-reported health-care seeking intent without CAN was compared with respondents self-reported actual behavior with the CAN program. Decreases are shown in the less-desirable behavior of participants choosing no medical care as well as those choosing unnecessary emergency department visits. Likewise, there were increases the more appropriate care-seeking behaviors,

specifically educated self-treatment or clinic visits. Behaviors under the “Other” category included calls to doctor and/or poison control – thus seeking more in depth medical advice without making unnecessary emergency department visits. As the goal of the Call-A-Nurse program is to encourage low-income, uninsured Sedgwick County residents utilize the most appropriate medical care – these findings suggest that the CAN telephone consultation service is effective in helping patients to exhibit better care-seeking behaviors. Although the findings are encouraging, they are based on self-reports and sample size is small, thus results should be interpreted with caution.



Participant Health Care Resolution

A follow-up phone call to the Project Access patient is placed within 24 to 78 hours to evaluate whether the health concern has been resolved. While almost half (47%) of those participating in this survey indicated it had been resolved, approximately one-third (34%) indicated it had not. Most of the remaining participants (19%) reported the health problem still

existed – but had been improved as a result of healthcare. Participants’ self-reported explanations why health problems were not resolved are listed in Table 3.

Table 3: Reasons for Reporting Health Concern Not Resolved

-
- She had a new health problem (an infection) which is why she went to the ED
 - “The doctor gave me medicine. I felt worse, and then I felt better.”
 - “The doctor said to give it a little more time and not to worry about it right now.”
 - Still having some problems. “The doctor told me today that given the nature of the injuries, and my age, I may not get back to feeling normal for another six months.”
 - “Went to the doctor the next day and symptoms are better now.”
 - “Still have the problem but much better.”
 - “I would suggest that project access have a nurse on call that would be able to come to the home and help when a person needs.”
 - “Wasn’t really a ‘problem’, was a procedure and was nervous but OK now.”
 - “This was on my very first day on Project Access and they said in the ER that if I hadn’t gone to ER that I would have died within a couple hours. I left a message at about 3pm and you called me about 5pm and if you hadn’t called me back I would have stayed.”
 - “Not having so much pain but still having twinges. I called my doctor and then went to the emergency room and they put me in CICU with a real high BP of 229/129 and it kept going up”
 - “I feel a lot better and the ibuprofen the doctor told me to take is helping a lot but he says that I have to go see him tomorrow because the gum is growing around another tooth.”
 - “I am much better now but I need to eat while lunch is warm so I can take all of this medicine.”
 - “Appointment made to find out cause of leg pain.”
 - “Problem still exists but much better since taking the PNC and Lortab the ER doctor gave me, have appointment on Tuesday at Clinic for the tooth.”
 - “Leg still swollen but better since medicine from the ER, was not a blood clot.”
-

Participant Satisfaction with Call-A-Nurse Program

A overwhelming majority of respondents (97%) reported believing the Call-A-Nurse staff understood their health concerns. In fact, the majority (85%) indicated the CAN staff understood their health concerns very well, while 12% reported they understood fairly well. Only 1% of the survey participants reported the nurse didn’t understand and 1% did not respond. Again, the large majority (98%) of participants agreed with the advice the CAN staff’s advice, in fact, only two of the 80 participants disagreed with the nurse’s advice. Ninety percent (90%)

reported that they followed up with the nurses' advice, however, 8% did not, and 2% did not report. Participants' reasons for not following up with CAN nurses' advice are listed in Table 4.

Table 4. Reasons Why Participants Did Not Follow-up with Nurse's Advice

-
- "Haven't felt any chest pain lately." Has an appointment for a stress EKG with a cardiologist.
 - Could not sit in water because has total knee surgery/ had appointment with doctor next two days, so just waited for next two days.
 - Felt better. Took blood pressure and heart rate was getting normal.
 - Felt better.
 - "My friend said to put ice on my legs so I did and the swelling went away so I didn't call the Dr."
 - "I wasn't agreeing with anything or anyone on that day."
-

Almost all respondents (97%) report that the Call-A-Nurse phone consultations were helpful with 75% reported the nurses to be very helpful. These findings suggest that the participants perceive the Call-A-Nurse staff have been very successful in helping them. In fact, patient reported overall satisfaction with the Call-A-Nurse service is very high (see Figure 6), with 97% callers reporting being very satisfied (74%) or satisfied (23%). Only two percent (2%) reported being very dissatisfied with the CAN program and 1% did not respond. One dissatisfied person indicated the nurse did not answer all her questions, and she would have preferred the CAN program be staffed by physicians. Participant were asked for suggestions on making the CAN service more helpful, these suggestions for improvement for the Call-A-Nurse program are listed in Table 5. In addition to the response "nothing," several positive comments were shared in reaction to this same question, these comments are listed in Table 6.

