

Development of a Learning Needs Assessment Tool
for Patients With Congestive Heart Failure

By

Jan Barrett, Lile

Jan Buhmann

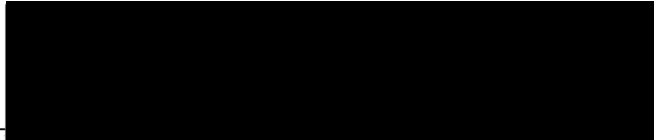
Susan Roders

A Master's Research Project

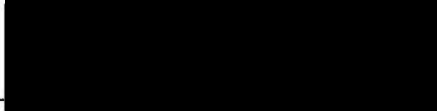
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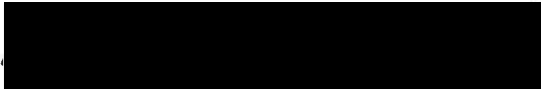
Catherine Salveson, Ph.D., RN, Assistant Professor, Research Advisor



Katherine Caton, Ph.D., RN, Assistant Professor, Committee Member



Roberta Erickson, Ph.D., RN, Associate Professor, Committee Member



Beverly Loeffler, Ph.D., RN, Professor, Associate Dean for Graduate Studies

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ABSTRACT

TITLE: Development of a Learning Needs Assessment Tool for Patients with
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AUTHORS: Jan Barrett Lile, Jan Buhmann, and Sue Roders

APPROVED: 
Catherine Salveson, Ph.D., RN, Assistant Professor, Research Advisor

Lack of knowledge about diet and medications by patients with congestive heart failure is a major factor contributing to noncompliance with treatment regimens, and subsequent high hospital readmission rates. The Learning Needs Assessment Tool (LNAT) was developed to include three key assessment areas: family/environment, current knowledge, and learning style. Feasibility of adding the LNAT to the practice of home health care was tested with a sample of seven home health nurses during a five-month field test. Content validity was established through initial expert review and post field testing evaluations through interviews and questionnaires with the participants. Replication of the study with a larger sample is needed to establish reliability and utility of the tool.

Key words: congestive heart failure, home health care, needs assessment, patient education

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Introduction

Congestive heart failure (CHF) is a major public health concern. More than 2 million Americans are estimated to have heart failure, with almost 1 million hospitalizations annually for this condition at an estimated cost of over \$7 billion.¹ The Oregon Medical Professional Review Organization (OMPRO) estimated the cost for inpatient treatment of CHF within the state at \$29 million in 1995.² Readmission rates in the United States within 90 days of hospitalization for this condition vary from 27% to 45% and are due mainly to medication or dietary noncompliance.^{3,4} Because lack of knowledge is an important factor contributing to patient noncompliance, patient education is assumed to have a positive impact.

Payers authorize limited numbers of visits for the home health care of patients with CHF, and time for patient education is minimal. In order to make the best use of teaching time determining the learning style of patients, identifying current knowledge, and recognizing barriers to learning allows patient education to be more effective and efficient. As managed care grows in the health care system, both in the private sector as well as Medicare replacement programs, standardization of care and education needs to occur to meet determined outcomes in a defined number of visits.

Review of Literature

The literature related to patient education for patients with CHF was examined in relation to conceptual frameworks, patient education methods, teaching effectiveness, teaching content, and patient compliance with the treatment plan.

Conceptual Framework

Patient education has been identified as a primary intervention to promote self-care. Oberst⁵ has defined self-care as “any action or psychological process undertaken to promote, assess, maintain, or restore one’s own health, comfort, or perceived well-being” (p. 621).

The vast majority of patients with CHF are adult learners. Knowles⁶ developed the andragogy model, the art and science of helping adults learn, as a departure from pedagogy, the art and science of teaching children. Knowles stated that adults have a self-concept that moves from dependency to self-direction and use their experiences as a resource for learning. Adults approach learning as problem centered, based on anticipated developmental tasks. This is a departure from the subject-centered pedagogy model.

Accordingly, Knowles⁷ suggested that an adult educator has to take on different roles to facilitate adult learning: change agent, helper, resource, guide, and encourager. The adult educator involves clients in the analysis of their aspirations and the changes required of them, performs diagnosis of obstacles, and plans effective strategies to accomplish desired results. Learners ask important questions and find answers themselves.

Knowles concluded that the following conditions enable adults to learn best: (a) a learning climate that is supportive, accepting, and respectful; (b) learning experiences that are the mutual responsibility of learner and teacher; (c) process evaluation that results in the re-diagnosis of learning needs (self-evaluation); (d) an emphasis on experiential learning and practical application; and (e) learning opportunities that are timed with readiness to learn.

