THE DEVELOPMENT OF A SELF-DIRECTED LEARNING MODULE ON CARE PLANNING FOR REGISTERED NURSES IN LONG-TERM CARE

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Abstract

Background and Purpose: Registered Nurses (RN) play a key role in the development of electronic care plans (CP) for residents in long-term care (LTC). Evidence shows that CPs are a comprehensive tool that can assist in the formulation of nursing diagnoses, goals, and interventions for adults with multiple complex health conditions. However, CP issues can arise in clinical practice for example, decreased knowledge due to lack of education and resources. This may lead to decreased quality of care and poor resident outcomes. Therefore, anecdotal observations in clinical practice and concerns expressed by RNs in two LTC agencies in rural Newfoundland identified a need for an educational resource on care planning using Meditech Magic version 5.66. The purpose of this project was to develop a self-directed learning (SDL) module on care planning for RNs in LTC to supplement any previous education on this important topic.

Methods: An integrated literature review and consultations with key stakeholders were conducted to identify issues associated with electronic care planning.

Results: Based on the information collected, and using Knowles Principles of Adult Learning (1984), and Morrison's Instructional Design Model (2014), a five unit SDL module was developed to assist RNs in gaining the knowledge required to complete individualized and accurate CPs.

Conclusion: The SDL module including a Quick Reference Guide was designed to provide RNs with current information relating to electronic care planning, in order to assist with the required documentation to improve resident outcomes.

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It has been estimated that by July 2024, 20.1% of Canadians will be at least 65 years or older (Statistics Canada, 2015). In addition, it has also been reported that individuals now experience multiple complex health conditions (Gill et al., 2014). To effectively manage these conditions (Gill et al., 2014), the Eastern Health Authority utilizes the electronic CP in LTC facilities using the Meditech Magic version 5.66 platform. RNs play a key role in initializing, individualizing, and evaluating the CP through developing nursing diagnoses, goals, and interventions for each resident. However, anecdotal observations in clinical practice and concerns expressed by RNs in LTC have identified that a learning need on care planning existed. This project focused on the development of an education resource that could assist RNs in gaining knowledge on the care planning process, as well as assist new nursing graduates in any care planning learning needs they may have in clinical practice.

The setting for this practicum project was two LTC facilities under the Eastern Health Authority located on the Burin Peninsula. The first is the Blue Crest Nursing Home (BC), a 60 bed facility located in Grand Bank. One RN is responsible to initiate, individualize, and update the CP for all residents. The second is the US Memorial Hospital (USM), a 40 bed facility located in St. Lawrence. Two RN's share the role of care planning for the residents there. These two LTC facilities were selected because they have a large number of resident beds and they are in close proximity to my geographical area, thus making them more accessible for the project.

Goals and Objectives

The overall purpose of this practicum project was to develop a comprehensive SDL module on care planning for RNs in LTC using the Meditech Magic 5.66 system. The module will assist in supplementing any previous education staff have received, assist new graduates in any additional care plan (CP) learning needs they may have, and provide the step-by-step procedure for completing CP. Although current RNs have received formal hands-on CP training at some point in their career, it has been at least four years since any updates have been available to staff.

The objectives for this practicum project include:

1. To develop a detailed literature review and consultations with key stakeholders to gain a greater understanding of the care planning needs of RNs in LTC.
2. To identify factors that facilitate and hinder the care planning process.
3. To develop a SDL module on care planning for RNs in LTC based on results from an integrative literature review and consultations with key stakeholders.
4. To integrate appropriate theoretical frameworks in the development of a SDL module.
5. To demonstrate the Canadian Nurses Associations (2008) advanced nursing practice competencies of leadership, research, and consultation.

Overview of Methods

An integrative literature review and consultation with key stakeholders were completed, in order to achieve the objectives of this practicum and to identify any issues associated with the care planning process. In addition, a SDL module was developed

based on the information obtained from the review. Each methodology is summarized in the following sections of this report.

Summary of the Literature Review

An extensive literature review was conducted on care planning in LTC using the databases PubMed, CINAHL, and the Cochrane Library. Web searches of google and google scholar were also conducted. Search terms included *registered nurse; care planning; plan of care; electronic documentation; long-term care documentation; and electronic health record.* Other sources were reviewed which included organizational policies and manuals.

Initially the search was limited to articles that were published between 2010 and 2017 that involved care planning by the RN in LTC. However, because of the overall fit and lack of studies conducted in the LTC setting, criteria were expanded to include acute care settings and studies that dated back to 2001. References from those sources were also assessed and reviewed where applicable.

The results of the literature review identified several themes as being key components in the care planning process. These themes included: care planning and the nursing process; benefits and barriers of electronic nursing CPs; nurse acceptance, perception, and attitude; paper-based verses computer-based charts; resident involvement; staff training; and quality of electronic CPs. In addition, the literature review helped identify the theoretical frameworks upon which this module was based: First, Knowles Principles of Adult Learning Theory (1984) and second, Morrison's

Instructional Design Model (2014). The completed literature review including the summary tables can be found in Appendix A.

Theme One: Care Planning and the Nursing Process

Understanding the nursing process is central to effective care planning because it outlines the assessment and planning of resident care and facilitates the CP by assisting in the identification of goals and interventions for the resident (Ballantyne, 2016). The five steps of the nursing process include assessment, diagnosis, planning, implementation, and evaluation (Doenges, Moorhouse, & Murr, 2010). Following these steps assists the RN to: assess physical, psychological, spiritual, cognitive, functional, economic and lifestyle abilities of the resident; make clinical judgments regarding the individual's potential health problems (Muller-Staub, Lavin, Needham, & van Achterberg, 2006); prioritize needs and goals of the individual; facilitates the foundation upon which nursing interventions are established (Doenges et al); carry out the interventions that have been identified; and evaluate if the plan is effective. Following the steps of the nursing process helps ensure that quality, resident-centered, holistic care is provided (Cherry, Carter, Owen, & Lockhart, 2008). However, the nursing process was found to be seldom referred to in clinical practice.

Theme Two: Benefits and Barriers of Electronic Care Planning

The benefits and barriers of electronic care planning have been shown to play a large role in CP effectiveness. CPs provide a comprehensive record (Mills, 2005) that gives direction to staff on which interventions best meet the resident's needs (Smith, Smith, Krugman, & Owen, 2005) and allows for detailed auditing that can be done at any

time from any location (Keenan, Yakel, Tschannen, & Mandville, 2008). They also help ensure version control is decreased by following NANDA guidelines (Muller-Staub et al., 2006) and permit for statistics to be readily available that can be subjected to statistical analysis by the Canadian Institute for Health Information (CIHI, 2016). However, lack of time, ongoing education, and resources may hinder this process (Lee, 2005; Cherry et al., 2008; Department of Health, 2012). In addition, RN staff have voiced concerns on the effectiveness, relevance, and clarity of CPs (Department of Health, 2012).

Theme Three: Nurse Acceptance, Perception, and Attitude

Nurse's attitudes, perceptions, and acceptance were an important indicator regarding whether or not care planning would be successful. If RNs view electronic documentation negatively, potential problems may arise- such as, incomplete or inaccurate documentation. However, if the nurse views electronic documentation positively then it will reflect in the documentation of tasks and overall resident outcomes (Smith et al., 2005).

Cherry et al. (2008) reported that RNs viewed electronic documentation positively in that it was more efficient and accurate, improved the quality of charting, improved resident outcomes, and provided easier access to resident information. Furthermore, RNs in Lee (2005) study reported that electronic CPs were a "reference to aid memory, a learning tool for resident care, and a vehicle for applying judgment" (p. 1376). However, a study by Smith et al., (2005) found that negative RN perceptions towards electronic care planning included that computers made their jobs harder, decreases the amount of time spent with residents, and it takes more time to document. Also, in Kossman and

Scheidenhelm's study (2008), RNs reported that CPs did not represent the resident, decreased critical thinking, and increased the amount of time spent on the computer.

Theme Four: Paper-Based Verses Electronic Based Care Planning

Paper-based verses computer-based CPs were frequently reported in the literature as well. Time spent documenting in the computerized record was found to take significantly longer in electronic systems than in the paper-based system. In fact, 73% of RNs in a study by Kossman and Scheidenhelm (2008) reported that they spend at least half of their shift documenting in the EHR. Daly, Buckwalter, and Maas (2002) also reported that the time taken to document in the computerized record was significantly longer than it was in the paper-based system. However, mixed results were visible as four studies reporting on this theme found that electronic documentation was in fact quicker than paper-based (Ammenwerth et al., 2001; Daly, Buckwalter, & Mass, 2002; Smith et al., 2005; Kossman & Scheidenhelm, 2008).

Theme Five: Resident Involvement

Resident involvement in the care planning process has been found to strengthen continuity while increasing quality of care. Failing to involve residents in their plan of care was found to be an implication of ineffective care planning (Chanchu et al., 2012). However, evidence has shown that seldom are residents or family involved in the process (Karkkainen et al., 2005; Lee, 2005; Reeves et al., 2014). This leads to the nurse defining the resident's needs and collecting objective data that may not reflect actual care needs.

Theme Six: Staff Training

Staff training was also an implication noted in the integrative literature review. To ensure staff's understanding of the care planning process and delivery of adequate care, ongoing education is essential. To reflect the needs of the RNS who complete documentation, education should cover all aspects of care documentation, including addressing resistance to change and staff's apprehension of computers (Lee, 2005; Smith et al., 2005, Cherry et al., 2008). A study by Kontos, Miller, and Mitchell (2009) found that lack of training resulted in decreased quality of CPs, inadequate content of CPs, poor access to electronic records, and shortcomings in capturing the needs of the residents.

Theme Seven: Quality of Care Plans

Finally, the last theme identified through the literature review was quality of CPs. This theme identified mixed results in the literature. Some studies found a significant increase in both the quantity and quality of consistency in various aspects of CP documentation (Ammenwerth et al., 2002; Bjorvell, Wredling, & Thorell-Ekstrand, 2002; Kossman & Scheidenhelm, 2008). However, other studies found decreased quality in computerized CPs in that they were considered to be too long, cumbersome, and general (Ammenwerth et al. 2002; Wang et al., 2015). In addition, the quality of contributing factors, resident outcomes, and the documentation of nursing problems were lower (Wang et al., 2015).

Limitations of Studies

Limitations in the literature included the use of older studies that had small sample sizes, in a limited number of settings. There was also a lack of Canadian studies, lack of studies that focused on LTC, and convenience sampling was frequently used.

In addition, there were a diverse number of variables including nurse perception, computer system issues, and clinical unit differences, which made drawing conclusions more difficult.

Self-Directed Learning

Evidence suggests that SDL modules are the preferred learning method of RN's because they are flexible, accessible, and portable (Sparling, 2001; Skiff, 2009). They increase motivation by giving nurses choice, autonomy, and responsibility (Dobre, 2013). They are generally less costly than formal classroom sessions and issues associated with staff scheduling and availability are decreased. These factors allow more RNs the ability to participate in continuing education (Skiff, 2009).

Theoretical Frameworks

The use of two theoretical frameworks were used to help guide the development of this resource. According to the principles of Knowles Adult Learning Theory (1984) the learner has a problem-centered orientation, where learning is desired if a problem is perceived. Also, readiness to learn and motivation are best achieved if new knowledge builds on previous knowledge. Learners need to be involved and have input in the process of developing the resource and be goal and self-directed.

The second framework used to guide the development of the SDL module on care planning for RNs in LTC was Morrison's Instructional Design Model (2014). The three stages of this model include analyze, Develop/Select; and the implementation phase.

In the analysis phase learning objectives were established, learning contexts were identified, the purpose of the instruction was determined, and an analysis of the learners

was conducted. In the develop/select phase goals were identified and the module was created. This phase focused on content, subject matter analysis, resources, and instructional strategy. (Morrison, 2014). Finally, in the implementation phase the resource will actually be implemented into practice and available for use. Modification of this resource will be done by gathering feedback from RNs and conducting CP audits.

Summary of Consultations

To gain information on care planning in LTC, consultations were held with several key stakeholders. Ethical approval was not required for this practicum project. The complete consultation report can be found in Appendix B. The following sections will summarize the results of the consultations.

Methods

Within Eastern Health, in-person and telephone interviews were held with eight RN's from the BC and USM on the Burin Peninsula; the Resident Care Managers (RCM) from both facilities; the Regional Director of Clinical Documentation; four Clinical Educators; and a Regional Clinical Information Specialist from the Consolidation Team. A telephone interview was also held with a Clinical Information Specialist from the Western Heath Authority and a Customer Services Representative from the Meditech Company. The results from consultations identified several key implications.

LTC Registered Nurses

In-person interviews were held with eight RNS from BC and USM. Questions related to their opinion on care planning in the EHR, timeliness of completing CPs,

inaccuracies in current CPs, the appropriateness of an SDL module as an educational resource, and the type of information they would like to see in a SDL module.

Most RN's reported that electronic CPs using the Meditech Magic 5.66 platform provide for more timely documentation and decreases the likelihood of not adding required interventions. The standardized CPs provides cues, prompts, and look-up screens that make it less likely to omit adding necessary interventions. However, some RNs reported that electronic documentation is more time consuming and impacts the time spent with residents. They also reported inaccuracies in current CPs in that there are incorrect interventions on some charts, CPs are not always updated when required, and at times they do not reflect the needs of the resident. In recognizing these inaccuracies, RNs indicated a need for an up-to-date resource on care planning that includes aspects related to initializing, individualizing, and updating the CP.

RCMs and Regional Director of Clinical Documentation

In-person and telephone interviews consisting of three questions were asked to the RCMs of BC and USM and the Regional Director of Clinical Documentation with the Eastern Health Authority. Questions related to the strengths possessed by RNs in initiating, individualizing, and updating the CP; problems associated with care planning in their facilities; and incident reports related to ineffective care planning.

All participants reported that it is the RNs critical thinking and leadership skills that increase their ability to CP. They also indicated that RNs have a strong knowledge base, are leaders within their skill mix group, and are able to take information gained from other health disciplines and critically apply it to the CP. However, for unknown

reasons, whether it be a knowledge gap or time management skills, the process is not always carried out effectively or efficiently. Participants reported a strong need to follow care planning activities in their facilities to ensure accuracy and compliance. In addition, participants indicated that residents or families are not frequently involved in the CP process and CPs are not always updated or evaluated.

Clinical Educators

Telephone interviews were conducted with four Clinical Educators from various sites throughout the Eastern Health Authority and a Clinical Educator from the Western Health Authority. The two interview questions related to the type of CP inquiries they receive from RNs and any suggestions for SDL module content based on experience.

All four Clinical Educators from the Eastern Health Authority reported inquiries from RNs relating to initiating, individualizing, or updating the CPs. Examples of the types of inquiries included: initiating the LTC basic CP; the addition of interventions to existing problems; adding new diagnosis; individualizing the CP to meet specific resident needs; and updating CPs. The Clinical Educator from Western Health stated RNs complete care planning in a different process than the Eastern Health Authority, making comparisons more difficult. However, the educator still reported issues in relation to entering the basic CP, changing directions of interventions, and changing levels of care.

Clinical Information Specialist

A telephone interview was conducted with a Regional Clinical Information Specialist with Eastern Health's Consolidation team asking which type of CP inquiries the department receives from nursing staff. This team built the Meditech Magic 5.66

platform. The Specialist responded that that they mostly make changes to functionality in the CPs, as well as make additions or deletions to the diagnoses, goals, and intervention as requested by staff.

Customer Service Representative with the Meditech Company

I contacted a Customer Services Representative from the Meditech Company located in the USA. When asked which type of inquiries they receive from Health Authority's related to care planning in LTC, the representative stated that their main task was focused on "*regulation changes that need to be adhered too.*" As well as *"changing functionality".*

Summary of Module Development

The SDL module on care planning for RNs in LTC is presented in the form of a paper-based module that will be located in nursing stations on each of the units as per the request of RNs during the consultation process. The Quick Reference Guide will be laminated and in color for easy use and visibility. The completed SDL module and guide can be found in Appendix C of this report.

The information gained from the literature review and consultations with key stakeholders are directly related to and laid the foundation for the content in the SDL module. The literature review allowed for the identification of a theoretical framework upon which to base the modules development. It also supplied important information on why care planning may not be successful. The themes helped to identify what the particular CP problems were and supported the need for a learning resource. The consultations helped identify the CP issues in the identified two LTC agencies on the

Burin Peninsula and provided the foundation for what content would be addressed in the module itself.

The SDL module on care planning for RNs in LTC is a five unit module that contains separate sections. The module starts with an introduction, purpose, overview, and module instructions. Each unit and section within the module supplies the learner with both contextual information and step-by-step procedural information regarding care planning. Each section of the module contains learning objectives, while each unit contains a summary, end of unit review questions, and answers to the review questions. A brief description of what information is found in each unit is described in the next sections.

Unit One: Meditech Functionality

Unit one, section 1 is based on confidentiality. Information includes a definition of confidentiality, the RNs role in confidentiality, what constitutes a breach of confidentiality, and ways to appropriately access an individual's chart. Section 2 illustrates through colored pictures both the mouse toolbar function keys and the keyboard special function keys associated with Meditech magic 5.66.

Unit Two: The Nursing Process and Care Planning

Unit two, section 1 presents information on the nursing process and how it relates to the nursing CP. It also provides details of each step of the nursing process. Section 2 describes the nursing CP, including a definition and the types of care needs identified through CP development. In addition, this section highlights the benefits and limitations of electronic care planning. Finally, section 3 consists of detailed information on the CP

considerations and procedures as outlined in the Eastern Health LTC Integrated Care Plan policy (Eastern Health Authority, 2016).

Unit Three: The Process of Electronic Care Planning

Unit Three is the most extensive unit in the module. Section one discusses initiating the LTC basic CP and identifies the diagnoses, goals, and interventions that are contained in it. It also provides the step-by-step instructions for entering the basic CP into the Meditech Magic 5.66 platform. Section 2 discusses when and why additional diagnoses should be added to the CP and provides the step-by-step procedure. This section also outlines what additional diagnoses are available to add to corresponding goals and interventions. Section 3 discusses adding additional interventions to a CP and the step-by step procedure for adding them. Section 4 highlights changing the status of interventions from active to complete if they are no longer required, or complete to active if they are required once again. This section also explains the importance of changing directions to indicate when specific care is required and provides the step-by-step procedure for changing them. Section 5 provides information on changing the level of care on interventions to reflect the needs of the resident. As with other sections, this is followed with the step-by-step procedure for changing levels. Finally, section 6 describes the edit text function, its' use, and the steps required to edit text.

Unit Four: Clinical Assessment Protocol (CAP)

Unit Four, section 1 provides information on what the Resident Assessment Instrument-Minimum Data Set (RAI-MDS) 2.0 assessment is, the definition of a CAP, how CAPs are triggered, the four broad areas of CAPs, and progress notes associated

with CAPs. Section 2 illustrates the step-by-step procedure of how to add CAPs to a CP and provides examples of possible CAP problems that are contained in the Meditech Magic dictionary.

Unit Five: Updating the Care Plan

Finally, Unit Five, section 1 discusses target dates, the necessity for their use, requirements for updating the CP, and the steps required to enter target dates. This is followed by section 2, which discusses when a Kardex should be printed and illustrates the step-by-step procedure for printing them.

Quick Reference Guide

A seven page step-by-step Quick Reference Guide is included as an appendix in the module for RNs to utilize when carrying out the CP process. The guide provides little in terms of contextual information but is a great resource when just the procedure is needed to facilitate the development of the CP.

Advanced Nursing Practice Competencies

Completing various components of this practicum project during both NURS 6660 and NURS 6661 has allowed me to demonstrate accountability in the development of SDL module on care planning for RNs in LTC. I feel this project has allowed me to demonstrate several of the advanced nursing practice (ANP) competencies set out by the Canadian Nurses Association (CNA) (2008). The four competencies identified by the CNA include clinical, research, leadership, and consultation and collaboration. Current ANP competencies demonstrated during this practicum project are discussed in the following sections.

Research Competency

The CNA (2008) defines the Research competency as "generating, synthesizing and using research evidence to advanced nursing practice" (p. 23). This competency was demonstrated by using research skills and research utilization in conducting the literature review. Critical analysis and synthesis of research studies helped inform the development of the SDL module.

Leadership Competency

The CNA (2008) defines the leadership competency as "They [Nurses] are leaders in the organizations where they work. They are agents of change, consistently seeking effective new ways to practice, to improve the delivery of care, to shape their organizations, to benefit the public and to influence health policy" (p. 24). I have demonstrated this competency by having the motivation and insight to recognize a learning need, as well as choosing to complete a project that will support professional growth and continuous learning for RNs in LTC. I also showed leadership by engaging and communicating with frontline RNs and allowing them to express opinions on the current barriers to care planning, and what they would like to see contained within the module. Through the literature review and consultations with key stakeholders I have also increased my knowledge on the subject area and have the ability to transfer that information to others.

Consultation Competency

The CNA (2008) defines the consultation and collaboration competency as "the ability to consult and collaborate with colleagues across sectors and at the organizational,

provincial, national and international level" (p. 26). I demonstrated the consultation competency by identifying those key stakeholders who would provide valuable insights on care planning within Eastern Health's LTC agencies. This competency was also demonstrated by contacting the key stakeholders, developing appropriate interview questions, analyzing the data effectively, and incorporating stakeholders input into the module development. The consultations also assisted me in gaining support for the module.

Next Steps

The final product at the end of this practicum project was a five unit SDL module including a Quick Reference Guide on care planning for RNs in LTC. The following sections will discuss the implementation, evaluation, and future goals of the project.

Implementation

Once approval has been granted by the Regional Director of Clinical Documentation of LTC for the Eastern Health Authority, the next step will be to implement the module into clinical practice at both USM and the BC LTC agencies. This will involve making the module and quick reference guide available at all the nursing stations. RNs will be informed by the RCMs of the facilities and the Nursing Information Specialist that the module is available. Newly hired RNs will be informed of the module during the Meditech Magic 5.66 classroom training that they attend with me. They will be given a copy of the quick reference guide for their use in clinical practice.

Evaluation

Two months after the SDL module is implemented, it is planned that an electronic copy will be sent to the Project Lead of Meditech Consolidation Team for formative evaluation. Discussions related to the SDL module and Quick Reference Guide will take place through informal telephone consultation. In addition, formative evaluation will occur with RN staff in both facilities that have had an opportunity to review the module. An evaluation tool will be developed before a formal evaluation occurs. Finally, at that time, I will also seek approval from my direct Supervisor to conduct informal CP audits in an effort to measure RNs knowledge and the effectiveness of the module. Once all of the above activities have been conducted, I will revise the module based the information and it will be re-implemented into practice.

Future Goals

Once the evaluation has been completed and the module has been updated, I will look into the procedure required for placing the module on the Eastern Health intranet. This will provide an opportunity for the resource to be utilized by all LTC RN staff completing care planning in the Meditech Magic System.

Conclusion

RNs play a key role in initialing, individualizing, and updating electronic CPs. However, anecdotal observations in clinical practice and concerns expressed by RNs in LTC have identified that an educational need existed in relation to care planning. To gather information on what facilitates and impedes the CP process, as well as any issues associated with it a literature review and consultations with key stakeholders were completed. Utilizing these methods helped provide a better understanding of the

educational needs of staff on care planning and created the foundation for the content of the module.

Through the inclusion of Morrison's Instructional Design Model (2014) and Knowles Principles of Adult Learning Theory (1984) the SDL module was developed based on the needs of RNs. The module includes contextual information, as well as the step-by-step procedure for completing them. This information will supplement any previous education and knowledge possessed by the RN.

Moving forward, the project will be implemented in two LTC facilities on the Burin Peninsula and feedback will sought on its effectiveness. Modifications will then be made and the process required to place the module on Eastern Health's intranet will be investigated.

It is hoped that the implementation of this module and quick reference guide in clinical practice will increase nursing knowledge, perception, and compliance in care planning, thereby increasing CPs accuracy and effectiveness' in providing optimal resident care.

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Appendix A: Literature Review

The Development of a Self-Directed Learning Module on Care Planning for Registered Nurses in Long-Term Care: An Integrated Literature Review

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The Development of a Self-Directed Learning Module on Care Planning for Registered Nurses in Long-Term Care: An Integrated Literature Review

In Canada, there is an increasing number of individuals with multiple, complex, chronic conditions. In 2015, nearly one in six Canadians (16.1%) were at least 65 years old and by 2024 that number is expected to increase to 20.1% (Statistics Canada, 2015). To help manage this increase in the older population and thus an influx of people admitted to long-term care (LTC) facilities, the health care system has shifted toward the integration and utilization of information technology, through an electronic health record (EHR), to increase effectiveness, work efficiency, and safety of individuals (Cherry, Carter, Owen, & Lockhart, 2008). EHR is a digital version of a patient's paper chart that holds pertinent health care information, such as patient demographics, blood work results, diagnostic imaging reports, and patient services required and received. Through this record, patient information is available instantly and securely to those authorized to use it (Hayrinen, Saranto, & Nykanen, 2008).

In managing the multiple morbidities of this population, health care organizations have been striving to better govern care needs and in providing continuity of care. An effective, yet challenging activity carried out by nurses to facilitate care needs is the nursing care plan (NCP) (Keenan, Yakel, Tschannen, & Mandville, 2008). Registered Nurses (RN) are accountable for the completion of the NCP following admission to LTC, but often times they are misunderstood, regarded as unimportant, or not considered to be a part of the care regime.

The NCP is a communication tool used for addressing continuity of care and provides structure to guide RNs in conducting the assessment, planning, and formulation of nursing diagnoses. It also highlights which observations to make and which nursing interventions are required (Lee, 2005; Wang, Yu, & Haley, 2015). NCPs are directly related to patient outcomes such as functional, cognitive, psychological, self-care, nutrition, and safety status (VanDeVelde-Coke et al., 2012). If not completed accurately and within a timely manner, essential elements of care may be missed or neglected, resources may be wasted, poor communications between disciplines may result, and negative outcomes could occur, such as errors in treatment, morbidity, or mortality. The overall goal is to ensure continuity and quality of care, while providing safe environments for residents (Cherry et al., 2008; Burt et al. 2012; Chunchu, Mauksch, Charles, Ross, & Pauwels, 2012).

The purpose of this integrative literature review is to establish support for the proposed development of a self-directed learning (SDL) module for RNs in LTC that will help facilitate initiation and individualization of electronic NCPs in the Meditech Magic system. This will be accomplished by compiling evidence from the literature related to the importance of care planning, the rationale for care planning, the RN's role, benefits and barriers of NCPs, and then a discussion of the themes identified in the literature will follow. As well, the advantages and disadvantages of SDL in nursing practice will be explored, along with the identification of two theoretical frameworks that will be utilized in developing the module. For this review, the terms RN and nurse will be used interchangeably.

Background and Relevance

The care planning process is used by the RN in LTC as a means for identifying resident problems and goals. It also assists the nurse in selecting relevant interventions that will solve, minimize, or manage those problems (Kennan, Yakel, Tschannen, & Mandville, 2008; Doenges, Moorhouse, & Murr, 2010; Ballantyne, 2016). Electronic NCPs enables the RN to record the care that has been provided and allows that information to be shared with other health care disciplines, enabling continuity of care. Furthermore, it is used as a guide to reassess the effects of care based on the residents' current needs and enables RNs to demonstrate that they are utilizing competencies outlined within their professional standards of practice (Ballantyne, 2016).

In conducting an initial assessment, the RN is supplied with the necessary information required to initiate and individualize a NCP and ensure it meets the specific needs of each individual resident. Through CP development, the RN can also determine aspects of care such as, the type of assistance needed with activities of daily living (ADLs). In addition, it considers activities such as transferring and positioning; bladder, bowel, and incontinence care; hearing and vision capabilities; sleep patterns; language and speech impairments; food preferences; and mental and emotional status. Assessments such as pain, safety and security risks, rehabilitation needs, recreational activity preference, religious and spiritual preferences, and advance health care directive requirements (Government of Newfoundland, 2005) are also carried out during the CP process.

The proposed SDL module for this practicum project will be developed for two LTC facilities in the Eastern Health Authority located on the Burin Peninsula. One facility is the Blue Crest Nursing Home in Grand Bank and the other is the US Memorial Hospital in St. Lawrence. Both of these facilities complete NCPs using the Meditech Magic, version 5.66 system. This United States based system is considered to be a leader in the EHR industry and is being used in over 2300 LTC, acute, home health care, and physician practices world-wide. Besides care planning, Meditech applications exist for administrative and financial information, as well as providing unified applications in many clinical areas (Drummond Group, 2013). Electronic clinical documentation in the Meditech Magic system has been utilized in the Eastern Health Authority for the past 15 years. However, in 2013 the version and structure of documentation screens underwent several changes during a consolidation process. Since that time there have been no new manuals pertaining to CPs developed for the organization.