Figure 6. Participant Overall Satisfaction

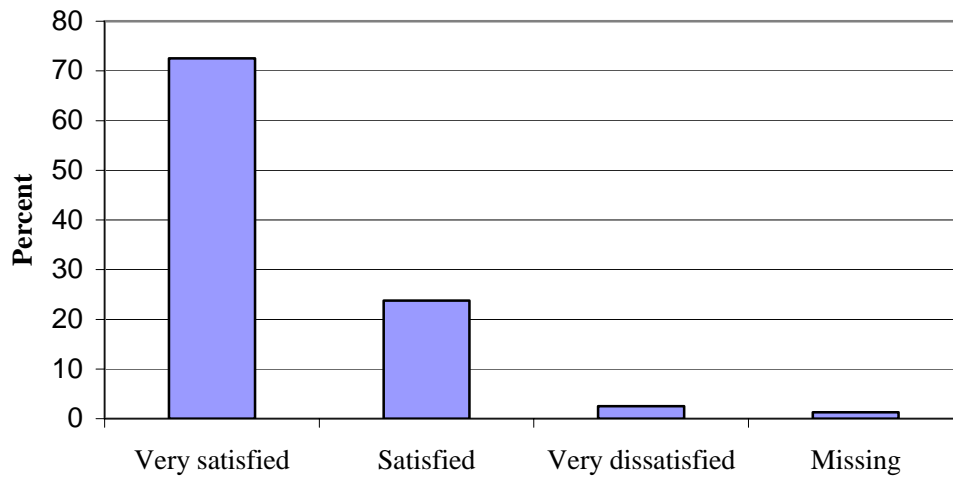


Table 5. Consumer Improvement Suggestions for Call-A-Nurse Program

-
- “The nurse could call the doctor for us because the doctor is rude to patients but may not be rude to the nurse.”
 - “Hours could be extended after 11pm.”
 - “The nurse could have suggested more ideas for reducing my pain. She was fine.”
 - “You could help me make an address change to the Project Access people.”
 - “I could get medical advice on what to do until have surgeries even if not Project Access without going to ER.”
 - “Add more hours.”
 - “Just keep it up.”
 - “More information about what would help aside from tylenol/longer hours, nights and Sundays.”
-

Table 6. Consumer Comments for Call-A-Nurse Program

-
- “I think everything is fine personally. I think you guys are doing a wonderful job.”
 - “I can't think of anything. She was very helpful. She did every thing she could under the circumstances.”
 - The Patient had to quit survey before finished. “The service was great but I have to go now.”
 - “Just keep it up.”
 - "I don't know."
 - “None that I know of.”
 - “It was very good.”
 - No suggestions "it's really a pretty good service if you need to talk to someone."
 - “It is fine.”
 - “You have been doing good.”
 - “The service was helpful. I got what I needed.”
 - “Not sure but I am SO GRATEFUL for this service. I don't know what I would have done without it.”
 - “No, not that I could think of .”
 - “It is fine.”
 - “You are doing a great job.”
 - “You all are doing about everything. When I call you all are giving me the answers.”
 - “Nothing except what you are doing. Thanks for checking back on me.”
-

APPENDIX
CALL-A-NURSE
TELEPHONE SURVEY INSTRUMENT
©2002 Ruth Wetta-Hall & Gina Copas

Script:

Hello, my name is _____ . May I speak to _____ (*whomever placed the initial call to Call-A-Nurse*)?

(Wait if necessary)

I'm calling from the Call-A-Nurse Program associated with Project Access.

You called and talked with a nurse ___ days ago regarding _____.

We want to know if the Call-A-Nurse service was helpful to you. This is a survey that will only take about 10 minutes and your feedback will help us improve the Call-A-Nurse service. Your answers will be kept completely private; you or your family *will not* be identified. Is now a good time?