Kolb⁸ defined learning as “the process whereby knowledge is created through the transformation of experience ” (p.38). Within Kolb’s experiential learning theory, learning involves the dimensions of thinking, perceiving, feeling, and behaving. Accordingly, learning styles are different for each individual, and Kolb proposes the differentiation of divergent, convergent, assimilative, and accommodative styles. Divergent learners focus on being involved and emphasize feeling as opposed to thinking, whereas convergent learners focus on logic, ideas, and concepts and emphasize thinking. Assimilative learners emphasize reflection as opposed to action, striving for understanding rather than pragmatism, whereas accommodative learners are action-oriented and seek opportunities, tending to problem solve by intuitive trial and error.^{8,9}

Learning styles as described by Kolb are known to be important determinants of the success of patient education measures. Educators have tried to accommodate different learning styles and corresponding preferences with the use of different teaching methods. Merritt¹⁰ showed that most respondents in an ex post facto study of 125 patients with coronary artery disease preferred structured learning situations and in general disliked methods that involved reading, visually-based teaching, and learning independently. The investigator’s sample was limited to a hospital population that is predominantly white and male, thus limiting generalization to other populations. Armstrong¹¹ proposed an individualized approach along the two dimensions of (a) relationship between caregiver and client and (b) the task to be accomplished. The teaching plan was based on the learning style identified and the information needs of the patient.

Both Knowles’ adult learning principles and Kolb’s experiential learning theory define adult education as a learner-centered process. Both theorists took into account

individual experiences, preferences, priorities, and resources. An assessment prior to any educational activities is seen as essential to a successful and focused learning experience. Knowles' and Kolb's theories are complimentary and were used as the conceptual framework for the investigators' approach to education and tool validation for patients with CHF.

Patient Education Methods

Redman¹² compared the teaching process to the nursing process. She emphasized the need to begin with an assessment of the patient's need and readiness to learn. A diagnosis is made based on the assessment; learning goals are set, and teaching is the intervention; finally, the patient's learning is evaluated. Redman lamented that, in practice, an assessment of the patient's learning needs and readiness is frequently omitted, an error that can thwart teaching effectiveness. If a practitioner is unaware of the patient's needs, it is doubtful that adequate learning goals can be set.

Redman¹³ noted that many teaching tools are available for cardiovascular patient education, but very few for assessment of learning needs and evaluation of learning. Redman cited known knowledge assessment tools for hypertension, cholesterol, and confidence levels with activity. In her review, Redman made no reference to a learning needs assessment tool for patients with CHF.

Patient Education Effectiveness

Escalating costs in healthcare have led to an increased focus on health outcomes, and patient education research has focused on demonstrating the effectiveness and efficiency of different programs and teaching methods. In a widely cited landmark study, Lindeman and Van Aernam¹⁴ demonstrated the effectiveness of preoperative structured

teaching, finding significantly increased postoperative ventilatory function and reduced length of hospital stay for experimental subjects. King and Tarsitano¹⁵ replicated the study, and also found increased postoperative ventilatory function, but no difference in length of hospital stay. Management of heart failure was the focus of a meta-analysis of previous research by Dracup et al.³ The authors found that hospital length of stay can be decreased by counseling and education. Rich et al.⁴ studied readmissions of 282 elderly patients with CHF that were given intensive patient teaching, a prescribed diet, social service consultation, early discharge planning, and intensive follow up. Although the investigators found a 56% reduction in hospitalizations for the treatment group compared with a control group receiving conventional care, the multitude of interventions does not allow clear conclusions about the effect of patient education. In addition, the measured outcome variables of studies in acute care settings, such as length of stay, are not transferable to the home setting. The literature lacks studies that measure decreased healthcare costs across the continuum, decreased re-admissions, or other criteria more relevant to home health agencies.

Teaching Content

The educational content for teaching patients with CHF can be tied to well-supported disease management guidelines. In their meta-analysis of studies conducted between 1966 and 1993, Dracup et al.³ stated that a regimen that includes a sodium-restricted diet, controlled exercise, alcohol restriction, prognosis about life expectation, and education about medication use and side effects is well supported by clinical practice guidelines. Hagenhoff, Feutz, Conn, Sagehorn, and Moranville-Hunziker¹⁶ found that learning needs of patients with CHF had not been described in the literature. The

investigators then demonstrated that a sample of 26 nurses and 30 patients in a telemetry unit agreed on content areas that are important to learn and that medication teaching was most important. The OMPRO guidelines for teaching patients with CHF¹⁷ include symptom recognition, activity discussion, exercise modification, diet consultation, weight monitoring, and medication instruction. Theis,¹⁸ in a study of 40 elderly patients who were required to reduce sodium in their diet, showed that using the results of a content pretest can help educators to structure teaching sessions and lead to better knowledge scores than a standard teaching plan.