Rationale for a Care Plan Module

The rationale for developing a SDL module on electronic care planning for RNs in LTC is important and related to organizational policy, legal requirements, and antidotal observations in practice. This will be discussed in the following sections.

Organizational policy.

There has been a policy developed on care planning in LTC by the Eastern Health Authority. The *Integrated Care Plan policy for LTC* (307-RC110) states that each resident must have an updated CP to base care decisions. This policy describes how health professionals, such as RNs, have a role to play in assessing and developing the

resident's plan of care. The SDL module for this practicum project will focus solely on the RNs role as they are responsible to initiate the CP and individualize it to meet the specific needs of the resident. Nurses hold a larger degree of responsibility in care planning because they act as leaders, coordinators, practitioners, advocates, mentors, and program leaders in the LTC program (ARNNL, 2013b). In functioning as a leader, the RN performs care based on evidence-informed practice, problem solving, and evaluation. The RN also has a coordinator role where they are responsible to identify, establish, and coordinate resident goals by developing CPs and collaborating with other disciplines. As a practitioner, the RN conducts resident assessments, initializes and individualizes the CP, and evaluates its outcomes. As an advocate, the RN collaborates with residents and other disciplines to set care goals based on the individual needs. The RN also acts as a mentor, where they guide others to resources that assist them in providing quality care. Finally, the RN has a role as a program planner where they implement programs and nursing activities derived from patient diagnoses, goals, and interventions. Organizational policy is an important reason why CP development is essential and must be done. Although another reason, which is equally important, is legal requirements.

Legal requirements.

There are several legal documents that indicate the CP must be completed by the RN. These documents include the *Registered Nurses Act (2008),* the ARNNL *Standards of Practice* (2013c), and the *Long term Care Facilities in Newfoundland and Labrador Operational Standards* (2005).

The Registered Nurse Act (2008) states that the practice of nursing includes "assessing the client to establish their state of health and wellness; identifying the nursing diagnosis based on the client assessment and analysis of all relevant data and information; developing and implementing the nursing component of the client's CP; and evaluating the client's outcomes" (p. 4).

The *Standards of Practice for Registered Nurses* (2013c) document developed by the ARNNL provides in-depth legislative knowledge for RNs practicing in Newfoundland and Labrador. This document outlines standards and corresponding indicators of practice for RNs to abide and provides guidance on what is considered to be legally reasonable and sound practice. Pertinent to care planning practices, Standard 1: Responsibility and Accountability, indicator 1.2 states that "the RN must practice in accordance with relevant legislation, standards, and employer policies" (p. 7). This corresponds to the Eastern Health Authority's CP Policy. In addition, under Standard 2: Knowledge-Based Practice, indicator 2.2 it states that the RN "uses critical inquiry in collecting and interpreting data, in determining and communicating client status, in planning and implementing the CP, and in evaluating outcomes" (p. 8).

Finally, the *Long Term Care Facilities in Newfoundland and Labrador Operational Standards* (2005) published by the Government of Newfoundland specifies that a resident's CP must be initiated upon admission to the agency and refined by both the RN and other health care disciplines. The operational standards also states that optimally the resident and their family should be included in the CP process. Then upon

assessment and identification of specific care requirements, planned solutions need to be implemented and evaluated for the individuals.

Anecdotal observations in practice.

In my role as a Nursing Information Specialist with the Eastern Health Authority I have observed that in clinical practice care planning is not consistently completed by nursing staff. RNs have voiced complaints stating that they feel it is too cumbersome and consumes too much of their time that could otherwise be used in providing resident care. In December 2014, I undertook an informal review of electronic care planning within the LTC facilities of my organization. Through this review it was noted that there were some area of concern in sections of care planning such as, initiating the incorrect basic CP, adding and documenting on incorrect interventions, and not individualizing the CP to meet the resident's needs. Furthermore it appeared the family or resident is not always involved in the CP process.

During the fall 2016, while completing the Nursing Education graduate course, I conducted a needs assessment in one of my assignments. This needs assessments identified five topic areas whereby education would be of benefit to RNs. As a result, the staff identified care planning as a priority education topic. They reported that previous CP resources were developed by clinical educators in the organization. However, there were issues as the resources were too cumbersome, outdated, or hard to find in the clinical unit. This indicated to me a great need for a SDL module that contains up-to-date evidence-based information that is easily located on the units.

Methods

A literature review was conducted on care planning in LTC using the databases PubMed, CINAHL, and the Cochrane Library. Web searches of google and google scholar were also conducted. Search terms included *registered nurse; care planning; plan of care; electronic documentation; long-term care documentation; and electronic health record.* A combination of these words were also meshed together in PubMed. Other sources were reviewed which included organizational policies and manuals.

Initially, for the integrated literature review, articles that were published between 2010 and 2017 that involved care planning by the RN in LTC were assessed and reviewed. Due to the overall fit and lack of studies conducted in the LTC setting, criteria were expanded to include acute care settings and studies that dated back to 2001. References from those sources were also assessed and reviewed where applicable.

Integrative Literature Review

A literature review was completed on the topic of care planning by the RN in LTC. Several themes were identified as being key components. These themes included: care planning and the nursing process; benefits and barriers of electronic nursing CPs; nurse acceptance, perception, and attitude; paper-based charts verses computer-based charts; patient involvement; staff training; and quality of electronic CPs.

Care Planning and the Nursing Process

The nursing process is a problem solving approach that helps facilitate solving or managing resident problems. Some authors (Muller-Staub, Lavin, Needham, & van Achterberg, 2006; Wang, Yu, & Hailey, 2015; Ballantyne, 2016) view the nursing process as being important to utilize in conducting NCPs, since they can facilitate their

development. In following the steps of the nursing process, an RN is able to more effectively identify goals and interventions for the resident, allowing them to achieve desired outcomes. Introduced in the 1950's, the nursing process was the three-step procedure of assessment, planning, and evaluation. After years of refinement the nursing process evolved into the five steps of assessment, diagnosis, planning, implementation, and evaluation (Doenges, Moorhouse, & Murr, 2010; Wang et al., 2015; Ballantyne, 2016).

Assessment is a "systematic collection of data relating to clients, their problems, and needs that focuses on the physical, psychological, spiritual, cognitive, functional, economic, and lifestyle abilities" (Doenges, et al., 2010, p. 7) of the resident, in conjunction with physician findings and diagnostic studies. Once the assessment is completed, the RN develops a problem list or nursing diagnosis statements. A nursing diagnosis is "a clinical judgment about an individual, a family, or a community's response to actual and potential health problems or life processes" (Muller-Staub et al., 2006, p. 516) and provides the foundation upon which nursing interventions are established for the individual. The next stage in the nursing process is planning, where the needs of the individual are prioritized, goals are developed, and solutions, also known as interventions, are chosen. (Doenges et al). Implementation, involves carrying out the interventions identified in the planning phase. Finally, evaluations are conducted to assess if the CP is effective. A review should be conducted, at minimum, every three months in LTC. The purpose is to assess whether goals have been achieved, reassess

current needs based on progress made, determine if the CP still meets the resident's needs, revise if necessary, and to set the date for the next review (Ballantyne, 2016).

Benefits and Barriers of Electronic Nursing Care Plans

There are several benefits of the electronic NCP, such as they provide a comprehensive record, assists in record keeping, provides direction to staff, allows for more detailed auditing, version control is decreased, less paper is used, and statistics are readily available (Mills, 2005). The NCP provides a comprehensive record by establishing a relationship between resident problems, goals, and interventions to related policies, procedures, or guidelines that an organization may have. They also enable nurses to record and acknowledge that care has been given, while providing a link to information that can be assessed by various disciplines (Mills).

Another benefit is that standardized CPs provides cues and prompts for the nurse that facilitates the documentation of assessments and resident care (Smith, Smith, Krugman, & Owen, 2005). They also provide direction on which specific interventions are needed for the resident based on their unique list of diagnoses (Ballantyne, 2016).

When electronic CPs are completed, the availability of conducting audits on a specific facility or unit from any location is possible. This can decrease tension from nursing staff who know audits are being conducted at their work site and also saves time and money from having to send someone to the specific sites for auditing (Keenan et al., 2008). Moreover, since diagnoses adhere to North American Nursing Diagnosis Association (NANDA) guidelines, more control on what diagnosis and interventions are being applied by the RN is possible. This provides for more standardized,

comprehensive, and consistent CPs (Muller-Staub et al., 2006). Furthermore, less paper is used when completing electronic CPs compared to those completed on paper. This is an important aspect in that computers can save not only time but also money. This, along with the fact that it is harder to lose essential, confidential information makes computerized systems more beneficial to the organization (Lee, 2005).

Finally, the Canadian Institute for Health Information (CIHI) is an independent, not-for-profit organization that provides essential information on Canada's health systems and the health of Canadians. When health care facilities submit electronic CPs to CIHI, they are able to make comparisons of data, which are used to make improvements in health care, health system performance, and population health across Canada (CIHI, 2016). The information is also used to increase nursing knowledge, evaluate quality, examine the impact of nursing care, and promote patient safety.

While there are major benefits to electronic CPs, barriers also exist that may hinder compliance in documentation. RNs express that there is a lack of time, staff, education, and resources to commit to recording resident needs through the CP process. There are also concerns that CPs need to be better integrated into the regular work flow routine (Cherry et al., 2008). As well, there have been concerns regarding the difficulty in keeping NCP's up-to-date as resident needs change. This can be viewed by staff as a time consuming problem that is too cumbersome (Ballantyne, 2016).

Another criticism surrounding the standardized CP is where the diagnosis automatically populates a list of interventions. RNs indicate that so many interventions populate on the list that there is no chance they would get to complete them all, and often

times they do not reflect care that is actually required for the individual (Lee, 2005). Finally, as reported by the Department of Health (2012) in the UK, there have been concerns regarding the effectiveness, relevance, and clarity of CPs and how they should be structured in relation to co-morbidities, and contributions of multidisciplinary staff.

Nurse Acceptance, Perception, and Attitude

In a qualitative, descriptive study by Cherry et al. (2008) focus groups were used consisting of 34 nurses, directors, administrators, and corporate executives to identify factors that facilitate or act as a barrier to the use of the EHR in LTC facilities. Participants reported the use of the EHR made documentation more efficient and accurate, improved the quality of charting, improved resident outcomes, and provided easier access resident care information. All of these factors made using the EHR more accepting to staff. In comparison, a quasi-experimental study by Smith et al. (2005) using a convenience sample of 46 RNs found that attitudes towards the EHR were more negative post- computerization implementation than they were before computerization ($p = .004$). The most significant decrease in attitude scores was noted on RNs perceptions which included: "computers make nurses' jobs easier ($p \leq .001$); computers save steps and allow nursing staff to become more efficient ($p = .002$); and increased computer usage will allow nurses more time for patient care ($p=.002$)" (p. 135). However, nurses in the study still reported feeling that the standardized nature of the CP, with its' included goals and interventions, increased the accuracy of documentation and awareness of what was required to be documented in the EHR. It also helped to reduce the amount of fragmentation that previously resulted in documentation.

According to Kossman and Scheidenhelm (2008), in their qualitative descriptive study, nurses reported that CPs did not adequately represent the resident. Also, critical thinking was decreased because the standardized format outlined everything for the nurse, which made them rely on checkboxes and drop down menus instead of their own knowledge. They also reported that EHR-related issues increased the amount of time spent on the computer and decreased time spent with residents. Another concern identified was that the amount of duplicate charting increased because information was often first recorded on paper and then transferred to the EHR. Given all of these concerns and frustrations, nurses on the clinical unit still expressed that the benefits of the EHR outweighed its' limitations. In fact, out of the 46 nurses in the study, only two reported that they preferred to go back to paper charting.

In a descriptive, exploratory study of 20 nurses in Taiwan, Lee (2006) found that "nurses generally viewed the content of the computerized NCP as a reference to aid memory, a learning tool for patient care, and a vehicle for applying judgement to modify CP content" (p. 1376). Additionally, RNs indicated that the electronic CP reduced charting time and the amount of paper used, but because the CP utilized standardized data, descriptions of conditions were lacking. This was contrary to a cross-sectional study, also conducted by Lee (2005), which found that nurses felt the standardized CPs were so comprehensive that it would be unrealistic to even try to get half of the interventions completed. Similarly, Karkkainen, Bondas, and Eriksson (2005), found RN negative attitudes towards computerized documentation related to it taking up too much of their patient care time and being unrealistic.

Overall, the studies that sought to highlight nurses' perceptions, attitudes and acceptance (Karkkainen et al., 2005; Lee, 2005; Smith et al., 2005; Lee, 2006; Cherry et al., 2008; Kossman & Scheidenhelm, 2008) found that for the most part, RNs do accept standardized CPs, however, their perceptions and attitudes vary on usefulness, comprehensiveness, complexities, and time savings.

Paper Based Verses Computer Based Care Plans

Researchers Daly, Buckwalter, and Maas (2002) compared a paper-based system with a computerized documentation system in a LTC facility in Iowa, USA. Findings indicated that the time spent on documentation decreased over the study period for both groups ($p>.05$). However, the time taken to document in the computerized record was significantly longer than it was in the paper-based record: preparation time ($p = 0.002$); other time ($p= .003$); and total time ($p=0.000$). The nursing diagnoses used in both groups were similar but there were more nursing interventions and activities in the computerized system compared to the paper-based system ($p = 0.001$ and $p = 0.007$ respectively). Similarly, in Kossman and Scheidenhelm's (2008) study self-reported time using the EHR was considered as being extensive and frequent by nurses. A total of 73% RNs reported spending at least half their shift on the EHR, while three nurses reported spending 90% of their shift on the EHR. Ammenwerth et al. (2001) also compared paper-based and computerized nursing records. This study found that documentation of nursing activities took significantly longer in the computerized system ($p = 0.004$). However, in relation to CP documentation itself there were no significant difference in the groups ($p= 0.0131$). This contradicts Smith et al. (2005) whose findings suggested

that electronic charting did not take significantly longer than paper charting ($p = .15$). It took 25.1 minutes to chart on paper verses 30.2 minutes to chart electronically.

In a retrospective study using audits completed in seven LTC homes in Australia, Wang et al. (2015) found that resident problems and evaluation of care were documented more in the charts contained in the electronic NCP than the paper based system ($P<0.01$). However, it contained fewer problem statements ($p < 0.001$), contributing factors ($p < 0.001$), and resident outcomes ($p < 0.01$) than the paper-based system.

Resident Involvement

The involvement of residents who have chronic illnesses in their plan of care pertaining to setting goals, planning actions for care, and self-management of disease processes were found to strengthen continuity and the quality of care received in a study by Chunchu et al. (2012). Individuals in the intervention group who participated in care planning and problem solving provided positive feedback on continuity, feeling known, and respected. Unfortunately, residents are not always involved in the CP process as seen in a qualitative metasynthesis by Karkkainen et al. (2005). The authors found that when documenting on nursing care, RNs seldom referred to residents or their views. This information also corresponds to Lee (2005), who found that many nurses define resident problems by collecting resident data objectively and from the resident record. Additionally, Reeves et al. (2014) quasi-experimental study of six primary care organizations in England found that only 4% of individuals confirmed having a CP. However, of 1676 people, 68.7% reported that in the past 12 months they have had discussions with their physicians regarding actions for managing their health concerns.

Failing to involve the resident in the CP process may lead to the nurse defining the resident's needs and inaccurate information being documented (Lee, 2005).

Staff Training

Cherry et al. (2008) identified barriers to the EHR and NCPs that relate not only to cost and time of ensuring all staff are trained efficiently and effectively, but also to the need for ongoing training, addressing resistance to change, staff's apprehension of computers, and the education level of some users. Lee (2005) reported that educational needs related to electronic documentation and care planning should include knowledge of the steps involved in the nursing process. If this knowledge is not transferred then CP usefulness would be limited. Documentation training should cover all aspects of care documentation for individuals. This training, should be significant in length, and detailed in nature, to ensure that it is beneficial to the nurses. Similarly, Smith et al. (2005) identified that to effectively utilize a CP system, nurses focus would have to change from a task-and systems-oriented approach, by which they were accustomed, to one that focused on problems, goals, and interventions. Therefore, training would be essential for these staff because there would be a large learning curve in documentation practice. For example, a task as simple as recording vital signs is relatively simple in a paper-based chart compared to logging into EHR, locating the vital signs intervention and then manually inputting the data.

A quasi-experimental study conducted by Larrabee et al. (2001) showed that, by the end of the third time series, the intervention group's documentation was improved. This indicated that ongoing use and continued education of electronic documentation

practices are effective in increasing quality and completeness of documentation. This is comparable to a Canadian qualitative study by Kontos, Miller, and Mitchell (2009). These researchers found, for example, that a lack of training resulted in decreased quality of CP, inadequate content of CPs, poor access to computerized records, and shortcomings in capturing the individual's psychosocial well-being and personal preferences.

Quality of Electronic Care Plans

Wang et al. (2015) found that the quality of electronic CPs were lower than the paper-based CPs ($p<0.01$) by a total mean score difference of 16.76. For the nursing process, the electronic NCP had a slightly lower quality score for documenting nursing problems ($p < 0.01$), contributing factors ($p >0.001$), and resident outcomes ($p < 0.001$) than the paper-based CP. However, there was no difference in the quality scores for goals, interventions and evaluation between the two formats ($p<0.001$). The authors also found that the electronic CP had significantly higher scores for consistency in the assessment ($p= 0.041$), signs and symptoms ($p = .0175$), and evaluations ($p<0.05$). This is similar to the findings of a randomized controlled trial (RCT) by Ammenwerth et al. (2002). These researchers found that quality problems in the computerized group were related to CPs being too general and too long. This lead to care being delivered that was not based on the resident's individual needs, as well as too many interventions being planned, but not carried out. Furthermore, nurses in the study by Kossman and Scheidenhelm (2008) stated that the EHR increased quality since patient data were readily available. However, they felt that due to the EHR, the quality of resident care decreased because more time was spent documenting than with the resident.

Finally, Bjorvell, Wredling and Thorell-Ekstrand (2002) conducted a quasi-experimental longitudinal study over a two year intervention period regarding nursing documentation education. Results indicated a significant increase in both quantity ($p<0.0001$) and quality ($p<0.0001$) of nursing documentation in the computerized group when compared with those from the paper-based group. In addition, another finding was that signing of notes with a date ($p = 0.0073$), as well as legibility ($p<0.001$) increased significantly with the computerized group.

Strengths and Limitations of Research Studies

There are a diverse number of variables identified in the studies of this integrative literature review. This makes it difficult to not only draw comparisons but also conclusions related to the results. Some of these variables include: the different types of software used, the customization of the software, proficiency of users, rating scales, staffing patterns, acuity of the units being observed, overall differences in the participants being studied, and workload issues (Keenan et al., 2008).

Several findings from this review that focused on nurse attitude or perception may have been skewed as several authors found that negativity on care planning may have been caused by computerized systems themselves. Considerations such as poor system navigability, lack of automatic prompts, slow system response, and inadequate computer equipment may have contributed to the negative attitudes (Ammenwerth et al., 2001; Smith et al., 2005; Cherry et al., 2008; Kossman & Scheidenhelm, 2008; Kontos et al., 2009; Chunchu et al., 2012). In addition, some studies suggested that the patient records audited were low in number, or contained a limited number of nurses (Ammenwerth et

al., 2001; Kossman & Scheidenhelm, 2008; Kontos et al., 2009; Chunchu et al., 2012). Future studies should include more RNs and a higher volume of chart audits.

The most effective method to measure quality is to evaluate if care planning actually resulted in desired outcomes for individuals. Only four out of 14 studies (Larrabee et al., 2001; Daly et al., 2002; Kossman & Scheidenhelm, 2008; Wang et al., 2015) in this review indicated that results were based on outcomes. However, three studies did not base their results on outcomes, because they stated it was too difficult to measure (Ammenwerth et al., 2001; Lee, 2005; Chanchu et al., 2012).

Results from studies may be mixed based on clinical unit circumstances. Lee (2005) and Reeves et al. (2014) found that RN experience and clinical unit factors made a difference in outcomes. What may be required for documentation purposes in one area, such as a LTC unit, are much more different than that of an acute care unit. More studies are needed that takes nurses' experience, knowledge and ward differences into consideration.

Several studies used purposive or convenience sampling with a predetermined number of clinical units (Lee, 2005; Smith et al., 2005; Cherry et al., 2008; Kossman & Scheidenhelm, 2008; Chanchu et al., 2012; Wang et al., 2015). Therefore, the results obtained may not be applicable to the general population of RNs completing care planning in LTC. Also, many of the studies were conducted in one hospital, or one unit, within one community, with small sample sizes and may not be generalizable to the general population of RNs who complete care planning (Ammenwerth et al., 2001; Daly

et al., 2002; Lee, 2005; Lee, 2006; Kossman & Scheidenhelm, 2008; Chanchu et al., 2009; Kontos et al., 2009).

Furthermore, when it came to evaluating and reporting findings on the time required for RNs to complete electronic CPs and clinical documentation, researchers Ammenwerth et al. (2001) and Kossman and Scheidenhelm (2008) indicated that nurses themselves recorded the time spent on documentation. In contrast, in the study conducted by Daly et al. (2002) the timing required by the RNs was completed by the investigators. This may have caused some discrepancy in findings, since nurses who recorded their own times may have documented what they thought was socially desirable.

While most studies described the baseline characteristics of the experimental and control groups (Smith et al., 2005; Larrabee et al, 2001; Bjorvell et al., 2002; Kossman & Scheidenhelm, 2008; Chanchu et al., 2012) minimal details were provided in two studies (Ammenwerth et al., 2001; Daly et al., 2002). If baseline characteristics are not matched it may lead to unreliable results.

Three of the studies noted that there may be a risk of researcher bias because of the use of methods such as observations or questionnaires (Ammenwerth et al., 2001; Smith et al., 2005; Kossman & Scheidenhelm, 2008) but the risk was compensated by the author's use of additional data collection methods like focus groups, diaries, audits, rating scales, and interviews. Also, the studies that used questionnaires as a data collection instrument (Ammenwerth et al., 2001; Wang et al., 2015) risks bias in that participants may give answers they feel the researcher wanted to hear.

Implications

Research

All studies in this integrative literature review dated from early 2000 to present. Therefore, most articles are older i.e. greater than five years of publication. The reason is mainly due to the unavailability of appropriate studies that matched research criteria. Also, only two studies from this review focused on care planning by RNs in LTC and only one was from Canada. Given the large gap in the literature further research studies are needed.

This review has revealed several issues pertaining to the task of electronic care planning by RNs and is a growing concern. However, it is possible that by gaining a greater understanding of the NCP process they will be more widely accepted. For example, conducting comprehensive qualitative and quantitative studies that aim to actually address nurses concerns and seek to discover the foundation on why electronic care planning, in general, is adversely viewed by RNs.

At present, there are many styles and versions of the EHR being utilized in various organizations and regions worldwide. An important endeavor for future studies would be to investigate these differences and what implications they may have to documentation. In doing this, it is hoped that changes can be made to ease the difficulties of documentation that staff encounter and thereby, increase continuity, quality, and safety of care.

Nursing Practice

Electronic documentation provides nurses with skills and knowledge that may improve quality of care. However, more attention needs to be given to the importance of

the EHR and its benefits (Lee, 2005). The literature on CPs lacks generalizability and there is increased inconsistency in the documentation of CP practices. This happens because individuals receive care from multiple disciplines of the health care system. Electronic documentation provides the enormous advantage of being able to be accessed from different locations. This increases continuity of care, while decreasing duplication of procedures or tests, saving health care organization money and time (Keenan et al., 2008).

Many CP programs are considered to be poor in design, have limited accessibility, and contain little to no standardization (Keenan et al., 2008). This may entice nurses to record health information in other places, such as paper forms and lead to fragmented charts with missing information. This could result in safety risks to residents. It has also been suggested that inadequate documentation is related to poor performance by the nurse (Keenan et al.). However, given the multiple problems associated with CPs and their lack of fit with the demands of practice, this is not entirely factual.

Finally, education is the key to successful documentation. Until institutions accept this fact, the benefits will never be truly realized. Proper initial education and organizational commitment to ongoing education would greatly influence outcome results and increase accuracy (Keenan et al., 2008).

Administration

An important implication for administrators to consider related to electronic care planning is the development of effective education strategies. The strategies should consider the use of alternative education models, teaching effectiveness, and periodic

evaluation of documentation completeness (Cherry et al., 2008). Larrabee et al. (2001) suggested that using a computerized system does not mean that the documentation of assessments, goals, and interventions are adequate or complete. Organizations should evaluate the documentation of care periodically and use the information obtained to make improvements to the system or use it to re-educate nurses on how to best use it.

Self-Directed Learning Module

Registered nurses are accountable for lifelong learning (ARNNL, 2014a) and have the ability to be self-directed learners. SDL is the "preferred learning method of RNs in continuing education" (Sparling, 2001, p. 199). For this reason a SDL module has been chosen as the resource to disseminate information to RNs in LTC on how to initiate and individualize electronic CPs.

The SDL process involves the identification of learning needs, development of learning objectives, selection of appropriate course resources, implementation of learning resources, and includes items such as pre- and post-tests to evaluate learning outcomes. (Murad & Varkey, 2008). Topics that are specific and deemed to meet learner's needs, as this one does, are best suited for the SDL design.

The educator's role in SDL is important and involves communicating with the learner, ensuring resources are available, and ensuring the module is up-to-date and effective. These factors help increase module utilization and supports the learner's desire to pursuit educational activities (Sparling, 2001). The advantages and disadvantages of SDL will be discussed in the next sections.

Advantages of Self-Directed Learning

SDL modules offer flexible and accessible education that is portable and can be completed on the nurse's own time, which helps to meet their unique learning needs (Skiff, 2009). This can provide nurses with the feeling of accomplishment and can increase motivation for knowledge acquisition. Through SDLs, nurses can identify their own learning needs and seek out resources that will be of benefit to them. In other words, they give nurses choice, autonomy, and responsibility (Skiff).

SDL modules are not only beneficial to staff, but also to educators in that they support larger number of nurses with fewer concerns about scheduling and staff availability. They are generally less costly than formal classroom programs where there may be travel, hotel, instructor, and participant costs which allows more staff members the ability to participate in continuing education (Skiff, 2009).

SDL is compatible with all learning styles, strategies, and methodologies, making learning more compatible for not only nurses, but organizations as well. Since SDL takes initiative and motivation, it allows for the identification of who the most dedicated employees are. These motivated staff can be recruited as possible change agents and super-users for the organization (Sparling, 2001; Skiff, 2009; Dobre, 2013).

Disadvantages of Self-Directed Learning

Although there are many advantages to SDL modules for learning and development, disadvantages still exist. First, because some nurses have been exposed to more conventional teacher-directed models, they may be uncomfortable with SDL and lack the independent learning skills required for SDL (Sparling, 2001). To accomplish learning through SDL, the nurse must be able to set goals and manage their learning.

They must also have the ability to perform self-evaluation. Second, SDLs are based on anagogical learning principles, otherwise known as adult learning, and may unintentionally promote passive learning and rote memorization. To best combat this weakness, it is important for the educator to involve the nurse in development. Finally, the development of SDL modules requires a remarkable amount of time on the educator's behalf. There must be indication that enough need is required for the resource to make it worth the commitment to develop and maintain (Skiff, 2009).

Theoretical Frameworks

As discussed in the previous section, a SDL module will be developed in providing education to RNs in LTC on how to initiate and individualize electronic CPs. An effective way to deliver this information would be to use a theoretical framework that will guide its development. The frameworks utilized in developing the module for this practicum project are Knowles Adult Learning (1984) Theory and the Instructive Design Model developed by Morrison, Ross, and Kemp (2014).

Knowles Adult Learning Theory

Any learning resource that incorporates adult learning principles, such as an SDL module, greatly enhances the effectiveness of the education and is consistent with the principles of adult learning. Knowles (1984) anagogical model of learning relies on the principles that the learner has a problem-centered orientation, where learning is desired if a problem is perceived. As well, readiness to learn and motivation are best achieved if knowledge builds on previous life experience. These factors contribute to their intrinsic motivation to learn and the need to be self-directed. However, Taylor and Hardy (2013)

reported that nurses are on different levels of the spectrum in the ability to be self-directed and some find it difficult.