(If NO, determine a call back time)

Is there a time I can call you back?

Date _____ Time _____

Thank you.

(If YES, proceed to Question 1). Thank you.

Q1. Thinking back to when you called in, can you tell me the reason you made your call?

Was it to . . .

- get information (1)
- get reassurance (2)
- get medical advice (3)
- other (4)

Q1a. If other, please specify _____ (*verbatim response*)

Q2. Using the following scale, how severe did you consider your health problem?

- Not severe at all (1)
- Severe (2)
- Very severe (3)

Q3. In your own words, can you tell me what the nurse suggested you should do?

(Record verbatim response. Compare the interviewee's response to the record for agreement).

Q4. Using the following scale, how well do you think the nurse understood your health problem? Did the nurse understand . . .

- Not at all (1)
- Fairly well (2)
- Very well (3)

Q5. When you talked to the nurse, did you agree with what she told you to do?

- Yes (1)
- No (2)

Q5a. If no, why not? _____ *(record verbatim response)*

Q6. Now, can you tell me, did you follow up with what the nurse told you to do?

- Yes (1)
- No (2)

Q6a. If no, why not? _____ *(record verbatim response)*

Q7. Can you tell me what happened as a result of your call? Did you have . . .

- No visit & no self-care (1)
- No visit, self-care at home (2)
- Clinic visit (3)
- Emergency Room visit (4)
- Other (5)

Q7a. If other, please specify _____ (record verbatim response)

Q8. Was the health problem resolved as a result of the call into the nurse?

- Yes, the problem is resolved (1)
- No, the problem still exists (2)
- Other (3)

Q8a. If other, please specify _____ (record verbatim response)

Q9. How helpful, do you think, the nurse was in meeting your needs? Was she . . .

- Not helpful at all (1)
- Helpful (2)
- Very helpful (3)

Q10. Overall how satisfied were you with the Call-A-Nurse service? Were you . . .

- Very satisfied (1)
- Satisfied (2)
- Dissatisfied (3)
- Very dissatisfied (4)

Q11. Was this your first call into the Call-A-Nurse service?

- Yes (1) (If **YES**, skip to Q14.)
- No (2) (If **NO**, continue to Q12.)

Q12. If no—About how many times have you used this service?

_____ (*record number of previous calls*)

Q13. Was this most recent call for the same problem you had called about before?

- Yes (1)
- No (2)

Q14. Before calling the Call-A-Nurse service, did you try to contact your doctor/clinic?

- Yes (1)
- No (2)

Q15. If you wouldn't have been able to talk to a nurse, what would you have done? Would you have . . .

- Sought no medical attention (1)
- Treated self at home (2)
- Gone to the health-care clinic (3)
*(ex. Hunter Health Clinic, Good Samaritan, Guadelupe Clinic, United
Methodist Health Care Center)*
- Gone to the Emergency Room (4)
- Gone to see private doctor (5)

Q16. How would you rate your current health? Would you say it is . . .

- Excellent (1)
- Very good (2)
- Good (3)
- Fair (4)
- Poor (5)

Q17. What do you think we could do to make this service more helpful for you?

_____ (Record verbatim response)

These final questions will ask some background information about you. They will be used only to describe the use of the Call-A-Nurse program. (If person is hesitant, reassure him/her that the information is confidential and will be used for statistical information only and will help provide information only about people who use this service to improve the Call-A-Nurse program).

Q18. What is your age in years?

_____ (list year indicated)

Q19. What is your marital status?

- married/or live with significant other (1)
- single/live by self (2)
- divorced/widowed/live by self (3)

Q20. What is your ethnic background?

- White/Caucasian (1)
- Black/African American (2)
- Hispanic or Latino (3)
- American Indian/Alaska Native/Pacific Islander (4)
- Asian or Asian/American (5)

Q21. What is the highest grade you have completed in school?

_____ (*record grade number*)

Again, thank you very much for taking time to participate in our survey. Have a nice day.

(Disconnect call)

QUESTIONS FOR RN PLACING CALL

RN22. As a health care professional, would you consider the health concern/question of the caller related to . . .

- a chronic health condition (1)
- an acute health problem (2)

RN23. Using your clinical judgment, does the patient's response in Q3 agree with the Call-A-Nurse record?

- Yes (1)
- No (2)