Compliance with Treatment Plan

Compliance has been examined as a relevant health outcome. Sands and Holman¹⁹ found no correlation between knowledge of and compliance with a therapeutic regimen in a sample of 93 patients 65 years and over with hypertension, but the convenience sample limited generalization. Fujita and Dungan²⁰ found that intensive patient teaching contributed to enhanced self-care behaviors, but the small sample of five patients with CHF and a descriptive study design precluded generalization. Oberst⁵ suggested that measurement of compliance should capture the impact of three indicators: feasibility, adherence to desired self-care actions, and health status. Oberst also proposed that patient education alone cannot be tied to better health outcomes, and that additional interventions such as behavior modification, contracting, operant conditioning (where a desired response is elicited through positive reinforcement), fostering self-efficacy, regular feedback, and reinforcement need to be included in a comprehensive care plan. Dracup et al.³ found that key variables for better outcomes are a strong practitioner-patient relationship, active participation in the plan of care, and family involvement.

Conclusions and Significance to Nursing

The literature review shows a substantial need for research about variables that have an impact on patient teaching. Most experimental or quasi-experimental studies have concentrated on the effect of a specific education program. This approach may support the success of educational interventions, but ignores the influence of mediating variables such as environmental factors, learning priorities, attitudes towards degenerative disease, and the involvement of family caregivers. Learning styles have been well described in patient and adult education literature, but have not found entry into quantitative nursing research designs. Little work has been done to show how an individualized assessment can promote development of an individualized teaching plan based on the patient's prior knowledge, learning style, environmental and social considerations, or personal goal setting.

Knowledge about medical therapy and disease symptoms has been the main focus of patient guides,^{17,21} suggesting that teaching related to coping with symptoms or lifestyle changes has not found entrance into patient education materials. After reviewing the literature and available education options for patients with CHF, the investigators determined the need for a learning needs assessment tool that would benefit the planning of patient education in the home health care setting. Therefore the purpose of this project was to develop an initial version of a learning needs assessment tool for use with patients with CHF, establish content validity, and field-test the tool.

Methods and Findings

The Learning Needs Assessment Tool (LNAT) for patients with CHF (Fig 1) was developed and tested in three phases: (a) the initial draft, (b) expert review, and (c) field testing.

Initial Development of the Tool

The first draft of the LNAT, developed during a brainstorming session, was based on the investigators' clinical judgment and literature reviewed. The investigators' collective clinical experience includes 16 years home health care, 14 years critical care, and 14 years adult education. The principles of learning theorists Knowles and Kolb helped guide the construction of the LNAT. Knowles⁷ stated that adults participate in identifying their own learning needs. It is important for the nurse to ask patients what they want to know instead of assuming what patients need. The nurse and the patient can identify learning needs together, as it may help motivate the patient to learn something new. Knowles postulated that adults learn when they are ready. Illness and symptom management can be motivating factors to learn. The environment can also impact the patient's readiness to learn. The LNAT was designed to be used in the home care environment. Patients are not stressed by the unfamiliarity of the hospital environment and the lack of control associated with institutional routines; they are at home in a familiar surrounding with family support. Knowles also stated that when adults learn they draw on their own experiences. The recidivism rate for patients with CHF is high. With multiple hospitalizations they may receive repeated teaching from multiple healthcare professionals. The LNAT was designed to find out what a patient has previously learned about CHF and its management. The nurse can expand on the patient's knowledge and focus the teaching on what the patient needs to know. Kolb⁸ described learning as an experiential process, involving thinking, perceiving, feeling and behaving. Identification of the patient's learning style may help to determine the best teaching methods to use. Accordingly, the design of the LNAT was based on three key areas that can have an impact on teaching: (a)

assessment of family and environment, (b) current knowledge, and (c) learning style.

Section I was designed to determine who participates in the care of the homebound patient with CHF in order to include caregiver(s) in the teaching plan. The ability to purchase appropriate foods and medications is assessed, because inadequate financial resources could affect compliance with the therapeutic regimen.

Section II focuses on what the patient currently knows about CHF. Content areas were derived from a review of current research on the essential components of CHF management.^{3,4,17} The intent is to build on previous knowledge, to both maximize use of teaching time and make the content more interesting to the patient. Using the theory of crystallized intelligence, Theis¹⁸ demonstrated that a client's knowledge gain can be improved when new information is based on what the client already knows. This section of the tool was further divided into four basic areas of education for patients with CHF: (a) disease process, (b) activity, (c) diet, and (d) medication. Each of these areas has been identified to have a potential influence on patient outcomes, such as decreased readmissions (through early interventions) and better symptom management.