According to Knowles (1984) learners need to be involved and have input in the process of developing the resource, where prior experience in a subject matter is the basis for learning. Furthermore, most of the motivation for learning is based on the topics' relevance to the job and must be problem-oriented instead of content driven to ensure success. Therefore, integration of problem-solving skills, such as review questions, and linking the learning experience to patient care outcomes would be an effective application of adult learning principles in the proposed module for this practicum.

All of the above principles and characteristics will be taken into consideration during the development of the SDL for this practicum project. RNs recognize that the care they provide to residents is a result of the CP process (Bjorvell et al., 2002; Lee, 2006). Therefore, they will be able to easily acknowledge why this module in important. Since it will build on previous knowledge, it will give the nurses the motivation and encouragement to utilize this resource for resident CPs.

Instructional Design Model

Another theoretical framework which will be utilized in the development of the SDL module on care planning for RNs in LTC is the Morrison's Instructional Design (ID) Model (2014). With this model, structure and content engages students in meaningful learning. One of the central concepts of ID is that instead of it being a teaching process, it is a learning process, where students participate in valuable and relevant learning experiences. For those exploring SDL programs, ID provides both a

structure and a guide to build on the experience (Morrison). Overall, the ID model provides a comprehensive, holistic course design.

The role of ID is to create instructional experiences that that are efficient, effective and appealing to learners. It acts as a guide for knowledge attainment and focuses on engaging, encouraging, and motivating learning. Utilizing ID in module development increases the level of learning, making it deeper, more significant, and more meaningful (Morrison, 2014).

The design process of the ID model is guided by several components: assessing learner requirements and prior knowledge; developing course objectives; determining the order of information and activities; and performing evaluation of the course content (Reiser & Dempsey, 2002). According to Morrison (2014) these components can be broken down into three principle phases: Analyze; Develop/Select; and Implement.

The analysis phase is where learning objectives are established, learning contexts are identified, purpose of the instruction is determined, and an analysis of the learners is conducted. Analysis of the learner includes exploring their skills, cultural background, motivation, attitude for learning, and what they already know about the topic of interest (Morrison, 2014).

The develop/select phase is where the course goals are identified. They may be general or specific but are based on the information obtained from the analysis phase. This phase also focuses on content, subject matter analysis, resources, lesson planning, and instructional strategy. Instructional strategy involves identifying how the resource will be disseminated, what content will be included, and what tools will used to conduct

assessment and evaluations (Morrison, 2014). This phase is where the program is actually created.

The implementation phase is where the resource is actually implemented into practice and is available for use. Continuous modification of the resource are done by gathering feedback from the learners through the form of formative or summative evaluation. By gathering feedback from learners, the developer can re-design, update, and edit the resource to ensure that it better reflects what the learner needs to know, thereby increasing its effectiveness and resulting in positive learning results (Morrison, 2014).

The SDL module on care planning for RNs in LTC will be guided by Knowles Adult Learning Theory (1984) and Morrison ID model (2014) to ensure RNs educational needs and CP capabilities are sufficient in assisting them with what they need to know. Course objectives and goals will be developed based on the results of the analysis of learning needs. Consultations from key stakeholders, such as RNs, clinical educators, and Resident Care Managers will be considered during the development phase and once complete, it is hoped that the module will be available to staff. At that point it will undergo summative evaluation and will updated and enhanced to best suit nursing staff learning needs.

Conclusion

This integrative literature review revealed mixed findings that were difficult to summarize because of the varying approaches, contexts, and measured variables. It is important to note that health care is evolving, and as it does, it is becoming more

complex. All residents have individual care needs, therefore a CP that is effective for one resident may not be for another (Ballantyne, 2016). Even with the above concerns, by following the nursing process, NCPs are an effective tool in promoting evidence-based care. Care planning is an ongoing process that requires constant revision (CRNNS, 2017). It enables nurses to plan care regimes through the development of diagnoses, goals, and interventions. Since the care planning process focuses on resident-centered care, the resident or their family should be included in the process. At minimum, every three months, an evaluation of the care plan should take place. If changes are required, they should then be made.

The results of this integrative literature review, along with antidotal observations, and legal requirements have deemed the importance of a care planning resource as a high priority item. Positive nurse attitude, perception, and acceptance, along with effective nurse education will aid in increasing the quality, quantity, and completeness of electronic NCPs. In my observations, I have found that the practice of care planning for RNs in LTC can be problematic for many reasons. Some of these reasons are contributed to the RN feeling uncomfortable with electronic documentation, lack of education, negative attitudes, poor infrastructure, and software that is inadequate for the needs of the residents. Major considerations in the CP process include completeness of charts and the time it takes to complete electronic documentation. These observations were all supported in the literature, therefore a SDL module on care planning for RNs in LTC will be important to assist in improving these challenges. In addition, incorporating the theoretical underpinnings of both Knowles Adult Learning Theory (1984) and Morrison's

ID Model (2014) the module will prove to be both beneficial and valuable as a learning resource for RNs in LTC.

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Name, Author, Date, Study Objective	Sample (size, Setting, Characteristics)	Design and Methodology	Key Results / Findings	Strengths / Limitations	Conclusion
Evaluating the impact of computerized clinical documentation Smith, Smith, Krugman, & Oman (2005) Purpose: To determine the impact of online documentation on staff attitudes, completeness of documentation, and the time needed for documentation.	Convenience sample: Nurse attitude scale – 46 RNs in 26 bed orthopedic and neuroscience unit and an 18 bed pulmonary unit Observation Tool – 82 RNs for 2 hour time periods Audits – Stratified sampling of 60 charts pre-intervention; 81 charts post-intervention (Every 4th patient)	Quasi-experimental design - Data collection by audit done pre- and post-computerization. - Surveys for nurse attitude scale distributed 1 month prior and 1 year post implementation - Observation tool: Observations done between 1 and 4 months pre-computerization, and 1 year post-project implementation	-Significant decrease in nurse attitude scores post- computerization ($p = 0.004$) - Significant improvement in quality of nursing documentation - 34% of audits post-implementation were significantly more complete (11 month post-implementation) -Time spent documentation pre- and post- implementation showed no statistical change (25.1 min and 30.2 min respectively) - There was a significant difference ($P = .002$) between overall time taken to chart between the two study units.	**Strengths**: Nurse attitude scale, observational tool, and audit tools were all valid and reliable -Data collected by trained observers with interrater reliability -Appropriate statistics used - Triangulation used - Approved by ethical board **Limitations:** No attempt to match demographic variables - Only 78% of respondents returned questionnaires -No blinding of assessors. -Small sample size (may not be generalizable to public) -Participants recruited from single source	Results reflect the challenge and benefits of introducing nurses to computerized documentation that does not support workflow as efficiently as the patient care process. - As software evolves, making system design and implementation will hopefully be easier. Strong Design; Medium quality

Name, Author, Date, Study Objective	Sample (size, Setting, Characteristics)	Design and Methodology	Key Results / Findings	Strengths / Limitations	Conclusion
Nurses perceptions of the impact of electronic health records and patient outcomes Kossman & Scheidenhelm (2008) Purpose: To explore nurses use of electronic health records and views of the impact of such records on job performance and patient outcomes	- Medical-surgical floor and ICU at 2 community hospital's in a regional Midwestern health care system -Convenience sample -Inclusion criteria: nurses who worked on medical/surgical floor or ICU and had used EHR for at least 6 months -Demographic data matched -46 nurse's participated = 50% response rate (In large hospital- 31 nurses completed 29 surveys and 15 interviews / observations; in smaller hospital – 15 nurses completed 13 surveys and 7 interviews)	Descriptive Qualitative Study -Questionnaire survey, individuals interviews, and observation -Questionnaire: Open ended questions to explore boundaries of how nurses use EHR and perceive its impact - Observations / Interviews: Researchers observed and concurrently interviewed RNs. -These methods formed the basis for the development of themes	-Nurses reported EHR improved work and patient outcomes; better than paper -EHR is extensive and time consuming. -Self-reported time spent documenting: 25 – 98% of shift using EHR with a mean of 56% - EHR problems cause frustration and a sense of less effective job performance and patient care -Enhances nursing work by improved access and efficiency but hinders nursing work because increased time on computer, system speed, downtime, lack of functional computers and duplicate charting -Because of increased charting time, time with patients decreased = decreased quality -Interdisciplinary team not reading each other's notes	**Strengths:** - Used triangulation - Representativeness increased by using multiple units and nurse participants - Ethics board approval **Limitations:** - Small same size limits applicability of findings to other settings - Self-reporting may impose bias -Convenient sample	- Using multiple methods together allowed the researcher to build a picture of nurses' experience of CP in its clinical context. -An EHR system represents a significant resource for smaller hospitals with no guarantee of improvements in patient care and outcomes. Findings of this study offer support for EHR use in community hospitals and suggest areas for improvement in EHR products to better support nursing work Medium quality

Name, Author, Date, Study Objective	Sample (size, Setting, Characteristics)	Design and Methodology	Key Results / Findings	Strengths / Limitations	Conclusion
Nurses' perceptions of their documentation experience in a computerized nursing care planning system Lee (2006) Purpose: To explore how the content of a computerized nursing care plan affects nurses' perceptions of their documentation experience, specifically in making care plans.	-20 RNs - Purposive sampling – Recruited based on willingness to discuss perceptions of NCPs - 3 respiratory care units in Taiwan - RNs had to work on the unit for at least 6 months prior to study	Descriptive, Exploratory Qualitative Design - 1 on 1 in-depth interviews (30-34 minutes each) - Transcripts transcribed and verified by participant - Data were collected and analyzed simultaneously - Data and code stored and assessed only by researcher - Letter of introduction sent to 3 units asking for volunteers	3 concepts: Nurses viewed the content of the computerized NCP system as a reference to aid memory; a learning tool for patient care; and a vehicle for applying judgment to modify CP content	**Strengths:** Recruitment stopped when data saturation met - Ethical approval gained - Anonymity assured **Limitations:** Purposive sampling could cause bias as RNs must have had specific interest in research topic - Nurses given money to participate - No validity or reliability given on interview questions	- Future studies are needed to measure changes in documentation patterns using C-NCP system - Future studies should examine the effect of C-NCP content design on patient data collection and reasoning process - Using a C-NCP system can enhance nurse's knowledge, experience, and judgement of descriptions of patient problems and care strategies. Thus, the effects of using technology on documentation behavior or patterns may need further exploring - Medium Quality

Name, Author, Date, Study Objective	Sample (size, Setting, Characteristics)	Design and Methodology	Key Results / Findings	Strengths / Limitations	Conclusion
Factors affecting electronic health record adaption in long-term care facilities Cherry, Carter, Owen, and Lockhart (2008) Purpose: To identify factors that hinder and facilitate electronic health record adaption in long-term care facilities	- 34 participants - 600 facilities sent posters describing study - Directors of nursing, administrators, corporate executives, RNs in LTC	Qualitative Descriptive Design - Focus groups: Semi-structured via telephone - Focus group sessions hand recorded and tape recorded and then compared. - Participants categorized as (a) user-employees in LTC and (b) non-users in LTC that do not use EHRs	Primary documentation barriers: costs; need for training; culture changes Facilitators: training programs; well defined implementation plans; government assistance with cost 6 Themes: 1.Aspects of resident care affected by EHR 2.Barriers to EHR implementation 3.Factors to promote EHR implementation 4.Computerized information necessary for EHRs to be of benefit 5.Tasks the EHR should perform to be of benefit 6.Top 3 barriers and facilitators to EHR implementation	**Strengths:** Saturation reached - Ethical approval obtained -Clearly focused research questions **Limitations:** Random sampling not used to obtain participants - People who agreed to participate likely had some interest in EHR - ?bias - Focus groups conducted via telephone conference call lose the advantage of face-to-face interaction	Study results provide a framework for action by policy makers, LTC leaders, and health services researchers -Challenges are brought about by measuring complex care - EHR implementation in LTC is slow Medium Quality

Name, Author, Date, Study Objective	Sample (size, Setting, Characteristics)	Design and Methodology	Key Results / Findings	Strengths / Limitations	Conclusion
Written and computerized care plans: organizational processes and effect on patient outcomes Daly, Buckwalter, & Maas (2002) Purpose: To determine how the use of a standardized nomenclature of nursing diagnosis and Intervention statements on the computerized nursing care plan in long-term care would affect patient outcomes	- USA -30 participants – 65 + years old -10 patients (in experimental group- C-NCP by RN) -10 patients (in control group- paper CP by RN) - 10 excluded (Died or discharged) - No significant demographic variances - Patients randomly assigned - Inclusion criteria: 65+ years; permanent resident in health center; resident for at least 7 months -Continuing care retirement health center (48 bed facility)	RCT:Experimental group: 10 patients C-NCP completed by RN -Control group: 10 patients paper NCP completed by RN -instruments: Index of independence in ADLs; Numerical rating scale for pain; mini-mental state examination. - RNs were given 8 hour training session by the director of nursing on the new software package on CP. Those not computer literate were not trained and used paper - Each RN had 3-5 new residents and developed their CP at admission and every 3 months	-There were significantly more nursing interventions and activities on the C-NCP (P =0.007) although this CP took longer to develop at each of the 3 time periods (P=0.002) -No significant group differences in terms of patient outcomes (P>.05) -No significant difference between subject groups or interaction effects for dependent variables: level of care; ADLS; perception of pain; cognitive ability; number of medications; number of bowel medications; number of constipation episodes; weight percentage of meals eaten, and skin integrity	**Strengths:** RCT design -Ethical approval - Similar demographics -Validated and reliable instruments used -Random assignment used -Appropriate statistics used -Clear definition of terms -Validated conceptual model utilized in study **Limitations:** No direct details of randomization process - Small sample size (20)- not generalizable and may not have influence on the repeated measures analysis	- Results suggest that use of a E-NCP increases the number of documented nursing activities and interventions, but further research is warranted to determine if this potential advantage can be translated into improved patient and organizational outcomes in the LTC setting - Null hypotheses correct- patient outcomes not affected by using paper verses E-NCP; patient received similar care Strong design- High Quality

Name, Author, Date, Study Objective	Sample (size, Setting, Characteristics)	Design and Methodology	Key Results / Findings	Strengths / Limitations	Conclusion
A randomized evaluation of a computer-based nursing documentation system Ammenwerth, Eichstadter, Haux, Pohl, Rebel, & Ziegler (2001) Purpose: To investigate the influence of computer-based nursing documentation on time investigation for documentation, quality of documentation, and user acceptance	- 60 patient included (Randomized admissions) - 12 RNs and 5 physicians -All RNS received an intensive 2 hour instruction on the C-NCP system -23 bed ward of the Department of Psychiatry at Heidelberg University Medical Centre, Germany - Similar demographics Average age of nurse = 32 years	RCT Experimental group Experimental group: C-NCP Control group: Paper-based NCP - All nurses of the ward documented the time invested for CP and documentation for each patient during the entire study. Times on the computer per day and per patient in both groups were compared -Used self-administered questionnaires, interviews, self-observation and quality checklists	Self-Administered Questionnaire: 11/12 RNs gave opinions. 7 felt C-NCP saved time; and documentation more complete -Quality of C-NCP: CP unspecific and too long = less individualized care and too many planned but not executed tasks. - Control group: incomplete documentation, illegibility, and missing signatures -Computer acceptance after study lower in 2 cases, equal in 1 case, and higher in 5 cases compared to before study (not significant P=0.203) -Acceptance of nursing documentation increased significantly (p=0.034) - 3 Physicians felt e-documentation as give them better access	**Strengths:** Randomized admissions - Blinded assessment of nursing practice outcomes -Questionnaires valid -Clearly focused and relevant research questions -Review of nursing by 2 external nursing experts competed **Limitations:** Small sample -Did not measure effects on outcome quality -Large amount of control group patients without time measurements for CP, as compared to intervention group -Questionnaires may have given socially desirable answers -Several patient CP in control group not complete	Documentation systems should be thoroughly assessed to evaluate their effects on structure, process, and outcome of the quality of care. These evaluations should follow a pre-specified study protocol. -Computerized systems may have both positive and negative consequences but user acceptance is imperative for its success Strong Design; Medium Quality

Name, Author, Date, Study Objective	Sample (size, Setting, Characteristics)	Design and Methodology	Key Results / Findings	Strengths / Limitations	Conclusion
The quality of paper-based verses electronic nursing care plan in Australian aged care homes: a documentation audit study Wang, Yu, & Hailey (2015) Purpose: To describe documentation practice for the nursing care plan in Australian residential aged care homes and to compare the quality and quantity of documentation in paper-based and electronic nursing care plans.	194 electronic NCP charts audits; 111 paper and 83 electronic. -Conveniently selected -7 residential aged care homes in Australia	Retrospective Cohort Study -Experimental Group: C-NCP charts -Control Group: Paper NCP -Quality assessed through quality of Australian nursing documentation in Aged Care Instrument (5 point Likert Scale) -Data collected by 1st author -Raw data entered in excel and SPSS -Descriptive statistics on quantity and quality of NCP - Quality determined by number of phrases describing a resident problem and number of interventions and goals	-Omited 'nursing problem' or 'nursing dx' in the nursing process by changing terms to 'observation' in the C-NCP - The C-NCP included more S&S symptoms, resident problems, and evaluation of care than the paper format (48.30 vs. 47.34 out of 60; p <0.01) but had a lower mean quality score. -C-NCP contained fewer problem or dx statements, contributing factors, and resident outcomes than the paper system (p<0.01) -Both were weak in documenting measurable concrete resident outcomes. -Resident-centered goals significantly documented in both paper and C-NCP for each problem, dx, care need but many abstract or not measurable	**Strengths:** Informed consent given -Moderate sample from 7 different homes - Validity and inter-rater reliability established -Content validity by 5 panelists **Limitations:** Audits only competed by 1 researcher -Conveniently selected NCP may not be fully representative of documentation practice of the organization -Data elements were measured without pursuing if data were complete or accurate	The overall quality of documentation content for the nursing process was no better in the electronic system than in the paper-based system. Omission of the nursing problem or dx from the nursing process may reflect a range of factors behind the practice that need to be understood -Qualitative aspects of the NCP, nurse attitudes, and effects of different documentation practice on care quality and resident outcomes. Moderate design; Moderate quality

Name, Author, Date, Study Objective	Sample (size, Setting, Characteristics)	Design and Methodology	Key Results / Findings	Strengths / Limitations	Conclusion
A patient centered care plan in the electronic health record: improving collaborating and engagement Chuchu, Mauksch, harles, Ross, Pauwels (2012) Purpose: To determine if combining didactic training with electronic health record prompts would produce changes in team member-patient interaction demonstrated by changes in chart documentation	14 physicians; 2 medical assistants -58 charts reviewed -Family medicine residency clinic -Convenience sample based on faculty recommendation of patients who were well-know, frequent users of the clinic. -Inclusion Criteria: 18 + years; English; at least 1 chronic condition -Similar demographic characteristics 1 year study (Sept 2009-August 2010)	Prospective Design -Interviews and chart analysis -Experimental group: 7 physicians and 1 medical assistant (28 records; received 2 hours of training and 40 minutes for 1st few PCCPs) -Control group: 7 physicians and 1 medical assistant (30 records – no training) -8 behaviors: goal setting; frequency; barriers; assessment of confidence; level of confidence; increasing confidence -8 focus groups- patients who were unified in their belief of continuity of care	Experiment group documented each of the 8 problems-solving elements more frequently ($p<0.001$) than control group -In experimental group charts, documentation of the elements was not uniform. Theme: Training effective but EHR needed to be refined to enhance ability and efficiency -Chart review suggested that the patients in the experimental group were more consistently exposed to problem solving (goal setting and action plan development), although this exposure did not occur very often, if at all, in the control group	**Strengths:** Ethical approval obtained -Appropriate statistics used **Limitations:** Only 2 patients had follow-up visiting after the study - Subject inclusion criteria slowed patient recruitment contributing to a reduced sample size -Study was of short time span and high faculty and resident turn up did not allow for studying patient progress at follow-up - Small sample size- not generalizable to general population	Training physicians and nurses to use a patient centered CP in the EHR is a relatively simple intervention for the connect of patient interactions through improving patient engagement - Sustained use will require ongoing reinforcement and improved EHR designs with adequate technology support. -Moderate design; Medium Quality

Name, Author, Date, Study Objective	Sample (size, Setting, Characteristics)	Design and Methodology	Key Results / Findings	Strengths / Limitations	Conclusion
Nursing diagnosis: Factors affecting their use in charting standardized care plans Lee (2005) Purpose: To explore factors that may affect nurses' use of nursing diagnoses in charting standardized NCPs in their daily practice.	800 bed medical center in Taiwan -19 RNs in 1st interview -12 RNs in 2nd interview -From May to July 2000 -Participants Volunteered	Cross-sectional, Qualitative -One on one interviews -Data analysis based on Miles and Huberman's data reduction - 1st interview asked regarding advantages and disadvantages of standardized CPs. -If RNs mentioned the process of using nursing dx in constructing standardized NCP a 2nd interview was conducted to explore patterns - 30-34 minute interviews -Interviews taped, recorded and transcribed verbatim	-Nurses generally follow the nursing process and charting sequence to complete CPs. -Nurses considered charting evaluations as the most labor- intensive aspect of documentation. -Most nurses agreed that the listed interventions were comprehensive but not realistic; some said they would select an intervention if they thought they would have about a 50% chance to perform it. -Some conditions were not under nurses' control, such as the wound healing process. In such cases, it was impossible to estimate improvement in physical condition. -Standardized goals were very general and comprehensive	**Strengths:** Ethical approval obtained -Consent given -Clear purpose given **Limitations:** Participants volunteered which may lead to bias due to interest of research topic -Interviews conducted by one researcher- could obtain researcher bias -No demographics on participants given	Educational programs for increasing RNs' ability to use nursing dx and exploring diagnostic reasoning would improve the quality of patient documentation. -Advantages of using standardized CPs in eliminating paperwork, illustrating the units standard of care, and allowing nurse's to spend more time delivering care are evident -Future studies should focus on recognizing cost effectiveness of using C-NCP -Medium quality

Name, Author, Date, Study Objective	Sample (size, Setting, Characteristics)	Design and Methodology	Key Results / Findings	Strengths / Limitations	Conclusion
Documentation of individualized patient care: a qualitative metasynthesis Karkkainen, Bondas, & Eriksson (2005) Purpose: To increase understanding of how individual patient care and the ethical principles prescribed for nursing care implemented in nursing documentation	-Scientific research reports published between 1996 and 2003 and referenced in the CINAHL and MEDLINE databases -Manuel search performed in nursing ethics -318 research articles were initially selected, from which 57 abstracts were subjected to close scrutiny 14 qualitative research reports reviewed	Qualitative Metasynthesis	-Individualized patient care is not visible in nurse documentation. Nurses describe tasks more than patient's experiences of care. -Structure of nursing documentation presupposed by the organization may prevent individual recording of patient care -Documentation examined primarily from the standpoint of tasks or attitudes -Organizations wanting to achieve measureable results of nursing care influence nurses' ways of recording patient care. -Nurses view documentation negatively or with indifference. -Patients and their values seldom referred to in documentation of nursing care.	**Strengths:** -Double- blinded peer reviewed - Clear criteria for study selection **Limitations:** - Studies from this review were dated (going back 1996 to 2003)	-An effort should be made to influence how the content of nursing care is documented and made an essential part of individual patient care. -If documentation does not give an accurate picture of care, patients right to receive good nursing care may not be realized -Individualized patient care is not visible in nurses documentation of care -Problems defined for patients do not necessarily correspond to the patient's needs -Medium quality

Name, Author, Date, Study Objective	Sample (size, Setting, Characteristics)	Design and Methodology	Key Results / Findings	Strengths / Limitations	Conclusion
Neglecting the importance of the decision making and care regimes of personal support workers: A critique of standardization of care planning through the RAI/MDS Kontos, Miller, & Mitchell (2009) Purpose: To examine the decision making and care practices of personal support workers in relation to the RAI/MDS standardized process	-Canadian Study -Data collected during a 2 year (2007-2009) multimethod trial -2 sites- similarly staffed and size -facility A: 32 beds; Faculty B: 40 -Non-random convenience sample -Supervisors and PSWS eligible for focus group -Theoretical sampling used to secondarily select a subgroup of PSWs for interview -26 PSWs and 9 supervisors (Faculty A: n=13 and n=6; Faculty B: n=13 and n=3 respectively) -19 PSWs in focus group (7 in interviews); 9 supervisors -8 interviews	Qualitative Study -Focus groups; semi-structured interviews -12 week trial of inter- professional arts informed intervention to improve LTC documentation -offered 2 hours/week -Utilized dialogue, critical reflection, exercise, role-play, and research-based drama; done to PSWs, RNs, and allied health personnel -Audio-taped focus groups of 3-6 participants for 60 minutes and conducted by 2 research assistants -Transcripts analyzed for themes	Theme: CP development; content and access of NCPs -Standardized process of CP precluded full participation by PSWs. -CPs failed to provide information required to individualized care and fully interact with residents. -Complaints of poor access to content of CP due to gaps in training and limited computers - PSWs suggested that standardized interventions alone were insufficient to inform quality care. -PSW knowledge of resident biographies facilitated care. -Interprofessional and Intraprofessional relations: clinical assessments leading to disregarding of PSW contribution in CP -Supervisors spoke negatively of PSW role	**Strengths:** Ethical approval obtained -In group homogeneity -Clearly defined research question -Tools validated and reliable -Biases minimized with respect to data collection, procedures, and measures **Limitations:** -Convenience Sample -Small sample size- decreased generalizability	-Lack of training led to inadequate content to CPs, poor access to records, and inability to capture psychosocial well-being and personal preference. -PSWs customized care processes are important in quality care but are not reflected in the written CP. -The inclusion of knowledge held by PSWs of resident's routine, preferences, and concerns would effectively shift CPs from provider driven to person-centered. -Poor regard for PSW's -Medium quality

Name, Author, Date, Study Objective	Sample (size, Setting, Characteristics)	Design and Methodology	Key Results / Findings	Strengths / Limitations	Conclusion
Long-term increase in quality of nursing documentation: Effects of a comprehensive intervention Bjorvell, Wredling, & Thorell-Ekstand (2002) Purpose: To evaluate the longitudinal effects of a nursing documentation intervention on the quality and quantity of the nursing documentation	-1 hospital; 3 wards -University hospital in Stockholm, SE -1993 to 1995 -269 patient records (30 from each of the 3 wards for each of the 3 time periods) - No significant difference between 3 wards -Selection Criteria: patients in hospital > 4 days with medical reason for admission as vascular surgery, abdominal surgery, stroke and neurological diseases or orthopedic surgery -22 RNs audit 1 -14 RNs control group 21 RNs audit 2; 14 control -34 RNs audit 3; 14 control	Quasi-exp. longitudinal cohort -2 intervention wards: organization changes and nursing education documentation -Control ward: RNs had no specific education -2 year study - 3 different time points audited: before; directly after; and 3 years after intervention. -Intervention: theoretical training once/week X5 weeks (18 hrs) teaching nursing process; 3 conference days; supervision (5 hrs/RN); training/ support of change agents; support and advice to RNs on change; develop new forms and CPs.	-Intervention wards significantly ($P<0.001$) increased mean scores after audit 2 and audit 3 compared with Audit 1 and significantly ($P=0.0228$) lower at audit 3 compared to audit 2 -Analysis items describing nursing process: scores significant ($P<0.001$) at audit 2 verses audit 1 -Intervention ward had higher score than control in all items at audit 2 and most audit 3 -Intervention: number reports with nursing notes increased from 5% at audit 1 to 39% audit 2, to 53% audit 3. Control had 0%, 10% and 63% respectively. -Dating, signing and legibility increased ($P<0.001$- 0.0019) on intervention between audit 1 and 2; audit 1 and 3	**Strengths:** validated audit tool: Psychometrically stable -Adhoc test ensured large enough sample size with a power of 0.9 -Selection criteria clearly stated -Audits completed by 6 RNs not in the study, who were trained on the instrument= interrater reliability -Covered a 5 year period **Limitations:** Not randomly selected - High turnover of RNs between audits 2 and 3; leaving only 35% of RNs who participated in the intervention. This may be significant in interpreting results of audit 3. -More in-depth training needed and change agents	-With a relevant intervention, documentation of nursing could increase quality. -Of the 2 intervention wards, the surgical showed the largest change in audit score after the intervention and maintained the score over time. -Authors suggest follow-up training and supervision for longer time periods is necessary, as well as continuous peer review on documentation. -Moderate design; Medium quality

Name, Author, Date, Study Objective	Sample (size, Setting, Characteristics)	Design and Methodology	Key Results / Findings	Strengths / Limitations	Conclusion
Evaluation of documentation before and after implementation of a nursing information system in an acute care hospital Larrabee, Boldreghini, Elder-Sorrells, Turner, Wender, Hart & Henzi (2001) Purpose: To evaluate differences in documentation completeness of RN assessments, achievement of patient outcome, and RN interventions done, before and after implementation of a NIS.	-100 bed facility at the University of Tennessee -3 units implementing NIS (2 med/surg and 1 ICU) -Stratified sample of records randomly selected based on percentage of admissions (on discharged patients only). -90 records at each time period (3 time periods) -3 staff nurses recruited to collect data and were instructed on instrument -3 times periods: before implementation; 6 months post; and 18 months post-implementation	Quasi-exp retro-spective cohort (ITS -Before implementation: RNs attended 8 hr. class on OE, assessment, documentation, and CPs. RNs practiced individualizing CP using dx, interventions, and outcomes. -Data obtained on nursing assessment, of patient outcomes, nurse goal achievement, and nurse-perceived quality – measured using the NCP data collection instrument. (2 hours to review each chart) -For time 3: quality improvement intervention added and audited 2 mo.	Nursing documentation completeness: -Combined sample: -Significant difference in mean assessment, goal and quality scores among 3 time periods -mean assessment and goal scores significantly lower at time 2 than time 1 and 3; mean quality was significantly higher at time 3 than times 1 and 2. Within Units: Each unit mean scores for assessment varied significantly among 3 times points, except 3 -Mean quality and goal varied significantly in 3 time periods -Among Nursing units: Assessment score significantly different at each time points. No pattern on which unit had the lowest scores, but unit 3 had lower score than 2 and 3.	**Strengths:** Inter-rater reliability -Ethical approval obtained -Stratified random sampling of closed records minimized selection bias -Sample size adequate for unit 1 and 2 -Criteria for evaluation was patient- specific and were randomly selected from CPs. **Limitations:** Unit 3 sample missing data. -No control unit which may have influence study variables -Data collectors were experienced RNs employed in the unit whose charts were reviewed. Possible bias -RNs did not always individualize CPs. The assessment, goal and quality scores may under- represent use of nursing process.	-Besides quality, mean scores declined between time 1 and 2, and all improved by time 3 -6 months of using NIS is not sufficient time for RN to acquire mastery. -Caution should be taken in assuming that documentation of outcome assessment, goal achievement, and interventions is complete because a NIS is in place. Evaluation should be obtained to make ongoing improvements. -Moderate design; Medium quality

Name, Author, Date, Study Objective	Sample (size, Setting, Characteristics)	Design and Methodology	Key Results / Findings	Strengths / Limitations	Conclusion
Care plans and care planning in the management of tong-term conditions in the UK: A controlled prospective cohort study Reeves, Hann, Rick, Rowe, Small, Burt, Roland… & Bower (2014) Purpose: To explore the implementation of care plans and care planning in the UK and associations with the process and outcome of care	-38 practices and 2439 patients recruited (21 Low use; 17 high use) -patients similar in demographic and clinical characteristics -6 primary care organizations were identified as recruitment sites -Practices with <1500 patients or with fewer than 100 GPPS responders were excluded -Loss to follow-up was 20% and 26% at 6 and 12 months respectively -2 groups – high documentation users and low documentation users -England -Response rate 40%	Quasi-experimental control prospective cohort design -GPPS survey: access to care and self-reported condition after implementation of CPs -Questionnaires: random samples of all GP patients with 2 reminders. -If positive reply to questions on GPPS, more questions via telephone. -PACIC reflected element of CP with 20 items and 5 sub-scales. -SDSCA measured self-management and number of days/week engaged in healthy and unhealthy behavior. -Sociodemographic and literacy	-Difference between patients in the 2 groups were measures of care planning for long-term conditions. -Overall, 1676 (68.7%) patients reported having had a discussion in the past 12 months about how to best deal with health problems, with slightly higher proportions defined as high users of written documentation (71.9% vs. 66.2%) -More CPs were found for patients defined as high users (5% vs. 3.2%) but overall rates were low, with only 4% of patients having confirmed CPs. -Scores on the PACIC were mostly below the scale mean with many patients reporting as not receiving key aspects of care. -The group difference was statistically	**Strengths:** -6 sites recruited which represents a range of deprivation and rurality -Psychometrically sound questionnaires used -Groups roughly equal size with homogeneity - Large sample size **Limitations:** -CPs for patients was a policy priority at the time of evaluation so randomizing groups to usual care was not an option -Measurement error meant that some practices may have been misclassified- reducing the ability to detect association	-Reported use of written care plans was generally low, even in the high care planning group, and the numbers of reported written plans that could be confirmed was extremely low. -Variation between the groups in CPs was limited and insufficient to provide rigorous test of any impact on outcomes. -Research into the benefits of CPs and care planning would be best done from rigorous definition and measurement -Implementation of CPs and care planning in

	-2009-2010	measured -All Measures done at start, 6 months, and 12 months	significant both with (P<0.001) and without (P<0.001) adjustment for patients and practice characteristics. -PACIC score significant decreased at 6 and 12 months compared to baseline (P<0.001). -Self-management scores did not differ between groups or between time-points (P>0.05). The difference between practice groups in mean vitality was not significant (P=0.84), but became significant after adjustment for practice and patient factors (P=0.045) for high users -Vitality scores significantly lower at 12 months compared with baseline (P<0.05)		practices in the UK is sparse. This may reflect a lack of enthusiasm among professions -Moderate design; Medium quality

Note: Level of stay (LOS); Care plan (CP); Nursing care plan (NCP); Registered nurse (RN); Computerized Nursing Care Plan (C-NCP); Long-term care (LTC); Electronic health record (EHR); Random Controlled Trial (RCT); Diagnosis (Dx); Patient-centered care planning (PCCP); GP-patient survey (GPPS); Order entry (OE); General practice (GP); Summary of Diabetes Self-Care Activities scale (SDSCA).

Appendix B

Consultation Report

Memorial University of Newfoundland

April 21, 2017

PRACTICUM: CONSULTATION REPORT WITH COLLEAGUES

Student's Name: Tina Reid **Student ID#:** 200249282

Course Name and Number: NUR 6660 MN Practicum I

Supervisor: Mary Bursey

Title: Care Planning: A Self-Directed Learning Module for Registered Nurses in Long-Term Care

Date: April 21, 2017

Brief Overview of the Project

In 2015, almost one in six Canadians were at least 65 years or older and it is estimated that by July 2024, that number will increase to 20.1% (Statistics Canada, 2015). Given that the population are aging and people now experience multiple complex morbidities that need to be managed effectively (Gill et al., 2014), long-term care (LTC) facilities have integrated information technology (IT) in an effort to promote optimal care outcomes. Electronic nursing care plans (NCP) can provide a means to assist the registered nurse (RN) in solving, minimizing, and managing these conditions (Kennan, Yakel, Tschannen, & Mandeville, 2008; Doenges, Moorhouse, & Murr, 2010). The NCP is a structured communication tool that guides the RN in conducting the assessment, planning, and formulation of nursing diagnoses, while providing an indication of what nursing observations and interventions are required for people (Lee, 2005; Wang, Yu, & Haley, 2015). It also enables the RN to record the care that has been provided to individuals and allows that information to be shared with other health care professionals,

enhancing continuity of care. If the NCP is not completed accurately and within a timely manner, vital elements of care may be overlooked or omitted for the residents. It may also lead to resources being be wasted, poor communication between disciplines, and negative outcomes, such as errors in treatment, morbidity, or mortality (Doenges et al., 2010; Chunchu, Mauksch, Charles, Ross & Pauwels, 2012).

An integrative literature review disclosed mixed results on the overall processes and outcomes associated with care planning, however five themes were apparent. First, nurse's attitudes, perceptions, and acceptance was a large indicator on whether or not care planning will be successful. If RNs view electronic documentation negatively then potential problems will arise- such as, incomplete or inaccurate documentation (Smith, Smith, Krugman, & Owen, 2005). On the contrary, if the nurse views electronic documentation positively then it will reflect in the documentation of tasks and overall resident outcomes (Smith et al., 2005; Keenan et al., 2008).

A second theme identified in the literature that reflected increased conflicting data was paper-based charts compared to electronic charts. It was found by some authors that electronic documentation took significantly longer to complete verses paper charts (Ammenwerth et al., 2001; Daly, Buckwalter, & Maas, 2002; Kossman & Scheidenhelm, 2008), while other authors found the complete opposite (Smith, Smith, Krugman, & Oman, 2005; Wang et al., 2015). These opposing findings may present a challenge to institutions wishing to not only implement electronic care plans (CP), but also improve outcomes in facilities that already utilize them.

A third theme identified in the literature review was individual involvement in developing their CPs in terms of setting goals, planning actions for care, and self-management of disease processes. Only one study indicated that residents were actually involved in the care planning process (Chunchu et al., 2012). Other studies showed that residents were not included in the care planning process. As a result, this could possibly lead to the objective collection of data for example, the nurse defines the resident's needs, inaccurate information is documented, care being received that is not required, and needed care not being delivered to the individuals (Karkkainen et al., 2005; Lee, 2005; Reeves et al., 2014).

The fourth theme, staff training, indicated that the only way to ensure electronic CPs are being completed accurately and reflects resident care needs is to provide adequate staff education that covers all aspects of care documentation. This education has to be detailed and lengthy, in order to fully cover all aspects of documentation (Lee, 2005; Smith et al., 2005). If staff are not properly trained and re-educated over time then documentation will lack in clarity and may not portray care needs. Other areas that should be considered in training RNs on electronic care planning include addressing resistance associated with change and inexperience with computer systems (Cherry et al., 2008).

Finally, the last theme identified in the literature review was quality of electronic CPs. Of the five studies in the integrative literature review that examined quality (Ammenwerth et al. 2002; Bjorvell, Wredling, & Thorell-Ekstrand, 2002; Smith et al. 2005; Kossman & Scheidenhelm, 2008; Wang et al., 2015), only two noted that the

quality of documentation increased when a computerized documentation system was in place (Bjorvell, Wredling, & Thorell-Ekstrand, 2002; Smith et al. 2005). Three studies did not support this finding and in contrast found that documentation quality had decreased, though not significantly (Ammenwerth et al. 2002; Kossman & Scheidenhelm, 2008; Wang et al., 2015). Some factors associated with decreased quality was that CPs were often unspecific, too cumbersome, and took too much time to complete in clinical practice (Ammenwerth et al. 2002).

An analysis of the five themes identified in the integrative literature review have verified that nurses need ongoing education related to the electronic care planning process. The development of a self-directed learning (SDL) module on care planning for RNs in LTC will assist in supplementing any previous training provided to staff. It will also help new nursing graduates learn how to complete electronic documentation of CPs in LTC. Although RNs from both LTC facilities being utilized for this practicum project have received formal CP training at some point in their career, it has been at least four years since any training updates have been given by the Health Authority. Therefore aspects of what they have learned may have been forgotten over time. If nurses are supplied with accurate and current information on the care planning process, it is hoped that compliance, effectiveness, and accuracy will result (Doenges et al., 2010).

In addition to the results of the integrative literature review, the contents of the SDL module will also be partially based on information obtained from consultations with various key stakeholders that have both direct and indirect roles in electronic care planning in LTC. It is hoped that consulting those who have different roles in the care

planning process will ensure the module contains relevant detailed information that is clear and concise, and meets evidence-based guidelines.

Consultation Objectives

Two objectives for the consultations with key stakeholders included the following:

- To gather information from the RNs, Resident Care Managers, Clinical Educators, the Regional Director of Clinical Documentation, a representative from the Meditech Company, and the Eastern Health Consolidations Teams perspective in relation to resident care planning issues in clinical practice.
- To determine the RNs, Managers, and Clinical Educators perceived benefits and barriers to electronic care planning using the Meditech Magic 5.66 system in LTC.

Setting and Sample

The setting for the in-person consultations were two LTC care facilities within the Eastern Health Authority. Blue Crest Nursing Home is located in Grand Bank and the US Memorial Hospital is located in St. Lawrence in the province of Newfoundland and Labrador (NL). Telephone interviews occurred from my office at the Grand Bank Health Centre. The sample consisted of the following:

LTC RN Staff

I conducted informal face-to-face interviews with RNs at their worksites to gather information related to care planning in the Meditech Magic system. Once the consultation plan was approved I arranged the interviews by contacting the Managers from the Blue

Crest Nursing Home and the US Memorial Hospital via telephone to inquire as to which times and dates would work best for the RN staff. RNs are key stakeholders in the care planning process because they are responsible to initiate, individualize, and update resident CPs. Therefore, any issues they report having with the CP process will be important to address in the SDL module.

Resident Care Managers and Regional Director

The Resident Care Managers from the Blue Crest Nursing Home and US Memorial Hospital were consulted through semi-structured in-person interviews to obtain information in relation to the strengths and challenges of care planning within their facilities. In addition, the Regional Director of Clinical Documentation for the Eastern Health Authority was also consulted because approval will be needed for implementation of the SDL module into LTC facilities across my organization. As well, the Regional Director has expertise in gerontology and would therefore, be a great asset in identifying key issues on the CP process.

Clinical Educators

I contacted four Resident Assessment Instrument/Clinical Educators (RAI/CE) from various facilities within the Eastern Health Authority through semi-structured, open-ended telephone interviews (due to their geographical location). These consultations were completed to gain support for the project and to gain an understanding of issues they have seen in their own workplace in relation to the NCP process. As well, I conducted a telephone interview with a Clinical Information Specialist from the Western Health Authority. This health professional is responsible for completing clinical

documentation training to RN staff in that region. It was hoped that this consultation would determine the following: to allow for a comparison of their CP procedures to those used in the Eastern Health Authority, to identify any challenges they encounter, and how they strive to correct those errors. In addition, I tried to contact the Clinical Educator for Central Health Authority via telephone approximately six times to arrange a telephone interview but was unable to make contact. However, I plan to follow up with this health professional in NURS6661.

Meditech Company and the Eastern Health Consolidation Team

I contacted the Drummond Group, who are responsible for testing EHR programs worldwide, which includes the Meditech system. However, they recommended I contact the Meditech Company and provided me with a telephone number. The purpose of interviewing a representative from Meditech was to identify any request for changes on the care planning module that they receive from health care professionals. This would indicate any aspects of care planning that staff perceive to be problematic in their clinical practice. In addition, from Eastern Health's Meditech Consolidation Team, I contacted a Regional Clinical Information Specialist. This health professional processes all requests from health disciplines within the Eastern Health Authority requiring changes to the care planning module. Information obtained from those two individuals would be important because it would highlight issues the RN staff, Clinical Educators, or Managers have with the current CP module.

Data Collection

All data were collected through the method of semi-structured interviews. Interviews for those individuals who were located in an area that was geographically challenging were conducted through telephone calls; otherwise interviews were completed in-person. All data were hand-recorded by myself and analyzed for content similarities once all interviews were completed for the stakeholders.

Informal face-to-face interviews with RN staff occurred at their respective worksites at a time deemed appropriate by their Resident Care Manager. There are a total of 19 RN staff that complete care planning between the two sites, but given the inability to meet with the RNs as a group and the nature of shift work, approximately eight RN staff were interviewed. The interviews, conducted in the Nursing Supervisor office, were based on five pre-developed open-ended questions (See Appendix A) that took approximately 10-15 minutes.

The two Resident Care Managers were interviewed individually through informal face-to-face semi-structured interviews that lasted approximately 10-15 minutes, in their office, at their individual facilities. Arrangements for the date and time of the interview were made via telephone. The interviews consisted of three open-ended questions (See Appendix B) that focused on the Manager's perspective in relation to strengths and issues associated with care planning practices in their facilities. In addition, I contacted the Regional Director of Clinical Documentation in LTC through a telephone interview. A face-to-face interview was not possible given the geographic location of myself and the Regional Director. The interview consisted of the same pre-determined interview

questions used for the Resident Care Managers (See Appendix B) and lasted approximately 10-15 minutes.

Furthermore, I also interviewed four Clinical Educators from various locations within the Eastern Health Authority and one Clinical Educator from the Western Health Authority who trains RN staff electronic clinical documentation in the Meditech Magic system. For those consultations, semi-structured telephone interviews occurred, lasting approximately 10-20 minutes. These were done individually due to time availability of these health professionals. The interview contained two pre-determined, open-ended questions related to CP issues in their facilities (Burin, Clarenville, Carbonear, St. John's, and Corner Brook) and any suggestions they may have for a SDL module based on their observations.

I also conducted a telephone interview with a Customer Service Representative from the Meditech Company by telephone. This interview lasted approximately 10 minutes. The interview consisted of one question related to the type of inquiries the Company receives from the different Health Authorities regarding electronic care planning. Finally, I interviewed the Regional Clinical Information Specialist from the Eastern Health Authority, through a telephone interview, which lasted 10-15 minutes. The interview consisted of one open-ended question, which related to the identification of the types of inquiries they receive from health professionals within the Eastern Health Authority associated with care planning in LTC.

Data Management and Analysis

All data collected from RNs, Clinical Educators, Resident Care Managers, the Regional Director of Clinical Documentation, the Customer Service Representative from the Meditech Company, and a member of the Consolidation Team were hand-written and analyzed separately for similarities. The data were entered in the MS Word application and each group were analyzed separately because the nature of the questions did not allow for them to be combined together. All of the similarities were analyzed and considered for the module development. Outlier responses not fitting into any category were also considered. All collected data will be stored in a filing cabinet at my office until both NURS 6660 and NURS 6661 courses are completed, at which point they will be discarded.

Ethical Considerations

The development of a SDL module for RNs in LTC who complete care planning did not require a review by the Health Research Ethics Authority (HREA), as indicated by the HREA screening tool (See Appendix D) and is not considered to be a research project. In addition, since no identifying resident or staff information was involved, there was no need for agency approval.

Support for this project has been given to me, in writing, from the Clinical Director of Clinical Documentation in LTC from the Eastern Health Authority. As well, permission and support to conduct consultations within the Eastern Health Authority have been approved by immediate supervisor, who is the Regional Director of Professional Practice.

Results

The consultation process was used in an effort to gain support for a SDL module on care planning for RNs in LTC, as well as to identify benefits and barriers associated with CPs. Consultations conducted within the Eastern Health Authority included eight RNs from LTC, two Resident Care Managers, the Regional Director of Clinical Documentation, four Clinical Educators, and the Regional Clinical Information Specialist from the Consolidation Team. Consultations that occurred with individuals from outside the Eastern Health Authority included a Clinical Educator from the Western Health Authority and a Customer Service Representative from the Meditech Company.

LTC RN Staff

In-person semi-structured interviews were conducted with RN staff from both the Blue Crest Nursing Home and the US Memorial Hospital. A total of five open and closed ended questions were asked over a 10-15 minute period that asked their opinion of care planning through the EHR, the timeliness of completing electronic CPs, inaccuracies noted within current CPs, and what type of information they would like to be included in a care planning SDL module. Based on the combined responses from both facilities, several themes were identified for resident electronic care planning. The themes relate to the following: (a) usefulness of documenting CPs in the EHR, (b) time it takes to electronically chart, (c) inaccuracies in CPs, and (d) the need for comprehensive module on care planning.

When asked if care planning using the EHR has helped improve upon documentation practice of the CP, six of eight RNs participants responded positively. They reported that because most required interventions are attached to the basic CP that

is initiated upon admission, there is less of a chance that they will forget to add a diagnoses or intervention they need, therefore, making the chart more complete. They also indicated that because of the cues, prompts, and look-up screens associated with the Meditech Magic system they felt documentation practices were adequate and charts were more complete. One RN stated that "*…it gives us knowledge and ideas of which interventions goes with certain problems without having to recall for yourself."* Other positive thoughts were that care planning in the EHR allowed for "*more complete, accurate, and through information.*" However, the other two RNs commented that the EHR had not improved CP practices, and in fact, has caused more work because it may add duplicate interventions that have to be deleted; it is more difficult to view the entire "*picture*" of resident care needs because information is "*scattered all over the record and not all in one place"*; and "*sometimes problems and interventions are added that are not needed, thereby requiring close inspection of all interventions.*"

When asked if they felt the EHR allowed them to document in a timelier manner, approximately four RNs indicated that documenting electronically is time consuming and impacts the time actually spent with residents, therefore decreasing the quality of care provided to them. Some more favorable responses associated with timeliness of electronic documentation include: *"It is quicker in the computer because everything is in one place"*; *"more detailed information is given on the computer*; and *I don't have to worry about checking my spelling in the EHR because it is just pick and tick stuff, I often don't have to write anything."*

Less favorable comments that were reported by the other four RNs pertaining to the increased time associated with electronic documentation include: *"takes more time to maneuver around all the screens and each screen is entered into differently which can be confusing"; "I'd say I'm on the computer for half my shift. It takes 4 hours just to do an admission in the computer"*; and *"I feel it takes more time to document on the computer but electronic documentation is more accountable than on paper."*

The next interview question asked participants if they have noticed any inaccuracies in care plans in their area. It was reported by six RNs that at some point, whether it has been in the past or currently, they have noted there to be CP errors in resident charts. Half of RNs interviewed indicated that many of these errors relate to CPs not being updated quarterly or as required based on care needs. Additionally, staff identified that interventions were not being completed out on resident charts once the specific care was no longer needed. One RN specified that "*there are many interventions that are no longer needed on a residents chart because the issue is no longer present, like wound care, but we don't really know if we should complete out the intervention or not. But then some staff still end up documenting when it don't need to be."* Other inaccuracies that RNs noted in resident charts include not adding edit texts, which provides information for staff on requirements of specific interventions; not changing the level of care required to carry out an intervention; not removing duplicates from the chart; adding non- 'e' interventions for documentation purposes; and not changing the directions of interventions, which is a sound method of ensuring that all staff who provides care know when an intervention must be completed. Only two participants

indicated that they have not noticed any inaccuracies in care plans. One participant stated they have not seen them, while the other participant stated that it is not happening as much recently because *"the care plans now get looked at weekly in our facility. When it is noticed that there is a problem, it gets fixed a lot quicker."*

The next question asked RNs to indicate if they thought a resource module explaining care planning, its' characteristics, and useful strategies for improving documentation and communication would be beneficial to their practice. All participants agreed that a resource module explaining care planning, its' characteristics, and strategies for improving documentation and communication would be beneficial in their practice. They felt that it would be very beneficial to have an up-to-date resource available to look at when clarification was required, but accessibility was a major factor. RNs also expressed that a module would be a *"very good aid for assisting new graduates on the care plan process as well as the seasoned workers because it can be months in between doing new admissions."*

Finally, when asked what type of information they would like to see in the SDL module on care planning, RNs indicated they would like topics to include: how to cancel out incorrect care plans upon admission; functionality; clarification on the care plan process in general; how to document acute health problem that arise in LTC; the importance of updating the plan of care; options for care planning; edit text; completing out interventions; target dates; step-by-step instruction; adding interventions and problems; cheat sheets; and clinical assessment protocol (CAPS). CAPS was indicated as

a need because they are problems triggered from the MDS assessment and must be added to the plan of care.

Most of the data that were collected from consultations with RNs in LTC corresponded to the data obtained from the integrative literature review, which strengthens the argument for the need for a SDL module on care planning for RNs in LTC.

Resident Care Managers and Regional Director

In-person interviews that contained three open-ended questions were held with the Managers of the Blue Crest Nursing Home and the US Memorial Hospital. Prior to becoming Managers, both individuals were RNs within the Eastern Health Authority. In addition, the same questions were also asked to the Regional Director of Clinical Documentation for LTC. These questions were used in an effort to identify the strengths they felt RNs hold in their ability to initiate, individualize, and update care plans, as well as any specific CP problems they may have observed in their facilities. All responses were recorded and analyzed for similarities.

When asked what strengths the RN possess in relation to their ability to initiate, individualize, and update CPs there was a clear consensus that critical thinking skills is one of biggest strengths. One participant stated that the "*RN has the best knowledge base to critically think about what a resident needs. Their preparation and education is of highest quality. From nursing school until the present day they have been responsible for formulating plans of care.*" However, another participant felt that although *"RNs are very good at recognizing and implementing a plan of care for physiological needs, not so*

much for emotional and spiritual needs and more work needs to be done." Another strength possessed by RNs as identified through consultations with Resident Care Managers and the Regional Director of Clinical Documentation was that "*RNs are leaders within the skill mix group. They get information from other members who perform close hands-on care but are in the pivotal position of being able to take that information and incorporate it into updating and establishing CPs.*"

When asked if they have observed any specific problems or issues associated with care planning in their facilities, participant responses were diverse. One of the managers stated that "*no, there are not really any problems with care planning in my facility but it is because I have steps in place to ensure the care plans are looked at, updated, and printed weekly by RN staff and then submitted to me for review. It is a lot of extra work for me but because we don't have a RN lead working Monday to Friday, I feel I have to follow it closely.*" The other manger reported that nurses are very task-oriented and that perceptions of the unimportance in the care plan process by RNs is that "*it's just another piece of paper that doesn't add value"* and indicated that she has to constantly remind RNs to complete and update the plans of care. In agreement, all three participants responded that RNs may not have the time that is needed to actually sit down and complete care planning, whether it relates to time management or other factors, and that rarely do the RN involve the resident or their family in the development or evaluation of the plans of care. They felt it was often done in isolation. Furthermore, one manager observed that in the CPs, staff were not changing the problems to reflect resident needs

and that *"they often rely on the status quo even though the resident may have improved or deteriorated."*

Finally, when asked if they have received any Incident Reports related to ineffective care planning, all three participants stated they have not specifically received any Reports that directly relate to the care planning process. However, there may be an indirect relationship between incidents and the care plan. One example that was reported by two of the managers, as well as the Regional Director, was a staff injury that resulted because the safe patient-resident handling (SPRH) intervention that is electronically documented did not match resident requirements for ambulation. Another example of Incident Reports that reflected lack of following or updating the resident CPs included: wound care, diet changes, dysphagia management, pain, and spiritual distress.

Clinical Educators

Semi-structured telephone interviews that lasted 10-15 minutes were conducted with clinical educators from various sites throughout the Eastern Health Authority. These results indicated that many facilities encounter the same issues pertaining to care planning by RNs in LTC. One educator stated that "*As an CE, I recognize the difficulty getting staff out for formalized sessions, from a time and cost perspective, so for ongoing education a self-learning module would be ideal for continuing education."*

When asked what type of inquiries they receive from staff in relation to care planning, all four Clinical Educators stated that they receive telephone calls or e-mails from nursing staff surrounding various aspects of care planning, whether it relates to initiating, individualizing, or updating the care plans. Examples of the types of inquiries

included: initiating the LTC basic CP, especially when it comes to palliative, respite, or convalescent admissions; various aspects related to the addition of interventions to existing problems on the CP or adding new diagnosis altogether; individualizing the CP to meet specific resident needs; and updating CPs. One example of a question asked of an educator corresponded to catheter insertion, which requires four nursing interventions to be added to the plan of care. The basic CP already has a diagnosis called Elimination, therefore staff would need to add the interventions to that diagnosis. However, if the resident had a wound, there is no specific diagnosis on the basic CP that would be relevant to that intervention, so a whole new diagnosis would have to be added. This can cause some confusion to RN staff.

All four Clinical Educators indicated that there are two care planning resources available. One is a documentation module that covers every module of Meditech, developed by the Consolidation Team, and the second is a handout developed by RAI Coordinators. However, it was recognized that these resources have not been updated since 2013 and are outdated. Therefore, they agreed that a new, comprehensive care planning resource would be beneficial to RN staff in LTC.

The Clinical Educators were asked if they had any suggestions in relation to what information should be addressed in the module, they identified several topics. Examples included: step-by-step instructions for entering a basic CP, how to add a problem to an existing diagnoses, how to add additional diagnosis, legal requirements for care planning, functionality, how to set and change target dates, and the importance of updating CPs. Other recommendations included adding pre-quiz and end of unit post-quizzes.

Finally, to gather information regarding similarities and differences in care planning by RNs in LTC, I also contacted a Clinical Educator from the Western Health Authority in Corner Brook. After interviewing this health professional, it was apparent that some of the issues they experienced in the care planning process for LTC were somewhat different than those experienced in the Eastern Health Authority. Although they use Meditech Magic for documentation, only the basic CP is entered through the plan of care screen. All extra interventions and functions are carried out in a different Meditech module. Even with the differences that have been noted, the Clinical Educator did report that RNs from that region still experience some issues in relation to entering the basic CP and adding additional interventions. The clinical educator from the Western Health Authority also had suggestions for module inclusion which included the addition of CAPS to the care plan, changing directions, and changing levels.