Section III of the assessment tool focuses on learning style to determine how and when patients learn most effectively. Kolb's⁸ four different learning styles, converger, diverger, assimilator and accommodator, all have different modes of learning and therefore different teaching strategies can be used to maximize the learning experience. The converger, who is analytic and pragmatic, might prefer a hands-on experience that is designed to help analyze a situation, whereas a diverger, who's learning is rooted in feeling and observing, prefers to talk about a topic and to draw on previous experiences. An assimilator may benefit from reading or independent study, an accommodator might

learn best if left alone to explore solutions for a problem or scenario. The identification of a patient's learning style, using Kolb's terminology, might be difficult for nurses. A simpler way to identify learning preferences, that correspond to a learning style, would be to ask the patient if they prefer to listen to an expert, read, watch a video, or try something independently. These factors influence the selection of teaching methods, including the use of appropriate media, and are part of the LNAT.

Throughout the tool, questions were incorporated to determine barriers to learning and compliance, such as asking if the patient had enough money to buy food and medication (Section I).^{3,20} A question about food preferences is asked to determine potential compliance problems. How the patient feels about restricting salt could give the nurse clues about potential concerns regarding lifestyle changes (Section II). The question "What is the most important thing you would like to learn about congestive heart failure?" is asked because the patient's perceived learning needs have been found to be a determinant of improved learning outcomes (Section III).^{16,22}

Section IV is a template for the teaching plan, incorporating assessment findings from the previous three sections into an action plan. The teaching plan is divided into three sections; content to cover, learning preferences, and communication to other disciplines. The content section was designed to allow the nurse to make check marks next to the topics the nurse determined are priorities. In the teaching plan, space is provided to allow for a narrative description of the specific patient teaching needs. The learning preferences section provides the nurse with a list of available resources. The last section, reserved for communication with other disciplines, was incorporated to promote continuity in the teaching process.

Expert Review

Content and face validity of the LNAT were established through expert review. A cardiac educator with 9 years experience in patient education, a nurse with 7 years home health care experience, and a nursing faculty member with doctoral preparation and 24 years of community health experience judged the content validity of the LNAT. Using the feedback from the home health care expert, a section on safety was added to the teaching plan. The cardiac educator affirmed the importance of teaching based on the patient's perceived learning needs, rather than the nurse's perception of the patient's learning needs. She reiterated the need to include the family in teaching and to focus on symptom management. The cardiac educator also validated the use of various teaching methods to accommodate the patient's learning style. The teaching plan and the section on communication to other disciplines were incorporated following feedback from the faculty member. A home health education coordinator, with 18 years home health care experience, reviewed teaching materials listed in Section IV^{17,21,23,24} for appropriateness, comprehensiveness, and consistency with the LNAT.

Field Testing

The next step in the development of the LNAT was to have a sample of home health care nurses use the tool to assess the learning needs of patients with CHF to provide feedback about the tool's efficiency, acceptability, and perceived utility. The purpose of field testing was to explore whether or not using the LNAT could (a) fit into routine home health nursing visits and (b) help nurses to develop a patient-specific teaching plan that they perceive is comprehensive, effective, and efficient.

Sample and setting. The participants were a convenience sample of nurses working at Sacred Heart Home Health in Eugene, Oregon. The home health department is a hospital-based agency that performs 5,940 visits per month. Initially, 17 nurses were recruited. One nurse transferred to another department, and nine nurses were not assigned to patients with CHF during the five-month field testing period. The remaining seven nurses who participated were all women whose ages ranged from 41 to 60 years ($M = 48.9$, $SD = 7.5$). Six of the nurses were Caucasian and one was Native American. Two of the nurses had diploma education, three had associate degrees, and two had bachelors degrees in nursing. The number of years in nursing ranged from 15 to 40 ($M = 26.9$, $SD = 9.0$). The number of years in home health care ranged from 5 to 26 ($M = 10$, $SD = 7.5$).

An information session was offered at four different times to recruit participants for the LNAT trial. The content of each session included: (a) an overview of the impact that CHF has on healthcare, (b) development of the LNAT, (c) purpose of field-testing, (d) assessment of learning styles, and (e) guidelines for participation in the trial. Nurses who wished to participate completed a pre-assessment questionnaire to obtain demographic data and information regarding their experience in teaching patients with CHF. Individual information sessions were offered to nurses who were unable to attend one of the group sessions. All nurses signed a letter of agreement to participate in the trial. Each participant was then given a packet containing the LNAT, a post-assessment questionnaire, guidelines for use of the tool, and the steps for participation in the trial.

LNAT trial. The trial was conducted over a five-month period during which the participants used the LNAT at the same time as the initial interview of a patient with CHF who had been newly referred for home health care. The nurses were instructed to place

the completed LNAT into the patient's chart and to use the information gathered for ongoing patient teaching. Up to three uses of the LNAT could be included in the trial, however, all seven participants used the LNAT only once. After each use of the LNAT, two steps were used to assess the nurses' perception: (a) a post-assessment questionnaire was completed within 24 hours, and (b) an interview was conducted after 30 days.

The Post-Assessment Questionnaire (Fig 2) provided information regarding the nurse's first impression of the LNAT. The questionnaire utilized a Likert scale format with 18 items answered on a five-point scale ranging from (1) strongly disagree to (5) strongly agree. Items on the Post-Assessment Questionnaire were developed to measure (a) the nurse's perception regarding ease of use of the LNAT, (b) time involved to complete the tool, (c) thoroughness of content, and (d) the nurse's overall impression of the tool.

One of the investigators interviewed each nurse by phone approximately 30 days after use of the LNAT. The interview allowed the investigators to compare the nurse's initial impression of the tool with the impression of the tool after the nurse had implemented a teaching plan. The Interview Questionnaire (Fig 3) was developed to elicit qualitative data regarding (a) the nurse's overall perception of the usefulness of the tool, (b) helpfulness of the tool, (c) suggestions for improvement, and (d) the usefulness to other team members caring for the patient. Quantitative data were also obtained to measure helpfulness of the tool, overall impression of the tool, and how often the participant would use the tool.

Trial results. The data from the Post-Assessment Questionnaire were grouped into four categories for analysis. Table 1 shows that the participants' overall impression of the tool was positive ($M = 4.2$, $SD = 1.0$). They agreed that the LNAT was easy to use

($\underline{M} = 3.9$, $\underline{SD} = 0.7$), the time to complete was adequate ($\underline{M} = 3.9$, $\underline{SD} = 0.7$), and the content was thorough, comprising all aspects of CHF teaching ($\underline{M} = 4.0$, $\underline{SD} = 0.8$). Time required to complete the LNAT ranged from 10 to 45 minutes, with a mean of 20.4 minutes and a median of 13.8 minutes.

Interviews were conducted over the phone by an investigator, recorded, and transcribed. Each transcription was reviewed by all investigators. Consensus was reached on common themes in the data, and responses were grouped into four categories: (a) most helpful aspects, (b) least helpful aspects, (c) suggested improvements, and (d) whether the respondent would use the LNAT as a routine assessment method (Table 2).

The seven nurses rated the tool's helpfulness on a Likert scale of 1 (not helpful at all) to 5 (extremely helpful) as very helpful ($\underline{M} = 4.4$, $\underline{SD} = 0.5$). Perceived as most helpful were the assessment of current knowledge, the consideration of learning styles in assessment and teaching, and the focus on the patient's learning needs. One nurse stated: "I didn't spend a lot of time going over our [agency-developed] packet of information step-by-step, telling her [the patient] more than she needed to know or wanted to know." The overall impression of the tool when rated by the nurses on a scale of 1 (I disliked it very much) to 5 (I liked it very much) was positive ($\underline{M} = 4.1$, $\underline{SD} = 0.7$).

Respondents also were questioned about the least helpful aspects of the tool. Some nurses felt the family and environmental assessment had some redundancy with parts of required home health patient evaluation forms. However, one nurse stated that she found the LNAT to be more valuable than the current forms, and another noted that the LNAT helped to identify needed referrals, such as to a social worker. The questions about activity levels and diet were thought to be too complex for the patient to understand and

answer appropriately. The tool was seen as too long by some respondents, although they felt all questions provided useful information.

When asked for improvements to the LNAT, the majority of respondents made comments related to paperwork overload. However, no consensus was reached as to whether or not the number of questions should be reduced. Two nurses suggested the tool could be completed over several visits rather than in one sitting. Two made suggestions to increase readability of the activity and diet sections. Accordingly, the investigators decided to edit those items for clarity, this change is reflected in the current version of the LNAT.

When participants were asked how often they would use the tool in their practice, rated on a scale of 1 (never) to 5 (always), “most of the time” was the prevalent response ($M = 4.0$, $SD = 1$). Six out of the seven respondents said they would use the LNAT as part of their regular assessment. Reasons given for this positive response included: “The LNAT cues me into things that I needed to assess and cover”, the tool is efficient, the tool focuses on the needs of patients with CHF, and patient teaching is an essential part of home health nursing.

None of the nurses were aware that another clinician used the information gathered with the tool. The investigators believe that several reasons contributed to this finding: (a) other disciplines were not included in the orientation to the use of the LNAT, (b) sometimes nurses are the only clinicians involved in the case, (c) there was no formal way for other disciplines to indicate if and how the information in the tool was used, and (d) no process was developed for the nurses to share the tool with other disciplines.

Discussion

The purpose of field testing was to evaluate the feasibility of adding the LNAT to the routine assessment of patients with CHF and to determine if using this tool would help develop a patient-specific teaching plan that nurses perceived as comprehensive, effective and efficient. The nurses who used the tool responded positively to it. They stated it was an effective means to devise a teaching plan for patients with CHF and helped to focus their teaching. Participants felt that both the assessment and the resulting teaching plan addressed patient learning needs comprehensively and were helpful to their practice. Feasibility concerns were raised about the amount of additional paperwork required and the limited time available to complete this data set.