Meditech Company and the Eastern Health Consolidation Team

I contacted a Customer Services Representative from the Meditech Company located in the USA. The Representative's main responsibility is taking inquiries from different LTC health facilities in both Canada and the USA that utilize the Meditech Magic system. The interview lasted approximately 10 minutes. When asked which type of inquiries they receive from Health Authority's related to care planning in LTC, the representative stated that their main task was focused on "*regulation changes that need to be adhered too.*" As well as *"changing functionality but before that is done, we have to see if it would be feasible and if other customers would like it."* Through this interview it was found that the Meditech Company provides a shell program and it is the

responsibility of each individual Health Authority to 'build' everything inside of it to best suit the organization's needs, such as diagnoses, goals, and interventions.

After making contact with the Meditech group, I contacted the Regional Clinical Information Specialist from the Eastern Health Authority who is a member of the Consolidation Team. When asked to identify the types of inquiries received from Health Professionals within the Eastern Health Authority related to care planning in LTC several responses were given. "*I guess when it comes to care planning there are a lot of common goals and diagnoses, and it is a challenge sometimes to keep everything up to date with current best practice."* Also, the Clinical Information Specialist indicated that from their department's perspective they mostly make changes to functionality in the CPs, as well as make additions or deletions to the diagnoses, goals, and intervention as requested by staff. Those requests, however have to be discussed with various stakeholders before any changes can be made to them.

Implications and Conclusion

The purpose of consulting key stakeholders was twofold. First, I hoped to better understand, from their perspective, the benefits and barriers experienced by RNs in LTC with the CP process and what would be important to include in a SDL care planning module. Second, even though I believe this project has merit, I wanted to determine from those considered to be in the front-line if they perceived this practicum project to help them with their electronic care planning documentation. If RNs believe this project is important there is a higher likelihood that they will participate in utilizing the module once it is implemented in clinical practice. It has been clearly expressed by all those

interviewed in consultations that there are benefits to care planning but limitations still exist such as, initiating, individuating, and updating CPs. These issues need to be addressed and therefore, a SDL module on care planning for RNs in LTC is a worthwhile endeavor and is a highly needed resource.

The results from an integrative literature review, the information gathered from consultations identified in this report, and antidotal observations will be used to inform the development of the SDL module on care planning for RNs in LTC. Even though electronic care planning has been used throughout LTC facilities in the Eastern Health Authority for many years, RNs still have questions and encounter issues when initializing, individualizing, and updating CPs. The proposed SDL module for this practicum project aims to address those issues. The module will include background information on care planning, as well as step-by-step instructions on how to initiate, individualize, and update the resident's plan of care. Not only did the consultations with the various key stakeholders indicate a need for this resource, but the RNs themselves who are responsible to complete the care planning for the residents in LTC supported the proposed practicum project.

Completing consultations through interviewing key stakeholders have established clear reasons why the proposed SDL module on care planning for RNs is needed in LTC. Through this report I have been able to provide the foundation for the development of the project. I have also provided detailed rationale and explanation of the methods used to carry out and analyze the data compiled from the interviews.

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Appendix A
Registered Nurse Interview Guide

1. Do you feel that care planning within the EHR has helped you improve on your documentation practices of care plans? Please elaborate

2. Do you feel that the use of the EHR allows you to document in a timelier manner?

3. Have you noticed inaccuracies in care planning on resident charts in your area? If so, what type of errors?

4. Would a resource module explaining care planning, its' characteristics, and useful strategies for improving documentation and communication be beneficial to you in your practice? Please explain your answer,

5. What type of information would you like to see in the SDL module on care planning?

Appendix B
Manager and Regional Director Interview Guide

1. What do you feel are some strengths in relation to the RNs ability to initiate, individualize, and update care plans?

2. Have you observed any specific problems or issues associated with care planning in your facility by RN staff?

3. Have you received any incident reports that are related to ineffective care planning in your facility?

Appendix C
Clinical Educator Interview Guide

1. What type of inquiries do you receive from staff in relation to care planning issues - whether it is on initiating, individualizing, or updating care plans?

2. Do you have any suggestions on what content should be included in the self-directed learning module for RNs in long-term care? If yes, please share your suggestions.

Appendix D
Meditech Company and Consolidation Team Interview Guide

1. What type of inquiries do you receive from health professionals associated with care planning?

Appendix E
Health Research Ethics Authority Screening Tool

	Question	Yes	No
1.	Is the project funded by, or being submitted to, a research funding agency for a research grant or award that requires research ethics review	❒	❒☒
2.	Are there any local policies which require this project to undergo review by a Research Ethics Board?	❒	❒☒
	IF YES to either of the above, the project should be submitted to a Research Ethics Board. **IF NO** to both questions, continue to complete the checklist.	❒	❒
3.	Is the primary purpose of the project to contribute to the growing body of knowledge regarding health and/or health systems that are generally accessible through academic literature?	❒	❒☒
4.	Is the project designed to answer a specific research question or to test an explicit hypothesis?	❒	❒☒
5.	Does the project involve a comparison of multiple sites, control sites, and/or control groups?	❒	❒☒
6.	Is the project design and methodology adequate to support generalizations that go beyond the particular population the sample is being drawn from?	❒☒	❒
7.	Does the project impose any additional burdens on participants beyond what would be expected through a typically expected course of care or role expectations?	❒	❒☒
LINE A: SUBTOTAL Questions 3 through 7 = (Count the # of Yes responses)		1	5
8.	Are many of the participants in the project also likely to be among those who might potentially benefit from the result of the project as it proceeds?	❒☒	❒
9.	Is the project intended to define a best practice within your organization or practice?	❒☒	❒
10.	Would the project still be done at your site, even if there were no opportunity to publish the results or if the results might not be applicable anywhere else?	❒☒	❒
11.	Does the statement of purpose of the project refer explicitly to the features of a particular program, Organization, or region, rather than using more general terminology such as rural vs. urban populations?	❒☒	❒
12.	Is the current project part of a continuous process of gathering or monitoring data within an organization?		x
LINE B: SUBTOTAL Questions 8 through 12 = (Count the # of Yes responses)		4	1

	SUMMARY **See Interpretation Below**		

Interpretation:

- If the sum of Line A is greater than Line B, the most probable purpose is **research**. The project should be submitted to an REB.
- If the sum of Line B is greater than Line A, the most probable purpose is **quality/evaluation**. Proceed with locally relevant process for ethics review (may not necessarily involve an REB).
- If the sums are equal, seek a second opinion to further explore whether the project should be classified as Research or as Quality and Evaluation.

These guidelines are used at Memorial University of Newfoundland and were adapted from ALBERTA RESEARCH ETHICS COMMUNITY CONSENSUS INITIATIVE (ARECCI). Further information can be found at: http://www.hrea.ca/Ethics-Review-Required.aspx.

Appendix C

Electronic Care Planning:

A Self-Directed Learning Module for Registered Nurses in Long-Term Care

Tina Reid

Memorial University of Newfoundland

Table of Contents

Introduction

Why Should I Complete this Education?

Individuals admitted to long-term care (LTC) facilities today have multiple, complex, chronic health conditions that must be addressed, in order to provide holistic nursing care (Gill et al., 2014). To effectively manage, solve, and minimize these conditions, Registered Nurses (RN) can utilize the electronic care plan (CP) to prioritize the resident's care regime (Keenan, Yakel, Tschannen, & Mandeville, 2008; Doenges, Moorhouse, & Murr, 2010)

> "Care planning allows a nurse to identify a patient's problems and select interventions that will help manage these problems. They are the written records of the care planning process."
>
> *Ballantyne, 2016, p. 51*

Care planning by RNs is guided by the Eastern Health Authority policy (Eastern Health, 2008) for LTC. This policy states that each resident must have an updated CP upon which to base decisions regarding the type of care that is needed. In addition to this policy, there are several legal documents that indicate care plans are required for each resident. One document is the *Registered Nurses Act (2008)*, which states the RN assesses the individual to determine their state of health, while identifying nursing diagnosis, goals, and interventions to improve outcomes through the care planning process. Another legal document is the *Standards of Practice for Registered Nurses (2013)*, which provides legal guidance on what is considered to be reasonable and sound practice through the use of standards and corresponding indicators. The standards and indicators outline that RNs are responsible for the assessment, interpretation, and analyzing of resident data in developing a resident care plan and then evaluating outcomes. Finally, the *Long-Term Care Facilities in Newfoundland and Labrador Operational Standards (2005)* specifies that a resident's care plan must be initiated by the RN on admission and individualized to meet the resident's specific needs. The CP must also be updated quarterly, or more frequently if there are significant changes in the resident's condition.

What is the Purpose of the Module?

This self-directed learning (SDL) module and Care Planning Quick Reference Guide have been developed based on the results of an integrative literature review, along with consultations with key stakeholders and anecdotal observation. These resources were developed as a tool to assist in enhancing the RN's knowledge and education related to initiating, individualizing, and updating electronic care plans in the Meditech Magic version 5.66 application. The module will provide a step-by-step instruction on how to complete resident care planning and will offer some basic tips that will make the process more efficient and effective.

Overview of Module

This module consists of **five** separate units that cover the RN's role in the overall care planning process for residents. It provides specific detail on how to initialize the CP. It also explains the process and procedure for completing various aspects surrounding individualizing and updating a resident care plan in LTC.

Unit One provides a review on the overall functionality of the Meditech Magic 5.66 system. It covers items such as, confidentiality, the use of the function keys in documentation, and highlights alternative methods to using the function keys.

Unit Two provides basic information on why care planning is required in LTC. It highlights basic information on what care planning is and what information is documented as a result of the care planning process. It also highlights potential benefits and limitations of care planning in general. In addition, this unit covers specific details of the nursing process. This information is important to review because the nursing process is a tool that facilities the CP. Finally, this unit will discuss care planning processes as indicated by the Eastern Health's Integrative Care Plan Policy for LTC (EH-RC-110).

Unit Three illustrates, through screenshots, the step-by-step procedure for entering the basic LTC CP into the Meditech Magic 5.66 system; adding additional diagnosis, goals, and interventions; and the procedure for individualizing the CP to reflect the needs of the resident through changing status, directions, and levels of care.

Unit Four provides an overview of adding Clinical Assessment Protocol (CAPS) to the CP. It will also give a brief highlight of the Minimum Data Set (MDS) assessment, which triggers CAPS. The CAPS recommend adding specific interventions to the CP based on the CAPS summary.

Unit Five will discuss adding target dates and updating the CP. This has to be done on admission, quarterly, or when the resident's condition changes. Adding target dates ensures the RN is aware of the date that the CP needs to be reviewed and provides indication of whether the interventions are meeting the needs of the resident. Finally, this unit provides step-by-step instruction for printing the resident Kardex, which must be printed once weekly in LTC.

Module Instructions

This self-directed learning module was developed so that care plan education can be completed at your own pace and convenience. It can also be used as a guide for when completing the care planning process. It is recommended that each unit and section of the module are reviewed, in order and that the review questions at the end of each unit are completed. Answers for the review questions will be provided at the end of each unit.

Unit One: Meditech Functionality

Unit one provides a review of confidentiality that is required to be adhered to by the Eastern Health Authority. It also discusses the meditech function keys that are needed to file, exit, and look-up dictionary options. As well, other important options will be provided that will ease your ability in documenting.

Unit 1: Section 1
Confidentiality

Upon completion of section 1.1, you will be able to:

- Describe the importance of confidentiality in clinical documentation
- Understand the concept of confidentiality in relation to clinical documentation

An individual's personal health information, whether obtained through oral conversation or through an electronic means, must be kept confidential from those not considered to be included in a resident's circle of care.

Confidentiality is "the duty of someone who has received confidential information in trust to protect that information and disclose it to others only in accordance with permissions, rules, or laws authorizing its disclosure". (CNA, 2003, p.3)

Confidential Information is "information that is subject to and protected under a duty of confidentiality, which information may be more or less sensitive, revealing of, or potentially harmful to, the person it is about". (CNA, 2003, p.3)

Confidentiality and the Registered Nurse's Role

- ✓ Information privacy rights of each individual must be respected by the nurse in regards to control of, use, access, disclosure, and collection
- ✓ If an individual requests access to their health records, it is the nurses role to advocate on the individual's behalf
- ✓ Information acquired through the context of the professional nurse-patient relationship must be protected by the RN under confidentiality laws outlined by government's and the organization
- ✓ If it is suspected that users of the electronic health record (EHR) are not following confidentiality regulations, it is the duty of the nurse to intervene
- ✓ Health information may have to be shared with other members of the health care team for the purposes of providing care. In some cases this can be done without consent, however the nurse should inform the individual about what it being disclosed, why, and to whom
- ✓ All policies and procedures pertaining to privacy should be respected by the nurse (CNA, 2003, p. 11)

Maintaining confidentiality also applies to ensuring Meditech Magic username and passwords are secure. The passwords enable employees to access resident charts. Users are responsible and accountable for keeping passwords confidential and they must be used in an appropriate manner (Eastern Health Authority, 2008).

Individuals are held accountable for breaches of confidentiality and privacy. A breach includes:

- ✓ The intentional or unintentional unauthorized access to use, disclosure, and/or disposal of confidential information.
- ✓ Recorded or unrecorded information (Eastern Health Authority, 2008, p.3).

There are several ways to look-up a resident's record, but all employees must follow positive patient identification (PPI) to ensure they are viewing the correct chart. Finding a chart by using the resident's unit number (U#), which is a unique identifier, will ensure the correct resident is found. No two individuals residing in locations covered by the Eastern Health Authority will have the same unit number.

Other ways to look-up a residents chart include:

- ✓ Use last name, first name (Doe,Jane)
- ✓ Use partial last name, partial first name (Do,Ja)
- ✓ By telephone number (T#7091234567)
- ✓ By MCP Number (#132456789)

PLEASE NOTE: All screen shots from this module are taken from the Meditech Magic 5.66 test system. All resident information is based on fictitious residents. No confidential information has been disclosed in the development of this module.

The Preferred Method to Look-up a patient in the EHR is by Unit Number

Remember: Use PPI when identifying residents

To view the Eastern Health Privacy and Confidentiality Policy (ADM-030):

Go to the Policy tab on the INTRANET and type Privacy and Confidentiality

Unit 1: Section 2
Meditech Special Functions

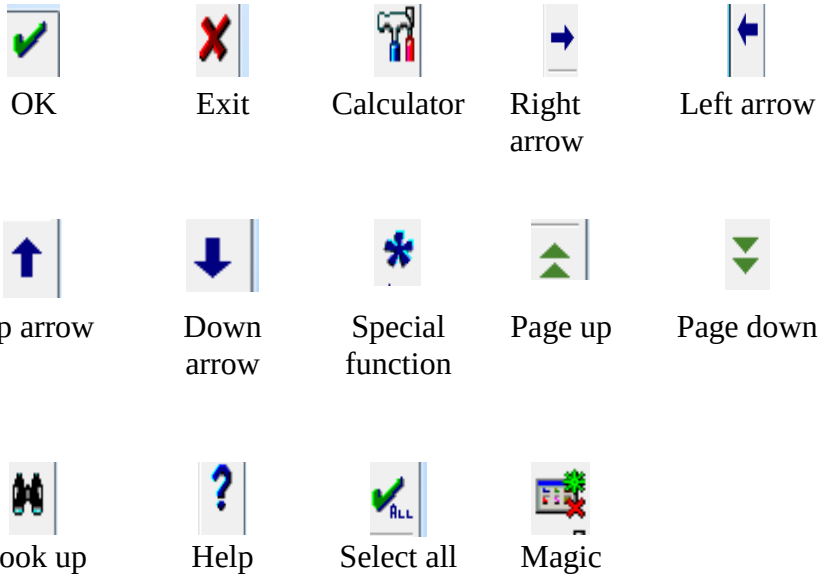
Upon completion of Section 1.2, you will be able to:

- Explain the use of each Meditech Magic 5.66 function keys
- Identify alternative icons that can be used opposed to the function keys

Special Keyboard Function Keys

- **F4** (Get Key) Get files that are available i.e. FOCUS charting template
- **F5** (Recall key) Use with caution, be sure the recalled response is accurate
- **F6** (Previous field) Moves the cursor back to the previously entered fields.
- **F7** (Begin List) Takes the cursor back to the beginning of a field/list.
- **F8** (End List) Takes the cursor to the end of a field/list.
- **F9** (Look up) provides user with group responses to various fields.
- **F10** (Deletes Line) Deletes the entire line of text.
- **F11** (Exit) Allows you to exit a screen –will not save data you have entered.
- **F12**-(Ok) Files/saves data
- **Magic key**- shift key and F12 together takes you back to the main menu.
- **Recall a patient**- Space bar and enter key together will recall the last

Mouse Tool Bar Functions



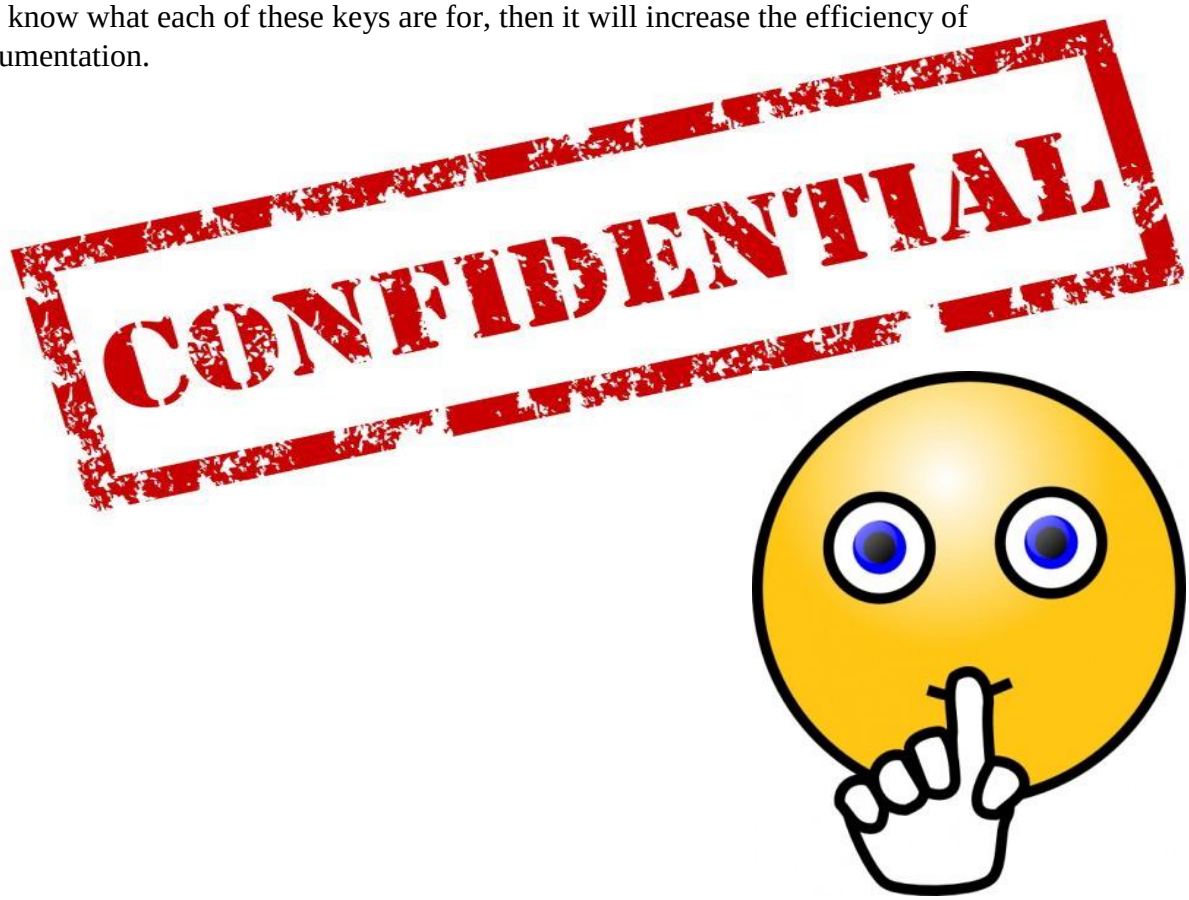
Unit One Summary

"Eastern Health is committed to protecting the privacy and confidentiality of personal information and personal health information in its custody and control." (Eastern Health Authority, 2008, p.1)

All staff must ensure they keep their passwords protected and only access charts for those individuals within their circle of care.

Utilizing PPI is a measure to ensure the correct chart is accessed and documented in the EHR. This decreases the chances of conducting a breach of confidentiality in the workplace.

The function keys in Meditech Magic are one of the most important tools to remember. If you know what each of these keys are for, then it will increase the efficiency of documentation.



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Unit One: Review Questions

Instructions: Please complete the following questions by placing an X by the correct answer.

True or False

		True	False
1	Confidentiality is a priority and is outlined in a policy in my organization.	○	○
2	I am permitted to share patient information with other care givers throughout the organization, even if they are not within the resident's circle of care?	○	○
3	Confidentiality does not affect me in my current role as an RN?	○	○
4	I can share my Meditech Magic password with other RNs	○	○
5	I am fully accountable to protect any document that I print if it has any resident information on it?	○	○

Match the 'F' key with the corresponding definition by drawing a line to connect the two

6. F12	Exit Key
7. F6	Look-up Key
8. F9	OK/File/Save
9. F10	Previous Field
10. F11	Delete Line Key

Answers to Unit One Review Questions

Multiple Choice

1. True
2. False
3. False
4. False
5. True

Matching

6. Ok/File/Save
7. Previous Field
8. Look-up Key
9. Delete Line Key
10. Exit Key

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Unit Two: The Nursing Process and Care Planning

Unit two provides basic information on the nursing process. It highlights why care planning is important, provides examples of each step in the nursing process, and outlines the benefits and limitations to care planning. In addition, unit two will describe the process required for completing a care plan for a new admission to LTC- as outlined by the Eastern Health Care Plan Policy (EH-RC-110)

Unit 2: Section 1
The Nursing Process

Upon completion of Section 2.1, you will be able to:

- Discuss the five stages of the nursing process as evidenced by correctly selecting the corresponding answers in the Unit one Review Questions
- List five North American Nursing Diagnoses Association (NANDA) diagnosis that would be suitable to include in a care plan

What is the Nursing Process and how does it relates to the Nursing Care Plan?

The nursing care plan records the nursing process (Wang, Yu, & Hailey, 2015). In following the steps of the nursing process, the RN is able to more effectively identify goals for the resident that will assist in achieving the desired outcomes.

After years of refinement, the nursing process evolved into a five step process: *Assessment, Nursing Diagnosis, Planning, Implementation, and Evaluation.*

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Steps, Definitions, and Descriptions of the Nursing Process

The information below lists all of the steps, definitions, and description of the nursing process. It is important to understand this information before care plan development begins.

Assessment is the "systematic collection of data relating to clients, their problems, and needs" Doenges, et al., 2010, p. 7

- In conducting the assessment, the focus should include the psychological, spiritual, functional, sociocultural, economic, and lifestyle abilities of the resident, as well as physician findings, and diagnostic studies.

Nursing diagnosis is "a clinical judgment about an individual, a family, or a community's response to actual and potential health problems or life processes"

Muller-Staub, Lavin, Needham, & van Achterberg, 2006, p. 516

- Nursing diagnoses provide the foundation upon which nursing interventions are developed. Based on the NANDA, common examples include:
    - Activity Intolerance, risk for
    - Communication, impaired verbal
    - Coping, ineffective
    - Injury, risk for
    - Self-care Deficit, bathing
    - Urinary Elimination, impaired

Planning is where the needs of the individual are prioritized, goals are identified, and interventions are chosen by the RN in conjunction with the resident, whenever possible

Doenges et al., 2010

- For problems considered curable, or temporary, goals and interventions should relate to resolving or improving within the next target date review period.
- For problems not anticipated to improve significantly, the goal should consider how the problem can be kept from deteriorating any further.
- For problems that will not get any better, the goal should reflect how to provide an optimal quality of life and comfort to the resident (CRNNS, 2017).

Implementation is the act of carrying out any treatment identified in the planning phase. Doenges et al., 2010

- The interventions are specific to each resident and focuses on achievable outcomes
- Includes monitoring the resident, directly caring for the resident or performing tasks, educating and instructing the resident, and possibly referring the resident to other care providers in the multidisciplinary team (Doenges et al., 2010)

Evaluation occurs once all nursing intervention actions have taken place; the nurse completes an evaluation to determine if the goals for patient care have been met
Doenges et al., 2010

- A review should be conducted, at minimum, every **three months** in LTC to assess:
    - If goals have been achieved
    - To determine barriers to progress
    - To evaluate suitability or quality of care provided
    - To reassess current needs based on progress
    - To revise the care plan if necessary
    - To set the date for the next review

(Ballantyne, 2016; CRNNS, 2017)

Unit 2: Section 2
The Nursing Care Plan

Upon completing Unit 2.2, you will be able to:

- Explain the goal of care planning in achieving resident outcomes
- Describe why developing a care plan is important in providing resident care
- List examples of nursing interventions that can be added to the resident's plan of care
- Compare and contrast the strengths and limitations of the nursing care plan

The Care Plan

-The CP is a fundamental component of nursing practice that aims to facilitate standardized, evidence-based holistic care.
-The overall goal of care is to ensure continuity and quality of care, while providing safe environments for residents.
- Electronic CPs enables the RN to record care that has been provided. They allow for that information to be shared with other health disciplines in a quick, efficient manner. CPs are also used as a guide to reassess the effects of care on residents needs

(Doenges et al., 2010; Ballantyne, 2016)

Types of Care Needs Identified through Care Plan Development

Through the development of the care plan, the RN can determine aspects of resident care needs. Examples of types of care identified based on care plan development and implementation include:

*Bathing & Dressing	*Behavior Status	*Wound Care	*Oral Care
*Skin Care	*Hair Care	*Nail & Foot care	*Eating habits
*Vital Sign Monitor	*Mobility & Activity	*Transferring	*Incontinence Care
*Hearing & Speech	*Vision Capabilities	*Sleep Pattern	*Bladder/Bowel status
*Fall Risk	*Language Issues	*Food Preference	*Mental Status

(Government of Newfoundland, 2005; VanDeVelde-Coke et al., 2012)

Benefits of Electronic Care Planning

There are several benefits to developing a nursing care plan:

- *Care plans provide a comprehensive record*. The record links resident problems, goals, and interventions to related policies, procedures, and guidelines of the organization
- *Aids in record keeping.* Provides cues and prompts for the nurse and facilitates the documentation of assessment, patient care, communication, and teaching
- *Provides direction to staff.* Standardized CPs provide direction in relation to the interventions that are needed to best meet the residents specific needs
- *Permits detailed auditing.* Chart audits can be completed at any time from any location
- *Version control is decreased*. NANDA guidelines gives more control on diagnosis labels used in the care planning process
- *Statistics are readily available*. Electronic charts can more easily be subjected to statistical analysis by the Canadian Institute for Health Information (CIHI)

(Lee, 2005; Mills, 2005; Smith, Smith, Krugman, & Owen, 2005; Muller-Staub et al., 2006; Keenan et al., 2008;Ballantyne, 2016)

Limitations of Electronic Care Planning

Although there are several benefits to electronic care planning, some limitations also exist:

- RNs have expressed that there is a lack of time, staff, education, and resources to commit to the care plan process and electronic documentation
- Another limitation is the requirement to update the care plan on a continuous basis, especially as care needs change
- There are concerns that standardized care plans populate more interventions than what are actually required for the resident
- RNs have questioned the effectiveness, relevance, and clarity of care plans in relation to co-morbidities. (Lee, 2005; Cherry et al., 2008; Department of Health, 2012)

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Unit 2: Section 3
Care Planning Procedure

Upon completing Unit 2.3, you will be able to:

- Identify the procedure used for the development, implementation, and evaluation of an integrated care plan for residents in LTC
- Understand and recognize when care plans should be evaluated and updated in LTC
- Demonstrate knowledge of the components of the Eastern Health Integrated Care Plan policy (307-RC-110)

Care Plan Considerations

- ✓ Co-ordination and management of the nursing care plan is the responsibility of both the RN and the Resident Care Manager.
- ✓ LTCs focus is on resident-centered care, therefore the resident and/or their family should be considered the expert in their own care and, if possible, included in the development of the care plan
- ✓ The care plan is individualized to meet the specific needs of each resident
- ✓ In LTC, the care planning process is used by the RN, in conjunction with the resident, their family, and interdisciplinary team, as a means for identifying resident problems and goals.
- ✓ Problems, strengths, weaknesses, goals, desired outcomes, and evaluation are all included in the care plan process.
- ✓ A target date of quarterly (**every 3 months**) is set to evaluate if care plan goals are being achieved. If not achieved, new goals need to be established.
- ✓ The integrated care plan is a part of the permanent health record
(Keenan et al., 2008; Doenges et al., 2010; Chunchu et al., 2012; Eastern Health, 2016)

Care Plan Procedure (Based on EH Integrated Care Plan Policy)

On Admission:

- Upon admission to LTC, a standardized plan of care is initiated by the RN. This care plan is then individualized based on the nursing assessment and input from the resident and/or family regarding their strengths, preferences, and needs. Additional problems or inventions are added to the care plan if required.
- In addition, a LTC admission assessment is completed by the RN on admission. Assessments are also required by the interprofessional team and should be completed in the resident's EHR. Such team members include the Dietician, Physical Therapy, Occupational Therapy, Therapeutic Recreation, etc.

Care Plan Evaluation:

- The care plan should be evaluated every **three** months by the RN. However, if there are changes in the resident's health condition, more frequent evaluations may be required. For example, if a resident has a right sided cerebrovascular accident (CVA) and loses function to the left side of their body, the care plan will have to change to reflect the new needs of the resident.
- The care plan review evaluates the effectiveness of the care plan by determining the resident's progress in meeting established goals
- A progress note entitled *Care Plan Review* should be documented in the resident's chart indicating any changes to the care plan, along with rationale for any changes, and the resident's response.

Resident Assessment Instrument-Minimum Data Set 2.0 (RAI-MDS 2.0)

- The RAI-MDS 2.0 is a standardized assessment tool and care planning system that must be completed on admission. It also requires **quarterly** updates and may have to be re-considered if there is significant changes in the resident's condition.
- The tool is used to obtain information on a resident's strengths and needs. The data captured are then used to inform the individualized care plan
- The RAI-MDS 2.0 includes Clinical Assessment Protocols (CAPS) that should be considered by the RN when developing the resident care plan. However, they do not have to be implemented in the resident's chart (see Unit Four for additional information).
- Based on the RAI-MDS assessment any triggered CAPs must be identified in a FOCUS to the residents Chart. The note should indicate which CAPS were triggered and which interventions were added to the plan of care.

Resident Care Planning Conference

- Within **eight** weeks of admission, a Resident Care Planning Conference should be held with the RN, resident and/or family, interdisciplinary team, and Resident Care Manger.
- The conference provides an opportunity for participants to discuss the plan of care and offer any input for changes.
- A focus charting note titled *Resident Care Planning Conference* must be recorded in the resident chart by the individual identified as the recorder in the meeting. The following information should be included: date of the meeting, names and designation of attendees and a list of any identified issues. If there any changes to the care plan identified in the meeting, the RN must update the plan of care.

(Eastern Health Authority, 2016)

To view the Eastern Health Integrated Care Plan Policy (307-RC-110):

Go to the Policy tab on the INTRANET and Integrated care plan

Unit Two Summary

Unit Two has provided information on care planning, including how it is used in practice, benefits and limitations of use, and the link between the nursing process and the care plan.

The five stages of the nursing process provides the foundation for completing the CP. It facilitates the RN in developing diagnoses, goals, and interventions that reflect the needs of the individual. The CP is a communication tool that provides structure to guide the RNs when conducting the assessment, planning, and formulation of nursing diagnoses (Lee, 2005; Wang, Yu, & Haley, 2015).

If the CP is not completed accurately and within a timely manner, essential elements of care may be missed, resources may be wasted, and poor communication between disciplines may result. Additionally, negative outcomes could occur, such as errors in treatment, morbidity, or mortality (Cherry et al., 2008; Burt et al., 2012; Chunchu, Mauksch, Charles, Ross, & Pauwels, 2012).

The Eastern Health Integrated Care Plan policy for LTC (307-RC-110) outlines specific details of actions that must be completed upon **admission** to LTC. The policy provides a summary that explains the RNs are responsible in initiating a standardized care plan in the residents chart. The RN is also accountable to individualize the care plan to ensure it meets the resident's needs. Finally, the RN must then evaluate the care plans effectiveness **quarterly**, or when the resident's **condition** warrants it. Furthermore, the policy stipulates that a resident care planning conference with the interdisciplinary team must occur within **eight** weeks of admission in an effort to provide further refinement to the plan of care.

There are a wide range of benefits that outweigh the limitations of care planning. When care planning is completed in an effective and efficient manner, better care outcomes are experienced by the residents (Lee, 2005; Mills, 2005; Muller-Staub et al., 2006; Keenan et al., 2008).

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Unit Two: Review Questions

Instructions: Please complete the following questions by selecting one answer per question.

1. Which **one** of the following **best** reflects the sequential steps in the nursing process?

a) Assessment, Diagnosis, Planning, Implementation, and Evaluation.
b) Diagnosis, Assessment, Planning, Implementation, and Evaluation.
c) Evaluation, Planning, Assessment, Diagnosis, and Implementation.
d) Planning, Assessment, Diagnosis, Implementation, and Evaluation.

2. Which disciplines should be included in the development of the nursing care plan?

a) RN, LPN, and PCA.
b) Allied Health Professionals.
c) Patient and/or family.
d) All of the above.

3. Which **one** of the following is responsible for creating a specific set of diagnostic labels that can to be used in the care planning process?

a) CIHI.
b) Diagnosis steering committee of Newfoundland
c) NANDA.
d) RN staff.

4. Which **one** of the following best describes a care plan?

a) It is the process used to identify a resident's code status.
b) It is a communication tool that guides the assessment, planning, and formulation of nursing diagnoses.
c) It is a communication tool used to assess skin breakdown.
d) None of the above.

5. Which **one** of the following is an example of a nursing intervention?

a) Incontinence Care.
b) Behavior, Monitor.
c) Wound Assessment.
d) All of the above.

6. Why should a care plan review be conducted?

a) To reassess current care needs.
b) To determine if goals have be achieved.
c) To determine if the care plan needs to be revised.
d) All of the above.

Match the term with the definition by drawing a line from the term to the correct answer

7.Assessment	Determining the clients progress toward goal attainment
8.Nursing Diagnosis	The act of carrying out identified treatment
9.Planning	The systematic collection of data relating to residents, their problems and their needs
10.Nursing Intervention	Where the needs of the resident are prioritized, goals are identified, and interventions chosen
11.Evaluation	A clinical judgment about an individual, a family, or community response to potential health problems

Answers to Unit Two Review Questions

Multiple Choice

1. A
2. D
3. C
4. B
5. D
6. D

Matching

7. The systematic collection of data relating to residents, their problems and their needs
8. A clinical judgment about an individual, a family, or community response to potential health problems
9. Where the needs of the resident are prioritized, goals are identified, and interventions chosen
10. The act of carrying out identified treatment
11. Determining the clients progress toward goal attainment

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Unit Three: The Process of Electronic Care Planning

This unit will cover important information about the basic care plan. It will also provide a step-by-step instruction on how to initiate and individualize the care plan.

Unit Three: Section 1
Initiating the Basic Care Plan

After the completion of Unit 3.1, you will be able to:

- Recall the Meditech Magic mnemonic for the LTC basic care plan
- Demonstrate how to effectively initialize the LTC basic care plan

The LTC basic care plan only supplies diagnoses, goals, and interventions that are considered to be applicable to a resident with basic needs. If the RN assessment indicates the need for additional diagnoses they can be added separately through the *Plan of Care* screen (See section 3.2).

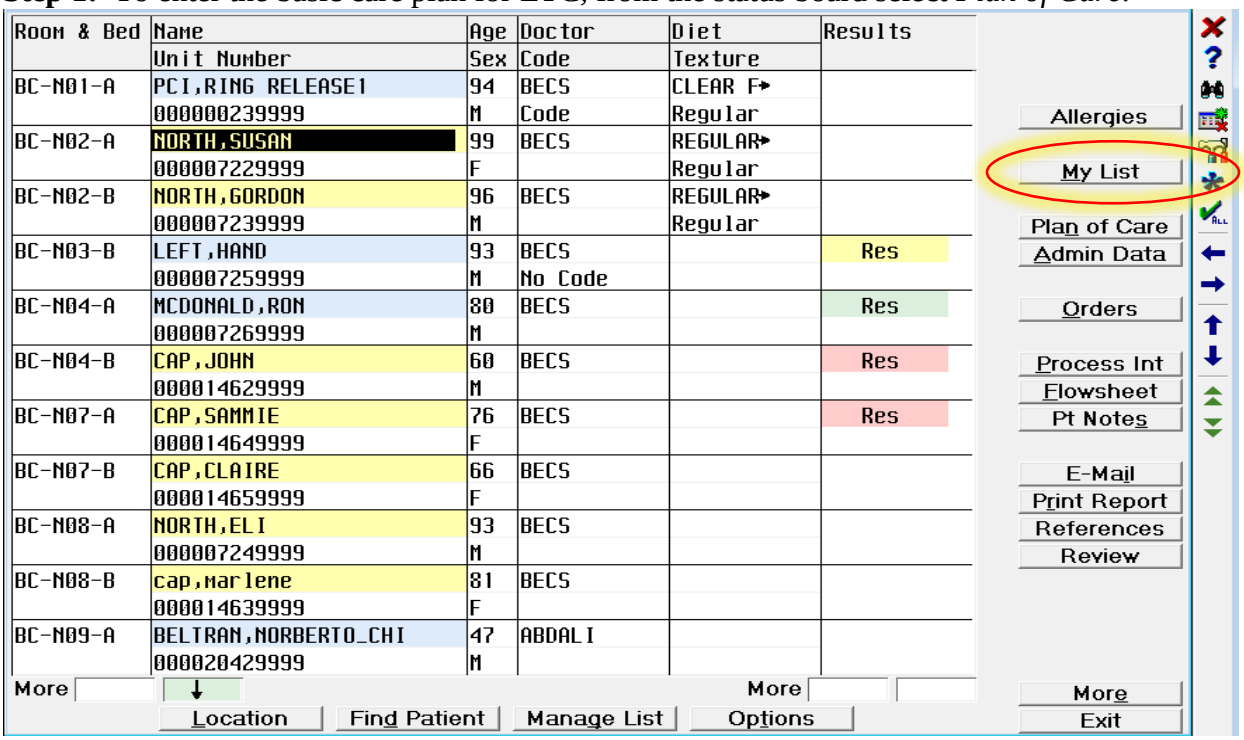
The basic care plan adds the following 16 diagnoses, goals, and interventions:

	Diagnosis	Goal	Intervention
1	**E Communication**	To promote interdisciplinary interaction	E Communication E MCP number and expiratory date
2	**E Vital Signs, potential for altered**	V/S will remain within normal limits	E Vital Signs E LTC Admission Assessment E Weight, record E, Height, record
3	**E Safety, potential for injury**	Prevent injury	E Falls Risk assessment-Morse Scale E Surveillance, routine L E Siderails up, none L E SPRH walking-2p supportive, tr belt L E SPRH sitting edge of bed- 2p, tr belt L E SPRH transfer-bed-chair, mech lift L E SHRH reposition in chair- mech lift L E SPRH bed mobility, 2p, dr sheet/tube L
4	**E Mobility, potential for altered**	Maintain optimal activity level	E Activity, activity as tolerated
5	**E hygiene, potential for altered**	Maintain adequate hygiene	E Dressing, complete L E Oral health assessment E Foot care, provide basic L E Nail care, fingers, provide E Shampoo, provided

			E Oral care, provide by staff L E Nail care, toes, provide E Bath, tub (LTC) E Bath, bed, partial L
6	**E Elimination, potential for altered**	Adequate elimination	E Bowel movement record E UR, void E Toileting, commode/toilet, 2 p assist L E Incontinence system, change prn
7	**E Nutrition, potential for altered**	Adequate nutritional intake	E Nutrition, meal intake E Nutrition, feeding, complete feed L E Nutrition, fluids, encourage L E Snack, pm E Snack, hs
8	**E Skin Integrity, potential for altered**	Maintain optimal skin integrity	E Positioning patient/resident, turn E Skin assessment E Skin care, provide E Braden Scale- Adult E Foot Assessment (LTC)
9	**E Sleep, potential for sleep pattern**	Minimize disturbance in sleep pattern	E Sleep, monitor E Sleep measures, initiated
10	**E Medication, maintain best possible**	Eliminate errors/ interactions/ reactions	E Medication Reconciliation record (LTC) E Immunization history E Medication Review (LTC)
11	**E Anxiety/Fear, potential for**	Anxiety/ fears identified and addressed	E Reassurance and comfort, provide E Fears/concerns, encouraged to share E Anxiety level assessed
12	**E Impaired social interaction, potential**	Optimize individual /group interactions	E Therapeutic Rec, encourage to particip E Therapeutic Rec, participated E Socialization, encourage E Family/ supports, included in care
13	**E Sensory perception, maintain**	Optimal sensory function, maintain	E Sensory stimulation decreased
14	**E Pain, potential for**	Pain will be relieved/ controlled	E Pain assessment: Checklist of Nonverbal E Pain rating scale
15	**E Behavior, potential for altered**	Behavior, identify changes in	E Behavior evaluate (LTC)
16	**E Knowledge, education, increased need for**	Provide adequate education	E Patient/Resident/Family teaching

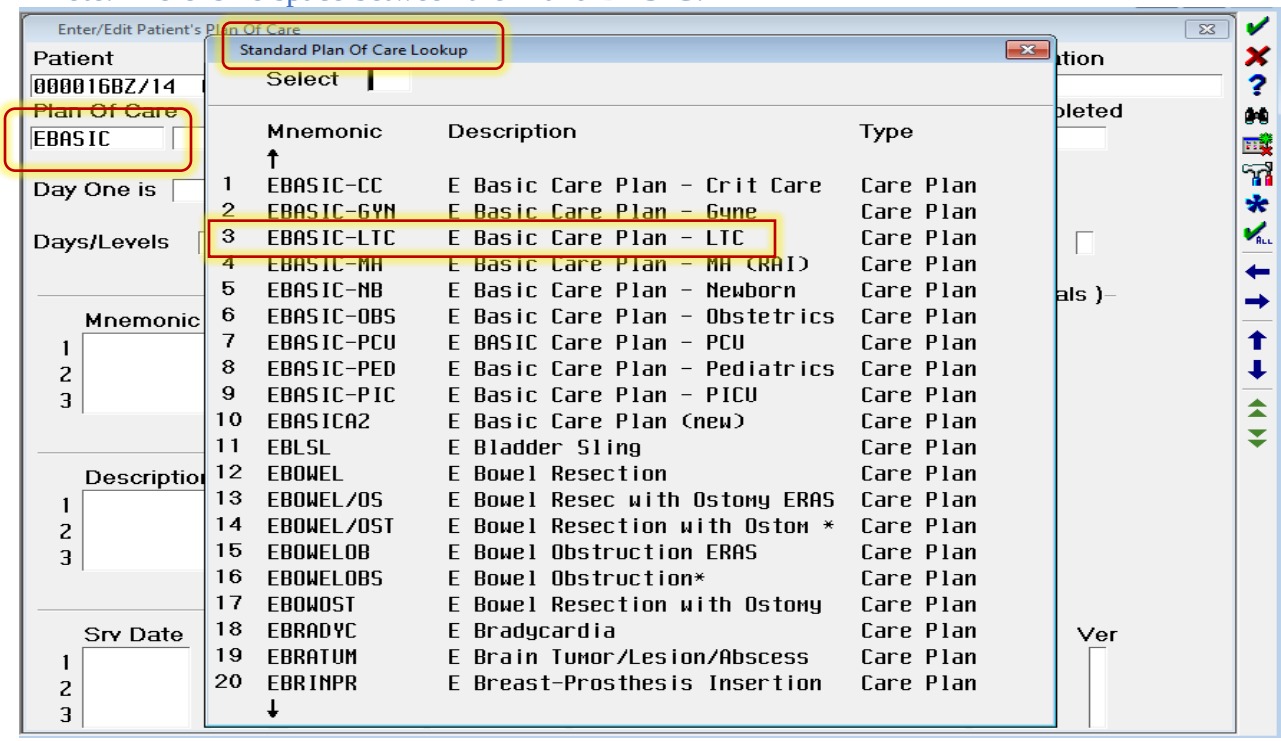
How to Add the Basic Care Plan

Step 1: To enter the basic care plan for LTC, from the status board select *Plan of Care*.

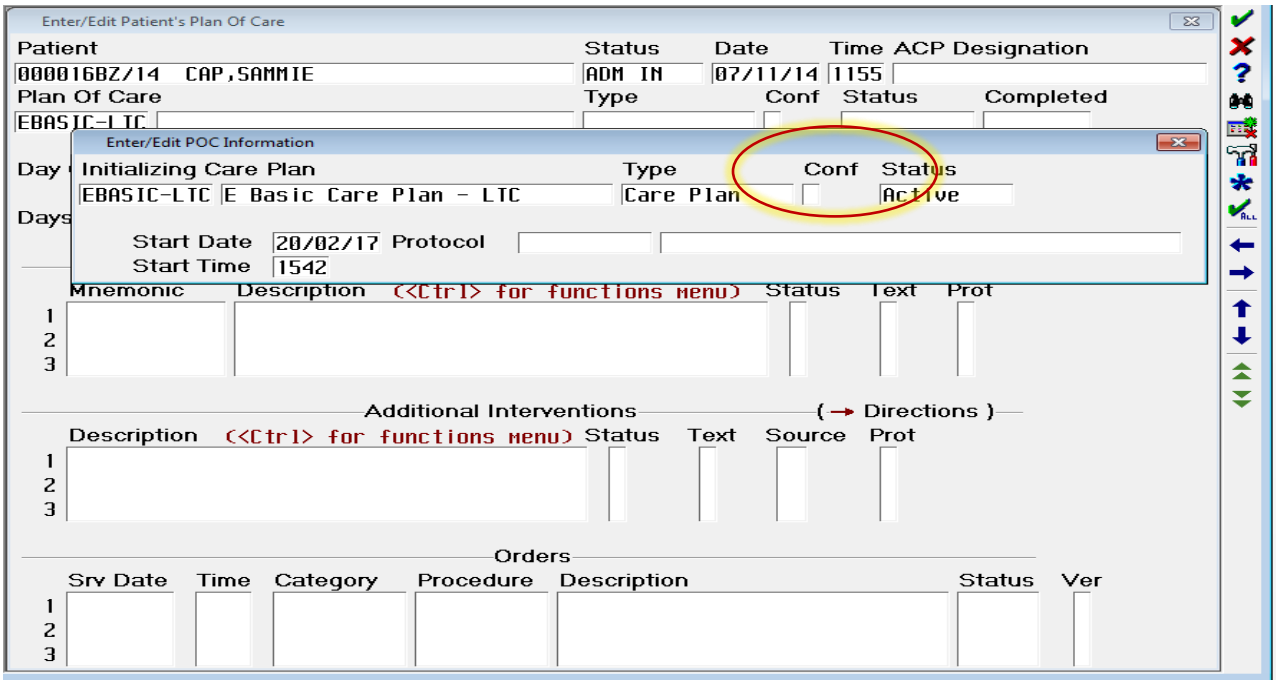


Step 2: In the *Plan of Care* field, type **EBASIC** and press the **F9 (look-up)** key and select the care plan option for LTC. **(EBASIC-LTC)** - All interventions start with the letter **E**

* Note: There is no space between the **E** and **BASIC**.

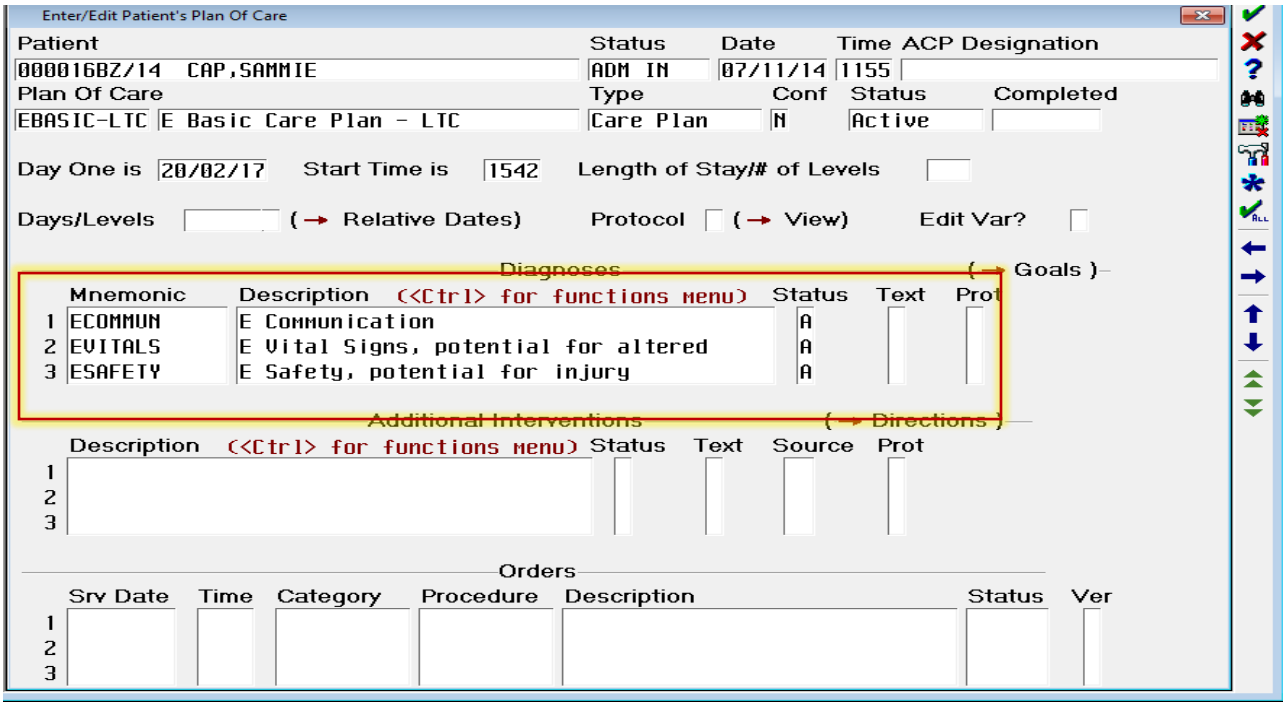


Step 3: Another box will appear asking if the chart is *Conf* (confidential). Place an **N** in the field as charts are not confidential. Next, press **F12** to initialize the care plan. When asked to initialize, press Y**es.**



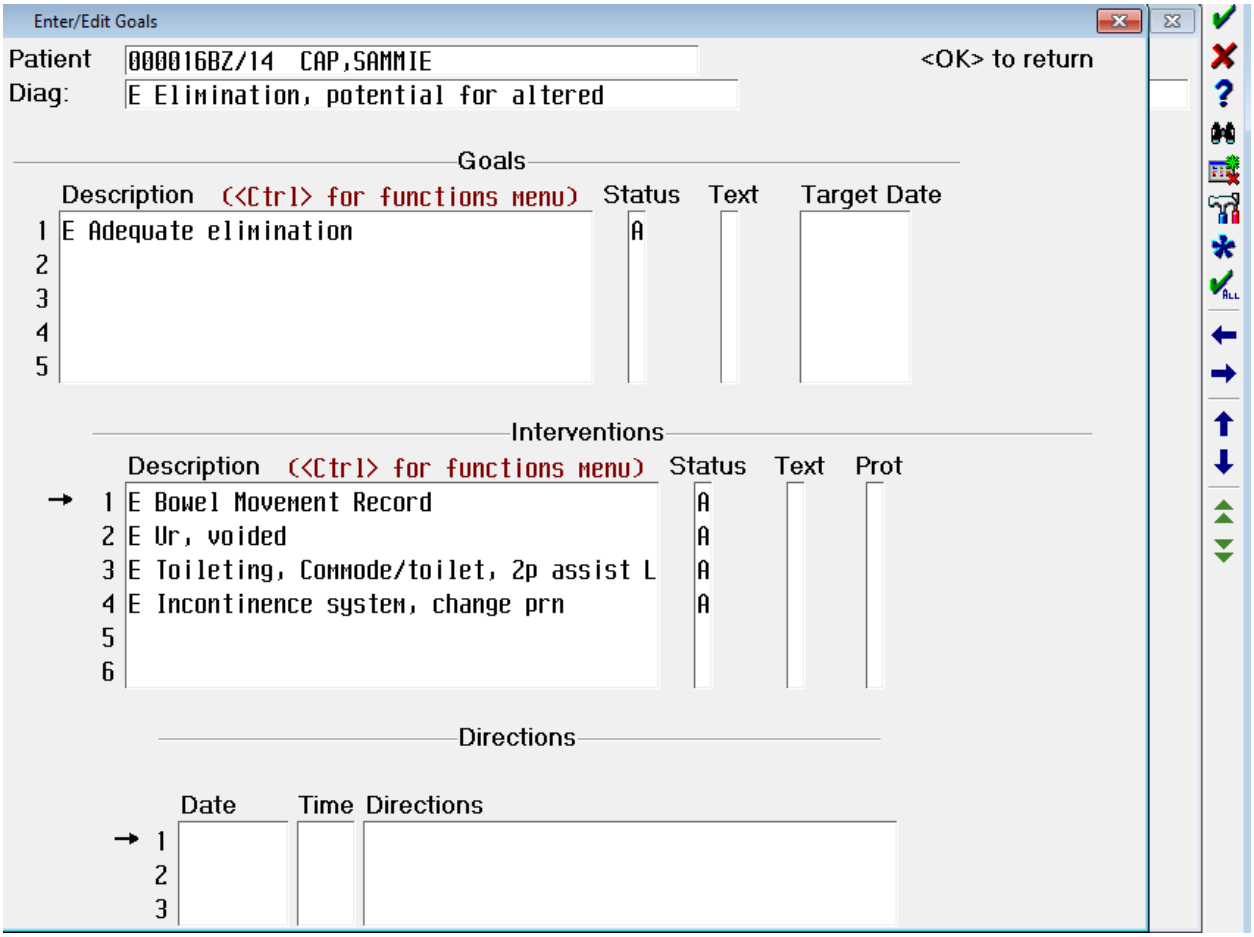
Step 4: Press **F12** again to *File* the Plan of Care. You will then return to the status board.

The screenshot below illustrates what the filed plan of care will appear as:



To view any of the goals or interventions that are attached to each diagnosis, select the diagnosis by clicking in the field with the mouse and press the **shift + Right Arrow** key with the keyboard.

Below is an example of how the screen will appear:



Please Note: For respite or palliative residents, the LTC basic care plan is initiated upon admission and the same procedure for documentation is required that would be if a routine resident was admitted. However, the RAI-MDS 2.0 assessment is not required for this group of individuals.