Home health care has been undergoing multiple transitions in the year the field testing was conducted. Significant fiscal changes caused conflicting pressures for home health nurses in the United States. For example, Medicare placed limits on the number of visits reimbursed per patient per year. This resulted in a decreased number of visits per patient. The amount of work remained constant, making it harder to complete required paperwork and accomplish positive outcomes in the time allotted to each patient. In addition, reimbursement had been effectively reduced by 20% per visit, placing pressure on nurses to see more patients in a day.

Home health nurses are required to complete an extensive amount of paperwork to comply with mandates of regulatory agencies, such as Medicare and the Joint Commission on Accreditation of Healthcare Organizations. Furthermore, the amount of paperwork required of home health nurses is significantly increasing. For example, starting in 1999,

Medicare will require a data set of 79 questions to be collected at every home health admission, recertification, discharge, and resumption of care following hospitalization.

In light of this background it was not surprising that participants in the field study verbalized concerns about the feasibility of adding the LNAT to their routine assessment, as all of them felt overloaded with paperwork. Their suggestions included using more than one visit to complete this information and streamlining the form somewhat to decrease length and increase ease of use. The LNAT was designed to help nurses focus their teaching to avoid an inefficient teaching process, thereby reducing the number of visits needed. Incorporation of the LNAT into existing paperwork could decrease the volume of documentation.

A small sample size limits generalization of the findings to all home health nurses. The questions in the Post-Assessment Questionnaire were grouped into arbitrary categories according to the investigators' professional judgment. A larger sample size would have enabled the investigators to perform a factor analysis of the questionnaire, and helped to establish that each item indeed measures a variable corresponding to the identified category.

Implications for Practice and Research

The development of the LNAT provides home health nurses with the first available assessment tool specifically designed to evaluate the learning needs, environment, and preferences of patients with CHF. The LNAT allows nurses to transform patient education from a teacher-centered process to a learner-centered process. The LNAT provides a way for some responsibility and control to be shifted back to the learner. As a patient's understanding and involvement is enlarged, the potential for improved health outcomes

increases. Other disciplines can be included in the needs assessment process, and potentially benefit from the findings and the planning of the assessing nurse. It is also conceivable that the LNAT could be modified to be used in assessing the learning needs of other patient groups categorized by diagnoses, procedures, or life style changes.

The LNAT can provide home health nurses with information needed for focused, appropriate, and comprehensive teaching to patients with CHF and their caregivers. A small sample of home health nurses supported the notion that this instrument would help to develop a teaching plan that is effective and efficient. However, to establish reliability and utility of the tool using statistical analysis, the study described should be replicated with a larger and more varied sample. The link between learning needs assessment and a teaching plan can be strengthened through the development of a critical pathway where each assessment leads to a specific teaching action. In addition, desired patient outcomes of patient-centered teaching, such as increased compliance and self-care behaviors, and decreased hospital readmission rates, need to be investigated.

Current changes in reimbursement policies and referral patterns raise the question of how case managers can deliver the care needed when limits on the frequency and duration of home health visits prevent the completion of all required paperwork, the performance of thorough assessments, as well as the implementation and evaluation of care. Healthcare policymakers, in collaboration with home health care providers, should consider ways in which paperwork can be consolidated, coordinated between government and other agencies, and reduced to the information most needed to enhance all aspects of patient care, including self-care. Home health nurses should promote the development of healthcare policies that support them in encouraging patient behavior that enhances

compliance, prevents expensive hospital readmissions, and provides nurses with efficient assessment tools and the time to carry out resulting care plans. Future research can help to create such policy by measuring the true costs and benefits of implementing teaching plans based on the assessment of learning needs of patients with CHF. For example, an experimental study could evaluate costs and patient outcomes, such as readmission rates and quality of life indicators for two different groups. One group of patients would receive traditional comprehensive patient teaching; another group of patients would be evaluated with help of the LNAT, and participate in a collaborative and focused learning process.

The investigators encourage use of the LNAT in other agencies to further refine and improve the utility of this tool. It is provided here for your use. If used, comments and feedback should be sent to Jan Barrett Lile at McKenzie-Willamette Home Care, 1460 G St., Springfield, OR 97477.