Unit 3: Section 2
Adding Additional Diagnosis

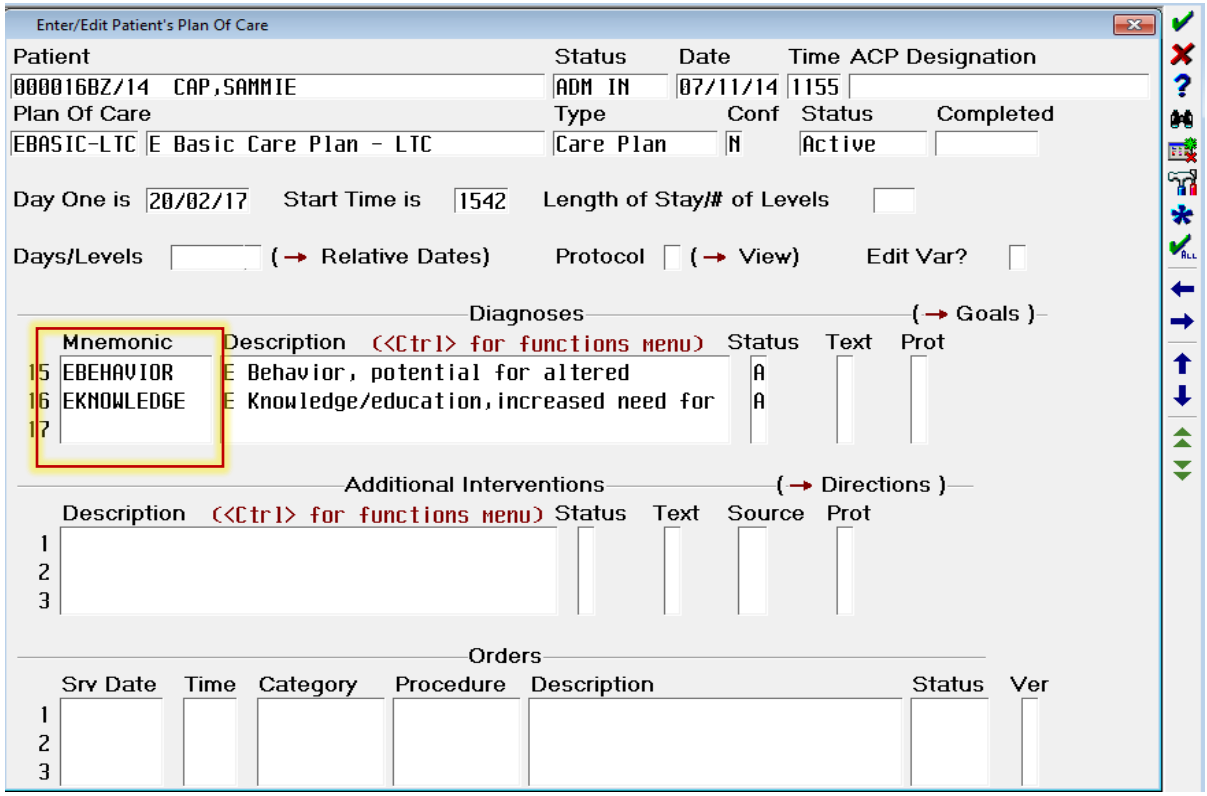
Upon completion of Section 3.2, you will be able to:

- Determine which diagnoses should be added to the resident care plan
- Demonstrate an understanding of which diagnoses are included in the basic care plan and which diagnoses will need to be added separately based on the resident assessment
- Demonstrate and understanding of which interventions are attached to specific diagnoses

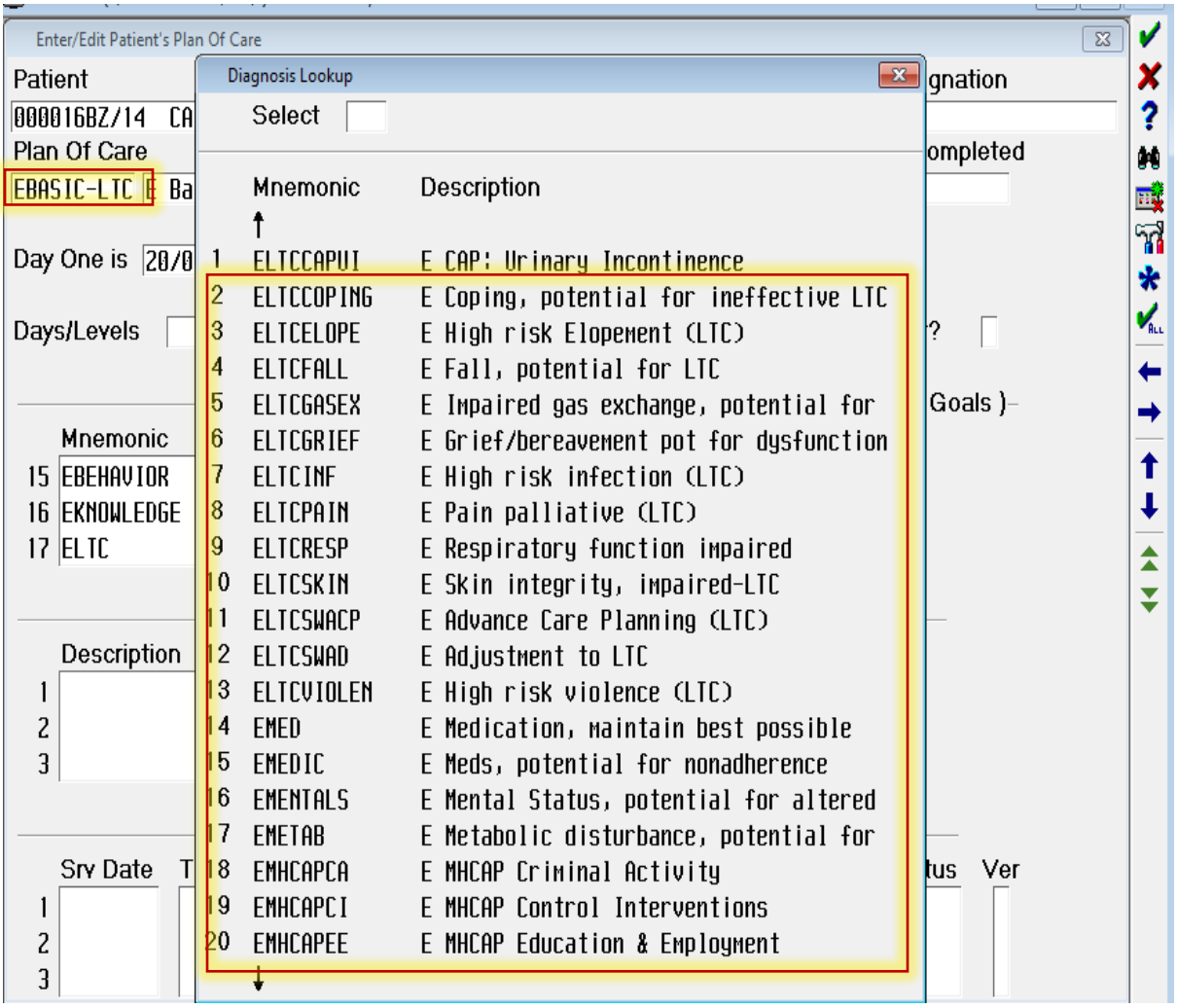
As stated earlier, the basic care plan adds 16 of the most common diagnoses, goals, and interventions that are suitable to meet the basic needs of most residents admitted to a LTC facility.

To individualize the care plan and make it more suitable to meet the specific care needs of a resident additional diagnoses may be needed to the care plan.

To add additional diagnoses, select *Plan of Care* from the status board and following screen will appear:



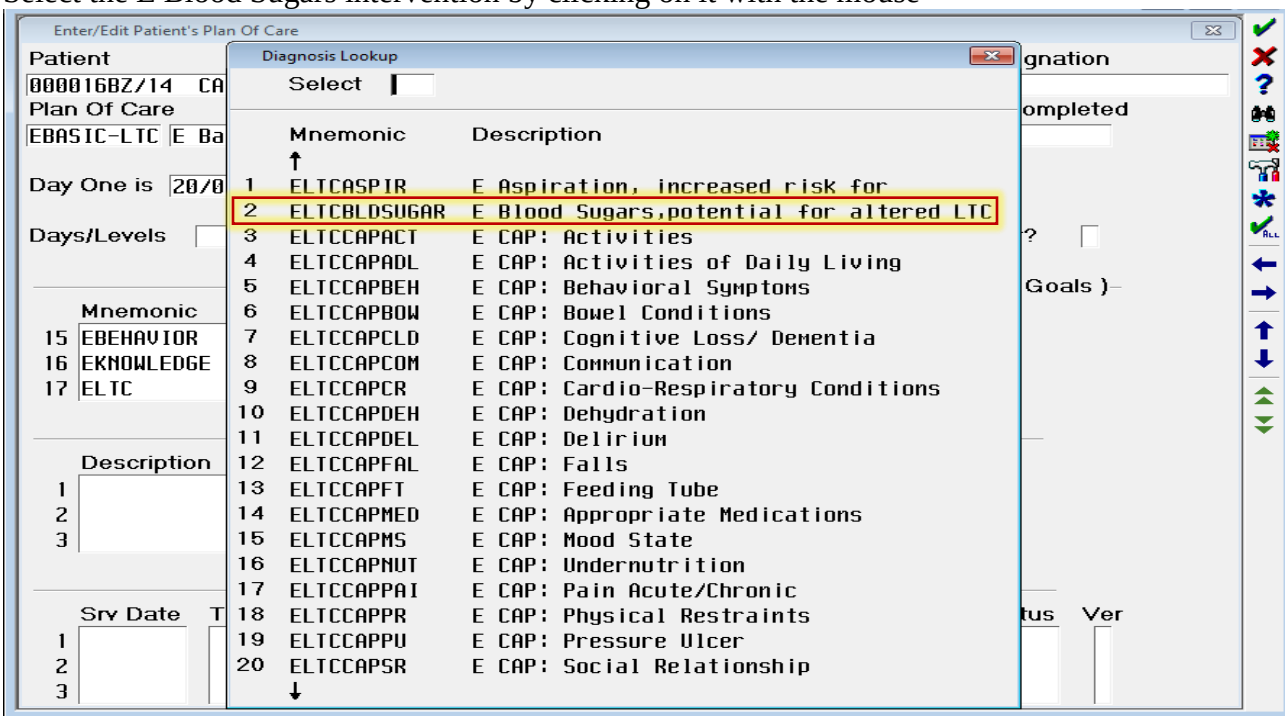
Under the diagnosis section, move the cursor to the bottom of the list and type **ELTC** followed by the look-up key **(F9)**



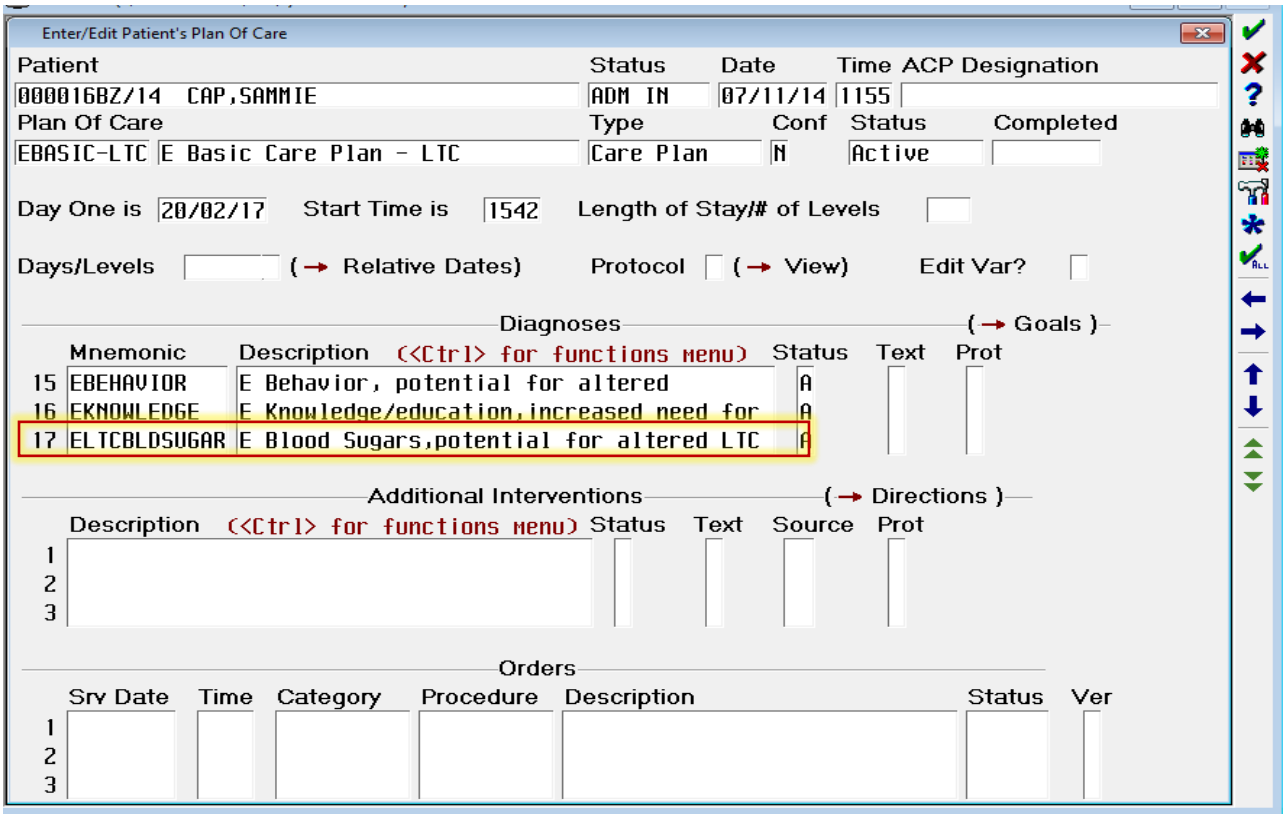
As illustrated above, a list of diagnoses are now available for selection. A second page of diagnoses can be accessed by pressing the **page down** key on the keyboard. To pick one, simply press the corresponding number of the item you want to select, or click on the item with the mouse. The above list of diagnoses includes CAPS, but these will not be covered until section Unit Four.

The next example illustrates how to add an additional diagnosis for a resident diagnosed with diabetes. A diagnosis exists in the Meditech Magic dictionaries that will add glucose monitoring interventions to the care plan.

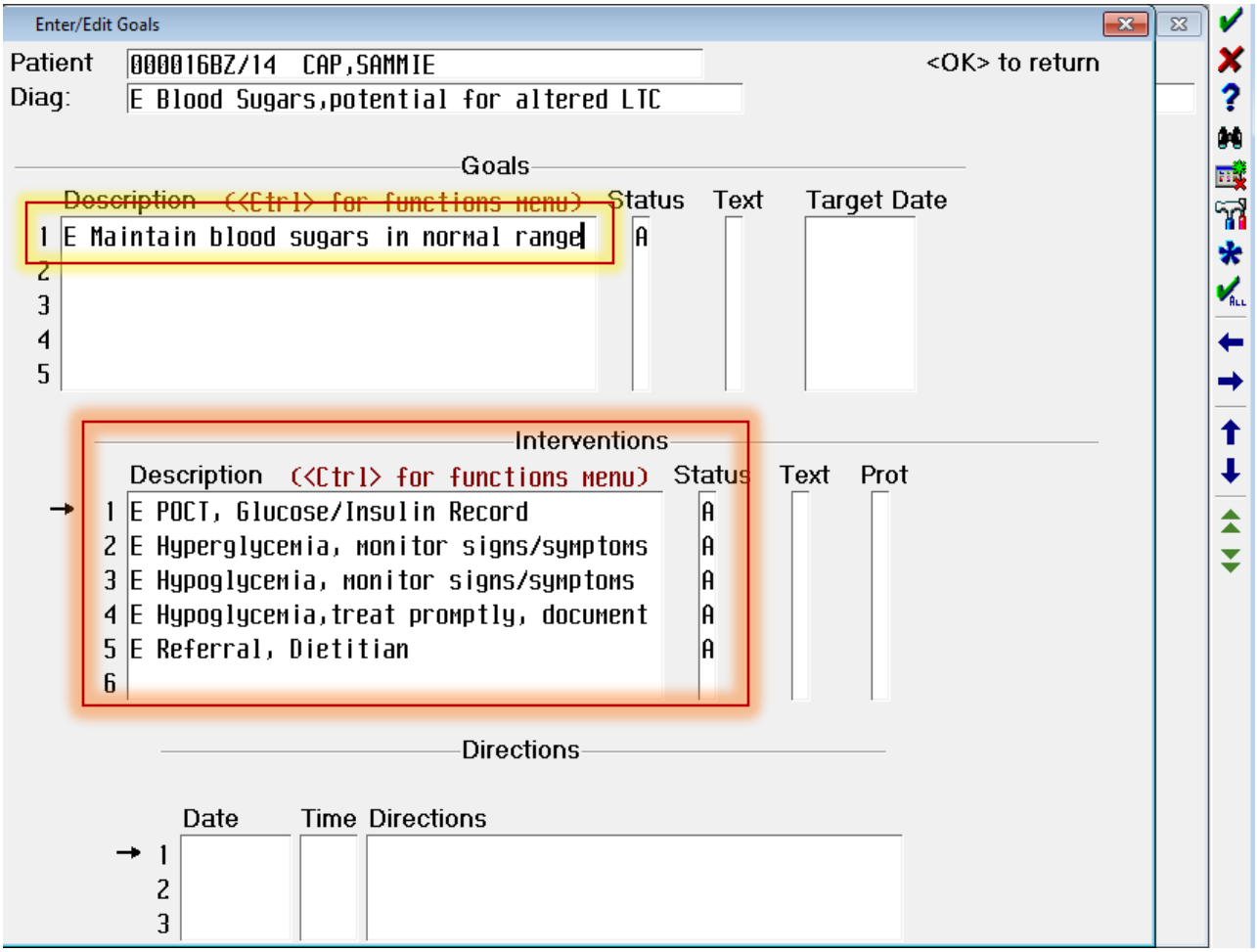
Select the E Blood Sugars intervention by clicking on it with the mouse



Once selected, the plan of care screen will appear again. Under the diagnoses section, it now shows the new diagnosis of E Blood Sugar.



To view the attached goal and interventions, from this screen, hold down the **SHIFT** key and press the **RIGHT ARROW** key.



If no changes are required (See Unit 3, Section 4), then press the **F12** key to save.

Additional diagnoses with corresponding goals and interventions that can be selected from the F9 look-up list include:

	Diagnosis	Goals	Intervention
1	**E Aspiration, Increased risk for**	Reduce risk for aspiration	E Aspir Prec, provide small portions E Aspri Prec, upright position during AND E Suction, as required E Suction, set up E Aspir Prec, mouth care (for residue) E Aspir Prec, no straw E Aspir Prec, alternate liquids & solids
2	**E Blood sugars, potential for altered LTC**	Maintain blood sugars within	E POCT, Glucose/insulin record E Hyperglycemia, monitor signs/symptoms E Hypoglycemia, monitor signs/symptoms E Hypoglycemia, treat promptly, document E Referral, Dietitian
3	**E Coping, potential of infection LTC**	Effective coping will be demonstrated	E Coping skills, assess effectiveness E Grieving, facilitate process, LTC E Autonomy/Dign. Pt/family identify plan
4	**E High risk elopement (LTC)**	E Elopement, potential will be minimized	E Elopement, monitor for signs (LTC) E Alarm system, bracelet activated (L) E Alarm system, bracelet checked
5	**E Fall, potential for**	Fall potential will be minimized	E Fall prevention interv LTC (0-20) E Fall prevention interv, LTC (25-50) E Fall prevention interv, LTC (+55) E Alarm system, bed activated L E Alarm system, bed checked E Alarm system, bed sensor mat changed E Alarm system, chair activated L E Alarm system, chair battery changed E Alarm system, chair checked
6	**E Impaired gas exchange, potential for**	Adequate oxygenation and ventilation	E Suction, as required E Suction, set up E Oxygen therapy E Oxygen, set up E Referral, Respiratory therapy E Bed position, Fowler's
7	**E Greif/ Bereavement potential for dysfunction**	Facilitate the grieving process	E Hopelessness, evaluate feelings of LTC E Death, allow pt/family to discuss LTC E Death, prepare and support family E Family supports include in care E Referral, Pastoral care

8	**E High risk infection (LTC)**	Reduced risk of infection	E Infection, monitor signs and symptoms E Handwashing ensure residents washed E Infection Prev, instruct client/family
9	**E Pain palliative (LTC)**	Report pain at tolerable level (LTC	E Pain rating scale E Pain assessment: Checklist of nonverbal E Pain management strategies implement E Referral Clinical Nurse Specialist (LTC) E Referral MD/Nurse Practitioner (LTC) E Subcutaneous needle, insertion E Subcutaneous needle site, assess E Subcutaneous needle, removal E Non-verbal cues evaluate (LTC) E Provide non-med pain reducing methods
10	**E Respiratory function impaired**	Adequate pulmonary function	E BIPAP/CPAP management E Referral, Respiratory therapy
11	**E Skin integrity, impaired-LTC**	Maintain optimal skin integrity	E Press relief/reduct mattress applied L E Referral, Dietitian E Wound assessment record E Referral, Occupational therapy
12	**E High risk violence**	Exhibit appropriate behavior (LTC)	E Behavior, assist in targeting change E Behavior, evaluate motive/reason (LTC) E Behavior, physically abusive (LTC) E Behavior, verbally abusive (LTC) E Referral, Developmental Behavior Pract E Referral, Psychology (LTC)

http://classroomclipart.com/clipart-view/Clipart/Health/927_41_jpg.htm

Unit 3: Section 3
Adding Additional Interventions

Upon completion of Section 3.3, you will be able to:

- Demonstrate an understanding of which interventions can be added to preexisting diagnoses
- Add additional interventions to preexisting diagnoses

Some interventions can be added to a diagnoses that was populated from the basic care plan. Examples of these interventions include:

Required Intervention	**Basic CP Diagnoses**
E Intake & Output	(E Elimination)
E UR Cath insertion of	(E Elimination)
E UR Cath, indwelling, care of	(E Elimination)
E UR Cath, indwelling empty 0630 & 1830	(E Elimination)
E UR Cath, indwelling new drainage system	(E Elimination)
E UR Cath, indwelling removal of	(E Elimination)
E Feeding Tube, insertion	(E Nutrition)
E Feeding Tube/enteral feeds	(E Nutrition)
E Feeding Tube, removal	(E Nutrition)
E Ostomy Care	(E Elimination)
E Alarm System, tabs Activated L	(E Safety)
E Alarm System, tabs checked	(E Safety)
E Alarm System, tabs battery changed	(E Safety)
E Seizure precautions	(E Safety)
E Seizure record	(E Safety)
E Trach, inner cannula	(E Impaired Gas Exchange)
E Trach, stoma/dressing change	(E Impaired Gas Exchange)
E Trach, twill tie/tube holder change	(E Impaired Gas Exchange)
E Restraints remove/apply	(E Safety)

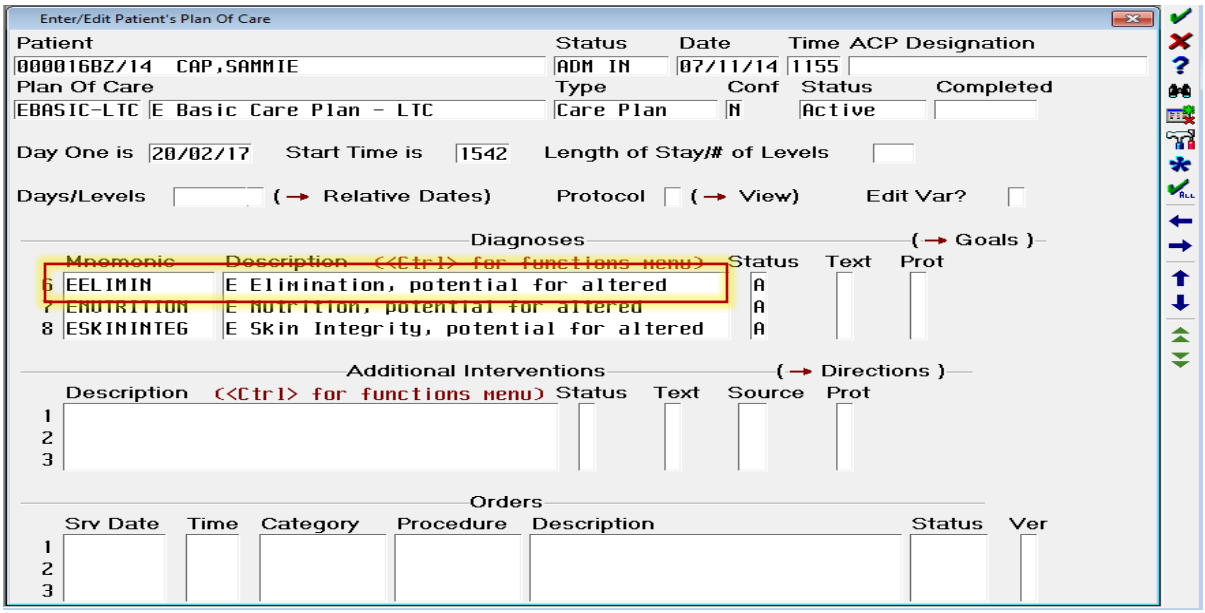
The first step is to determine which interventions are required and which diagnosis are best suited to add those intervention to in the CP.

For example:

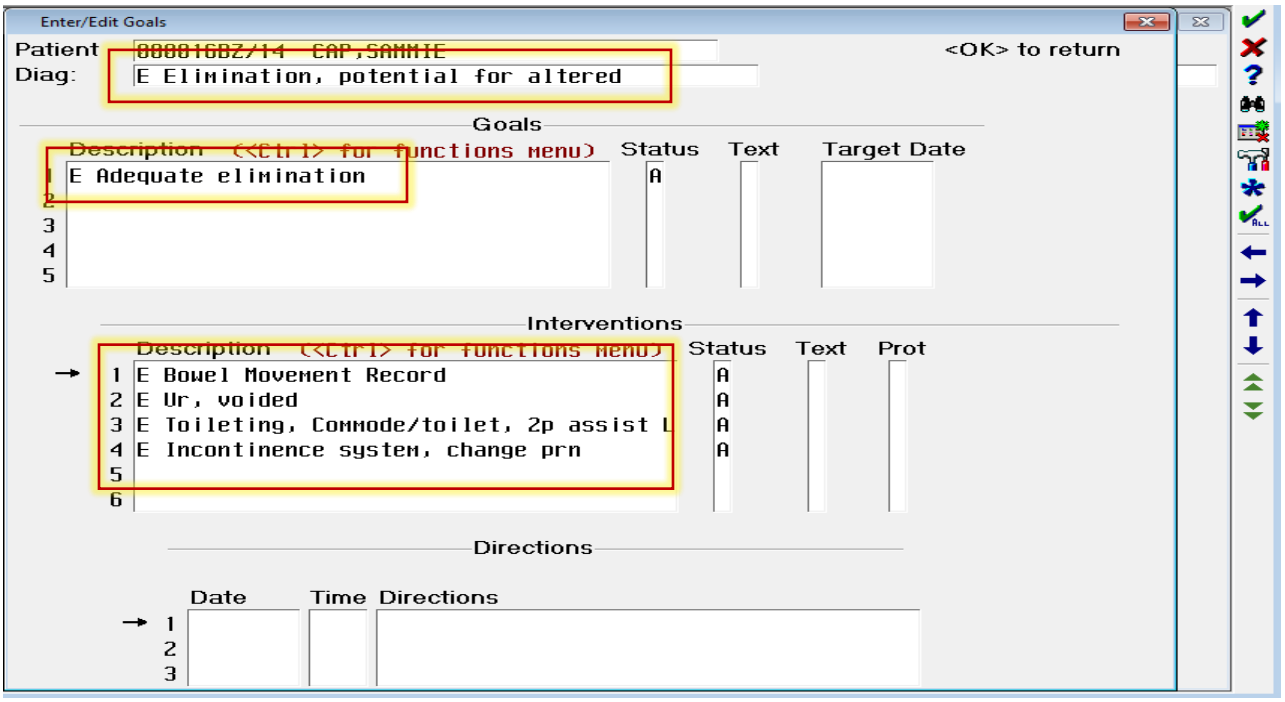
Catheter interventions are not included in the basic care plan because the most basic LTC resident does not have a catheter insitu. Also, there is no additional diagnosis that exists just for catheter care. Given this information, the RN would have to go through the list of existing diagnoses and select the one that most appropriately suits the interventions. Based on the diagnoses that are listed, catheter care would best fit with the **E Elimination** diagnosis.