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Table 1

Post-Assessment Questionnaire Results

Category	Related Questions	<u>M</u> †	<u>SD</u>
Tool was easy to use	1, 2, 6*, 10, 12*, 14*, 15	3.9	0.7
Time to complete was adequate	4*, 8, 18	3.9	0.7
Content was thorough	3, 7, 9*, 11, 16	4.0	0.8
Overall impression was positive	5, 13, 17	4.2	1.0

* Reverse scored

† Range from 5 = Strongly Agree to 1 = Strongly Disagree

Table 2

Interview Responses

A. Most Helpful Aspects	# Respondents
Assessment of current knowledge	5
Consideration of learning style in assessment and teaching	5
Helped to focus on patient's learning needs	4
Comprehensiveness in assessment and teaching plan	2
Listing and quality of learning resources for the patient	2
Family and environmental assessment	1
Asking specific questions rather than general questions such as "What do you know about CHF?"	1
The concept of a comprehensive assessment in the three areas was helpful, can be used formally with the actual tool or informally by covering all areas in a patient interview	1
Tool facilitates communication when multiple caregivers are involved	1
Asking what they felt they needed to know	1
Caregiver learned new information about CHF teaching	1
Stimulates the thought process of the nurse, avoids the making of assumptions	1

Table 2 (continued)

B. Least Helpful Aspects	# Respondents
Some questions need to be simpler and more direct for the patient to be able to interpret and answer correctly	4
<ul style="list-style-type: none"> • Question about activity level 	2
<ul style="list-style-type: none"> • All dietary questions 	1
<ul style="list-style-type: none"> • Many patients do not have the mental or physical ability to last through a long interview, and may be compromised in their ability to learn 	1
Family/environmental assessment of the LNAT is redundant with other required documentation	3
<ul style="list-style-type: none"> • Is better than current documentation 	1
<ul style="list-style-type: none"> • Helps to identify other resources that are needed, such as a social worker 	1
Too many questions	3
<ul style="list-style-type: none"> • Too many questions in addition to other assessment forms 	1
<ul style="list-style-type: none"> • Too many questions for one evaluation visit 	2
<ul style="list-style-type: none"> • Too many questions for a patient whose attention span may be short because of psychological or physical reasons 	1

Table 2 (continued)

C. Suggested Improvements	# Respondents
Nurses indicated at some point overload with paperwork	4
Decrease the number of questions	2
Keep all the questions	2
Space use of tool over multiple visits	2
Revise activity question	1
D. Would Use LNAT as Routine Assessment	# Respondents
Yes	6
<ul style="list-style-type: none"> • Cues me into things that I need to assess and cover • Efficient • Tool focuses on the needs of CHF patients • Teaching is essential • If the patient has the ability to manage the information and to learn 	5 2 1 1 1
No	1
<ul style="list-style-type: none"> • The quantity of required documentation in home health left nurse ambivalent about regular use of the tool 	1

Figure 1. Learning Needs Assessment Tool for Patients with CHF

Patient's Name _____ Date: _____

Medical Records # _____ RN Signature: _____

I. FAMILY/ENVIRONMENTAL ASSESSMENT

- A. Who lives with the patient?
 lives alone spouse children _____ (non-family member)
- B. Who cares for patient?
 self spouse children _____ (non-family member)
- C. Who cooks?
 self spouse children _____ (non-family member)
- D. Who does the housework (cleaning, laundry etc.)?
 self spouse children _____ (non-family member)
- E. Who does the grocery shopping?
 self spouse children _____ (non-family member)
- F. Do you have enough money for food and medication? yes no

II. CURRENT KNOWLEDGE ASSESSMENT

- A. **Disease process:**
 - Can you tell me, in your own words, what congestive heart failure is?
 - What are the symptoms of congestive heart failure?
 (check all the symptoms the patient identifies)

<input type="checkbox"/> shortness of breath	<input type="checkbox"/> swelling	<input type="checkbox"/> weight gain
<input type="checkbox"/> increased heart rate	<input type="checkbox"/> fatigue	<input type="checkbox"/> cough
 - What change in symptoms would prompt you to call your physician?

<input type="checkbox"/> sudden weight gain (2-3 lb./day or 4-5 lb. in 5 days)	<input type="checkbox"/> ↑ dyspnea
<input type="checkbox"/> ↑ swelling	<input type="checkbox"/> cough <input type="checkbox"/> side effect of medications

Figure 1. (continued)

II. CURRENT KNOWLEDGE ASSESSMENT (CONT.)

B. Activity:

- How difficult is it for you to do your usual activities inside and outside the house?
 not difficult a little bit difficult somewhat difficult very difficult can't do
- What types of activities make you short of breath? (ex. mow the lawn, jog, walk, do the dishes)
- Do you exercise routinely? If yes, type of exercise and frequency?

C. Diet:

- Do you have any special food preferences?
- How much salt (sodium) did your doctor tell you that you can have each day?
- Can you tell me 4 foods that are high in sodium?
- Can you tell/show me where to find the sodium content on packaged foods?
- How do you feel about restricting salt in your diet?
- How is your appetite? excellent good fair poor

D. Medication:

Can you tell me the names of the medications you take to help your heart? Tell me what they do and what side effects they have?

NAME	STATED PURPOSE	SIDE EFFECT

Figure 1. (continued)

III. LEARNING PREFERENCES ASSESSMENT

- A. If you were learning to change a tire (build a bird house, cook etc.) would you prefer to: (check all that apply)
- listen to an expert
 - read instructions
 - watch a video
 - look at pictures that show the steps
 - try it yourself
- B. What time of the day do you learn the best?
- morning
 - afternoon
- C. What is the most important thing you would like to learn about congestive heart failure?
- D. What are your concerns about the changes you will need to make in your lifestyle?
- E. Would you be willing to enter into a contract with the nurses to accomplish some goals to make changes in your lifestyle?
- F. Are there any barriers to teaching in the home? (distractions etc.)

Figure 1. (continued)

IV. TEACHING PLAN

A. Content to cover

- Review of disease process
- Signs and symptoms of CHF and management of symptoms
- Safety measures and when to call for help
(teaching suggestions: oxygen safety, don't wear open toed shoes if feet are swollen and avoid persons with upper respiratory infections)
- Activity
- Diet
- Medications

B. Learning Preference

- Show video
 - * Living well with Congestive Heart Failure
 - * Cardiovascular Conditions - Patient Information Series: Congestive Heart Failure (American Heart Association)
- Leave brochure(s)
 - * Sacred Heart Home Health handout
 - * Living with Heart Disease: Is it Heart Failure?
 - * Congestive Heart Failure - A patient's guide (OMPRO)
- Explain medication dispensing program
- Information about local resources and who to contact for future assistance
- Other plan:

C. Notes to Physical Therapy, Occupational Therapy and Medical Social Work:

Figure 2. Learning Needs Assessment Tool for CHF Patients Post-Assessment Questionnaire

1. When did you use the Learning Needs Assessment Tool? _____
2. How much time did it take you to complete the Learning Needs Assessment Tool? _____ minutes
3. Have you used the Learning Needs Assessment Tool before? Yes No

Please circle the number that corresponds to your rating	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. I found this Learning Needs Assessment Tool easy to use.	5	4	3	2	1
2. The questions were easy to understand.	5	4	3	2	1
3. Assessing the home situation (section I) was helpful in developing a CHF self-care teaching plan.	5	4	3	2	1
4. It took too much time to complete the Learning Needs Assessment Tool.	5	4	3	2	1
5. The information I gathered from the patient was useful.	5	4	3	2	1
6. The flow of the questions was confusing.	5	4	3	2	1
7. The current knowledge assessment (section II) covered all the important aspects of CHF teaching.	5	4	3	2	1
8. The Learning Needs Assessment Tool had the right number of questions.	5	4	3	2	1
9. The questions were redundant.	5	4	3	2	1
10. The Learning Needs Assessment Tool was designed for easy use and there was enough space between the questions to write the answers.	5	4	3	2	1
11. Assessing the learning style (section III) helped me to plan to use appropriate teaching methods.	5	4	3	2	1
12. The questions were hard to understand.	5	4	3	2	1
13. I learned more about the patient using the Learning Needs Assessment Tool than I would have with my standard assessment.	5	4	3	2	1
14. The Learning Needs Assessment Tool was difficult to use.	5	4	3	2	1
15. The questions followed a logical sequence.	5	4	3	2	1
16. The teaching plan (section IV) that was developed from the Learning Needs Assessment Tool was comprehensive.	5	4	3	2	1
17. The teaching plan will help me to address the specific learning needs of my patient.	5	4	3	2	1
18. The time spent completing the Learning Needs Assessment Tool was worthwhile.	5	4	3	2	1

Figure 3. Interview Questionnaire

Name _____ ID# _____

Interview by: _____ Date _____

1. How many times did you use the tool?
2. Now that you have used this tool and developed and implemented a teaching plan, on a scale of 1 – 5, how helpful do you think this tool is?
 - 1) not helpful at all
 - 2) somewhat helpful
 - 3) helpful
 - 4) very helpful
 - 5) extremely helpful
3. What did you find the most helpful?
4. What did you find the least helpful?
5. On a scale of 1-5, what was your overall impression of the tool?
 - 1) I disliked it very much
 - 2) I disliked it
 - 3) I liked it somewhat
 - 4) I liked it
 - 5) I liked it very much
6. Please give some reasons for your rating under 5.?
7. What improvements would you suggest for the LNAT?
8. When accepting a new patient with CHF, how often would you use this tool? State the number you agree with most!
 - 1) never
 - 2) rarely
 - 3) some of the time
 - 4) most of the time
 - 5) always
9. Would you be interested in using this tool as part of your routine assessment for CHF patients? Why or why not?
10. Was the information you obtained using this tool helpful for anyone else in the agency? If so, who?