The **E UR Catheter** interventions can be added to the **E Elimination** diagnosis by completing the following steps:

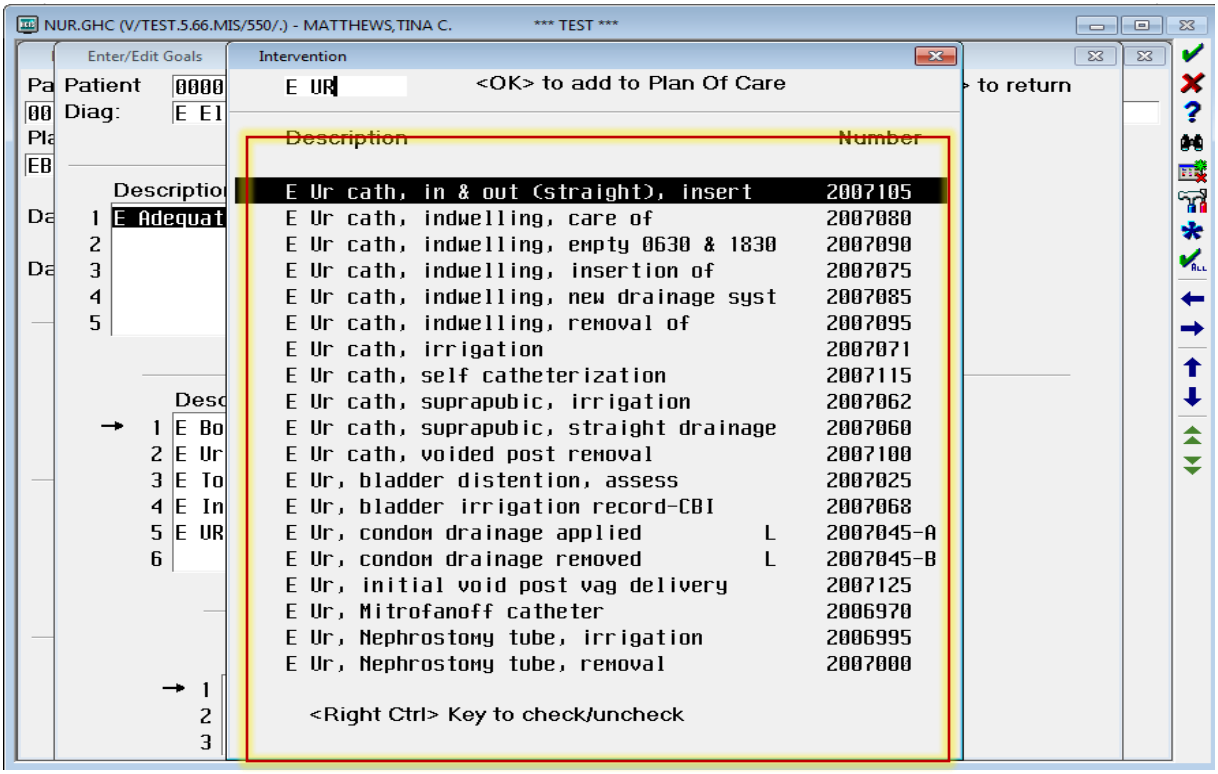
Step 1: Find the correct diagnosis under the Diagnoses section of the care plan. In this case it is **EELIMIN**



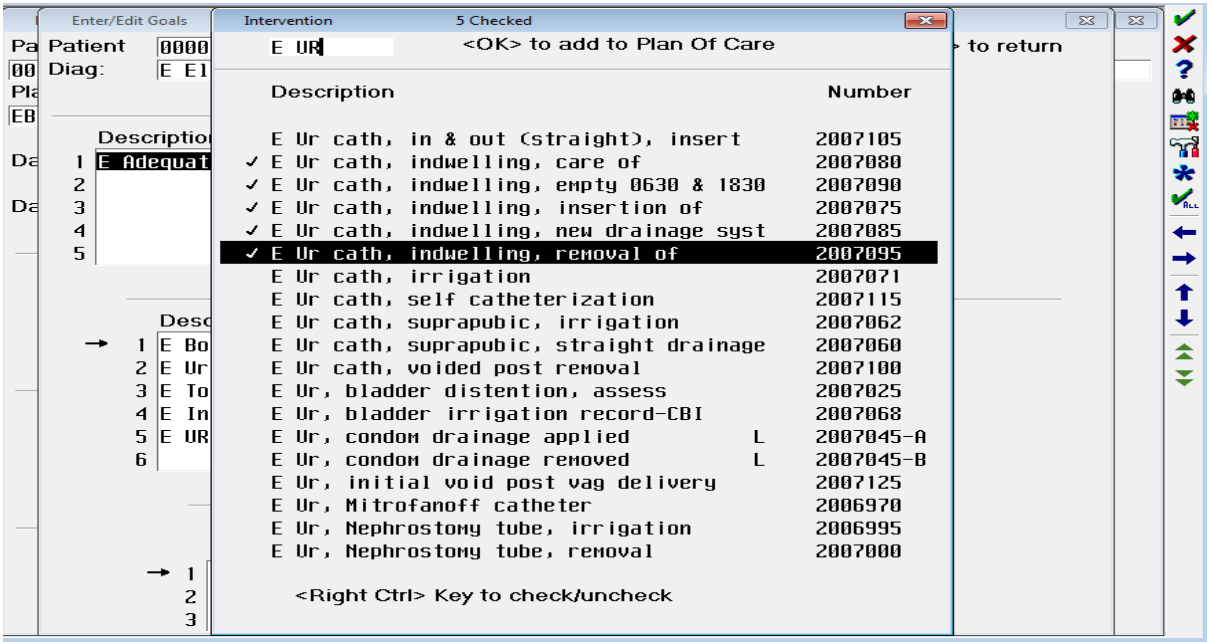
Step 2: By holding down the **SHIFT** key and pressing the **RIGHT ARROW** key the goal and interventions section will appear. This will display the basic urinary elimination interventions.



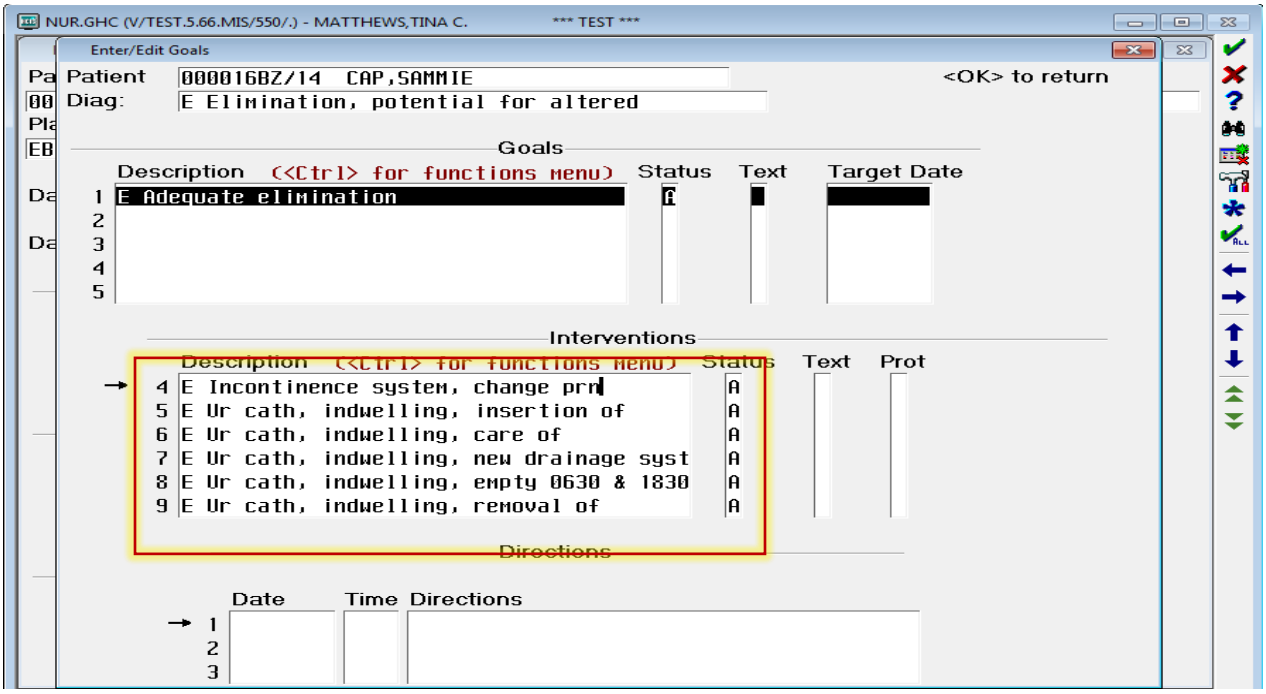
Step 3: Place the mouse in the intervention section or press **SHIFT** + **RIGHT ARROW** key to go to a blank line (in this case, line #5). In the empty space, type **E UR** and press the look-up key (**F9**). The following options will appear:



Step 4: To select the desired intervention(s), highlight in black the desired intervention and place a check mark next to the intervention by pressing the **RIGHT CTRL** key.

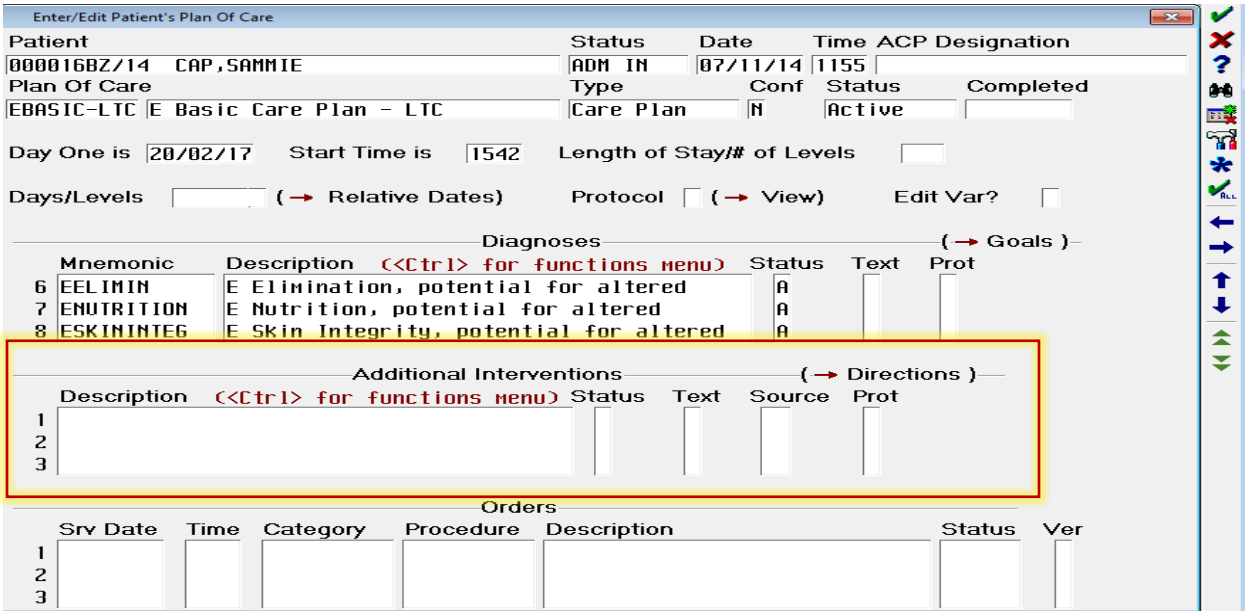


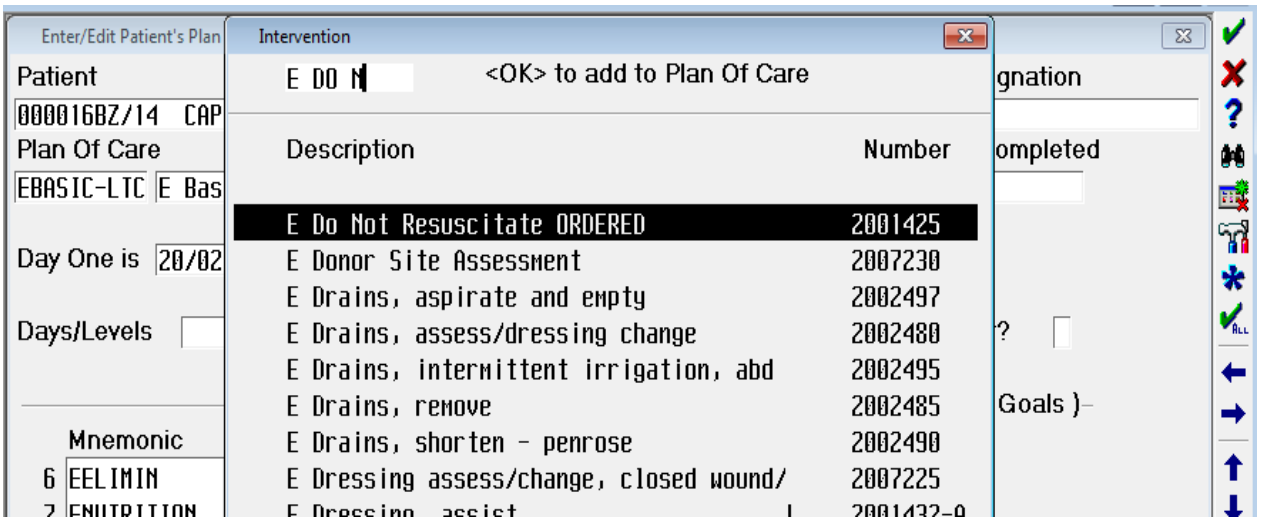
Step 6: Press the **F12** (OK) key on the keyboard or click on <OK> to add to Plan of Care on the top of the screen. This will add the interventions to the diagnosis **E ELIMIN**.



Once all the changes are made, press the **F12** key again to save the updated Plan of Care

Finally, there are 2 other interventions that do not belong to either diagnoses. These include *E Do Not Resuscitate ORDERED* and E *Death Pronouncement*. To add these interventions, go to the bottom of the care plan screen under the section **Additional Interventions**. Partially type the intervention name and press the **F9** look-up key.





Once the interventions are selected, press F12 to save and file the Plan of Care

Please note: For residents experiencing acute episodes, additional interventions can be added to existing diagnoses that reflect the care that is required. For example, if a person is having an exacerbation of chronic obstructive pulmonary disease (COPD), the Respiratory Assessment Intervention could be added to E Respiratory Function Impaired Diagnosis.

Unit 3: Section 4
Changing Status and Directions

Upon completion of Section 3.4, you will be able to:

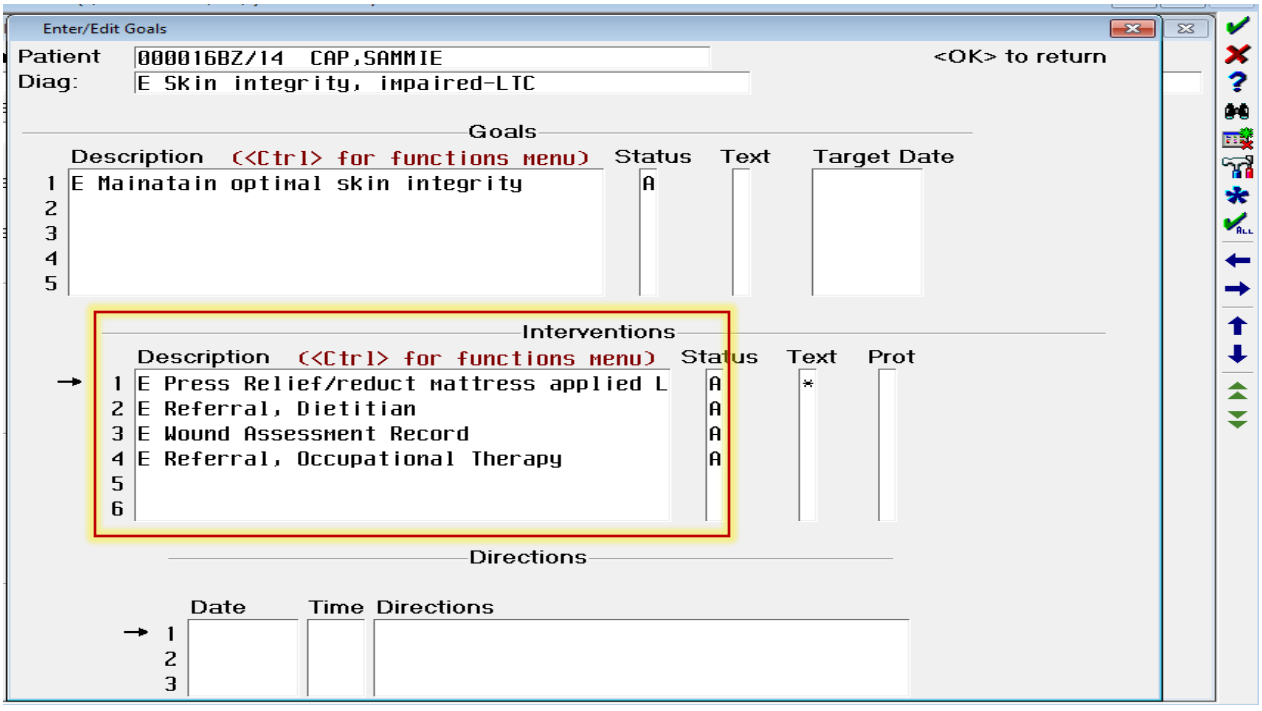
- Apply changes to the status of interventions on the resident care plan from active to complete or complete to active
- Apply changes to intervention directions indicating when care should be provided to the resident
- Understand the importance of individualizing the care plan to meet the needs of the resident

This next section will explore how to change the status of interventions from active to complete, or complete to active. This unit will also discuss how to change the directions, or how often an intervention is to be performed, through the *Plan of Care* screen.

Changing Status

As previously discussed, interventions are attached to specific diagnoses. Some of the interventions however, may not be required and should be removed from the care plan. All diagnoses and interventions added to the care plan should be individually selected and checked to ensure they are necessary for the resident. To remove interventions that are not needed or no longer applicable for the resident, perform the following steps:

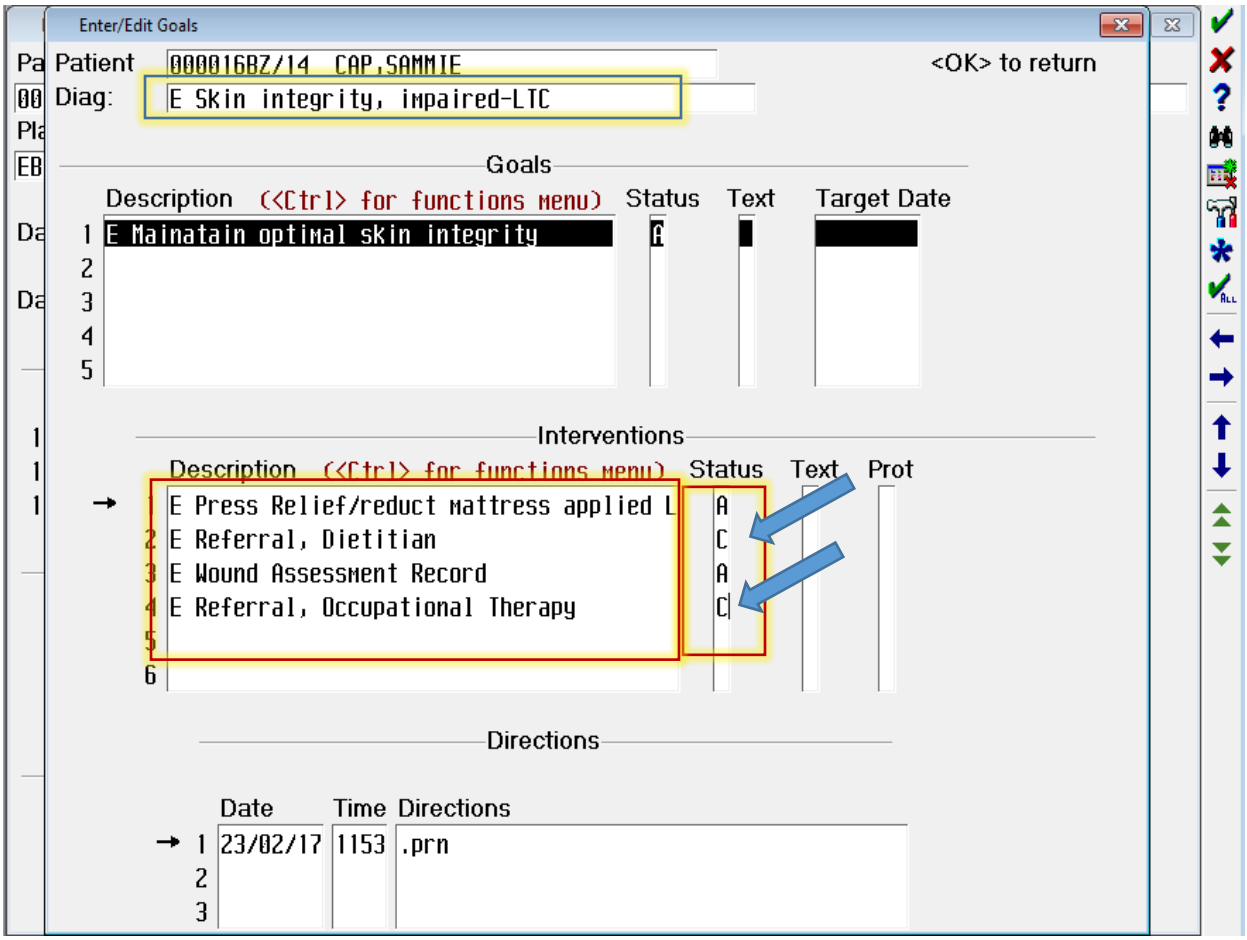
Step 1: This example will illustrate removing an intervention from the Skin Integrity diagnosis. First, select the diagnosis **ELTCSKIN** from the *Plan of Care* screen and while holding down the **SHIFT** key, press the **RIGHT ARROW** key.



The goal attached to this diagnosis is: **E Maintain optimal skin integrity**. The attached interventions include:

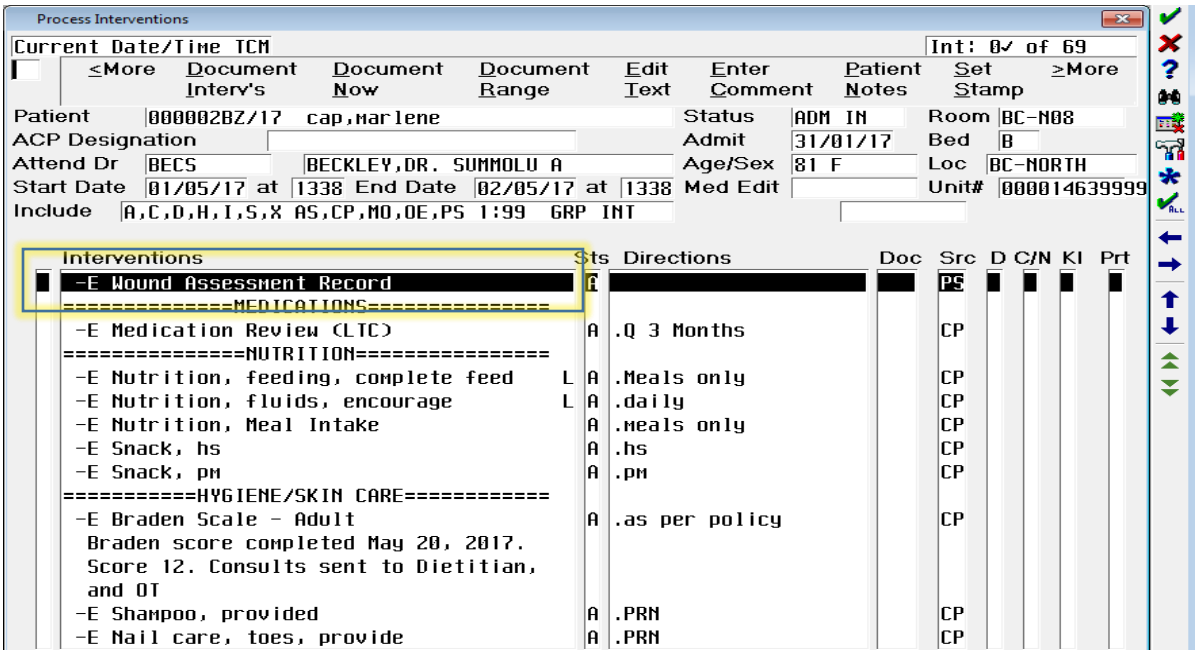
- E Press Relief/reduct mattress applied L
- E Referral, Dietitian
- E Wound Assessment Record
- E Referral, Occupational Therapy

Step 2:
If a referral is not required at this time for either the Dietician or the Occupational Therapist it can be completed out by placing the letter **C** for **Complete** under the **status section** of the *Plan of Care* screen.

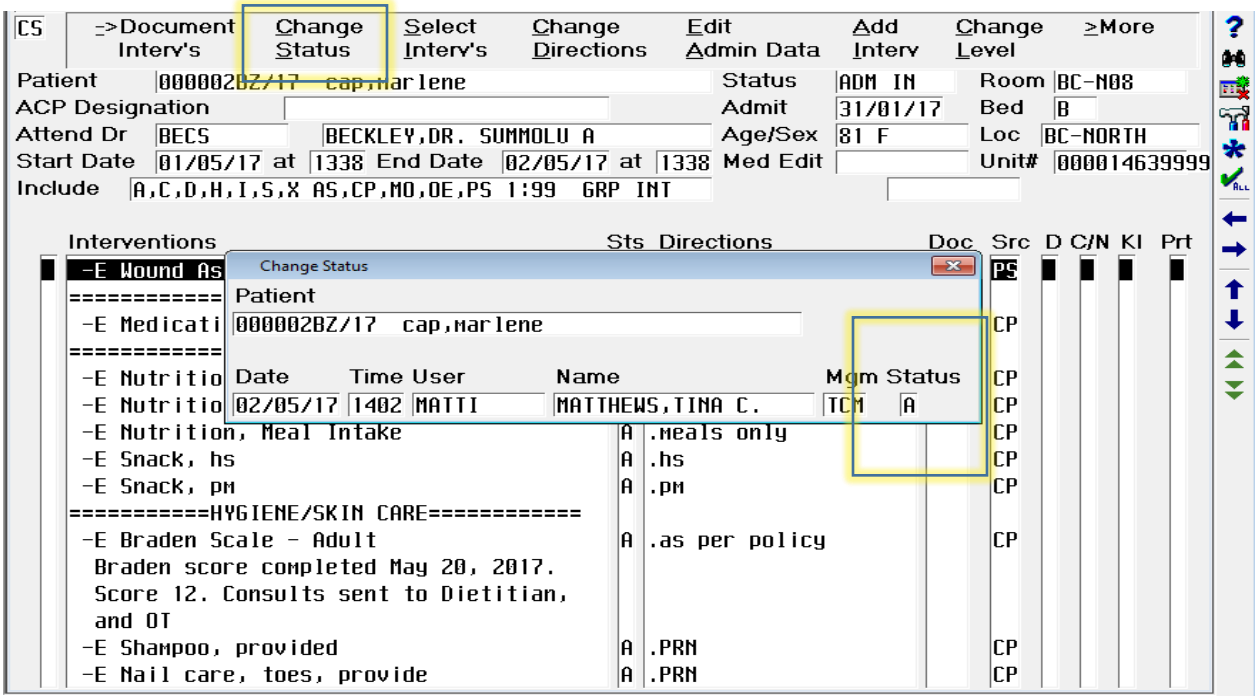


Step 3: Press the **F12** key on the keyboard to save these changes

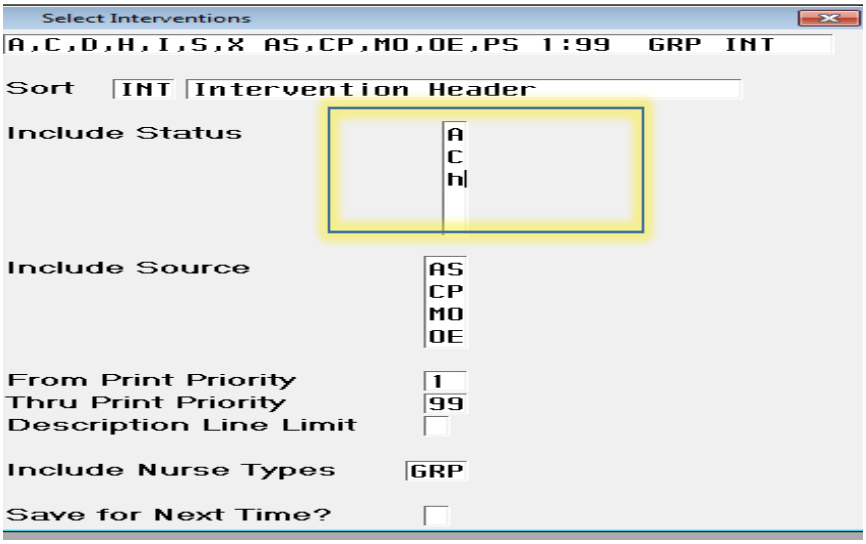
Changing the status of interventions can also be completed through the *Process Intervention* screen. For example, if a **Wound Assessment Record** is no longer required because the wound has healed, highlight the intervention in the *Process Intervention* screen.



Next, on the **Verb Strip** (at the top of the screen) press ***Change Status*** with the mouse or type ***CS*** and press the enter key. Remove the letter **A** under the status section and type in a **C**, followed by pressing the **F12** key to save. This will complete out the intervention and it will no longer be visible on the *Process Intervention* screen.



If at a later date the same wound re-emerges, the previous intervention can be brought back into the *Process Intervention* screen by clicking on ***Select Interventions*** on the verb strip with the mouse or typing ***SI***. Remove all options except the **C** under the *Include Status* section.



This will then display any intervention that has ever been completed out on the resident plan of care. At this point, highlight the **Wound Assessment Record** intervention, select **Change Status** from the verb strip as previously done, and change the status back to **A** (for active). The next time the *Process Intervention* screen is entered the Wound Assessment Record will be available for documentation.

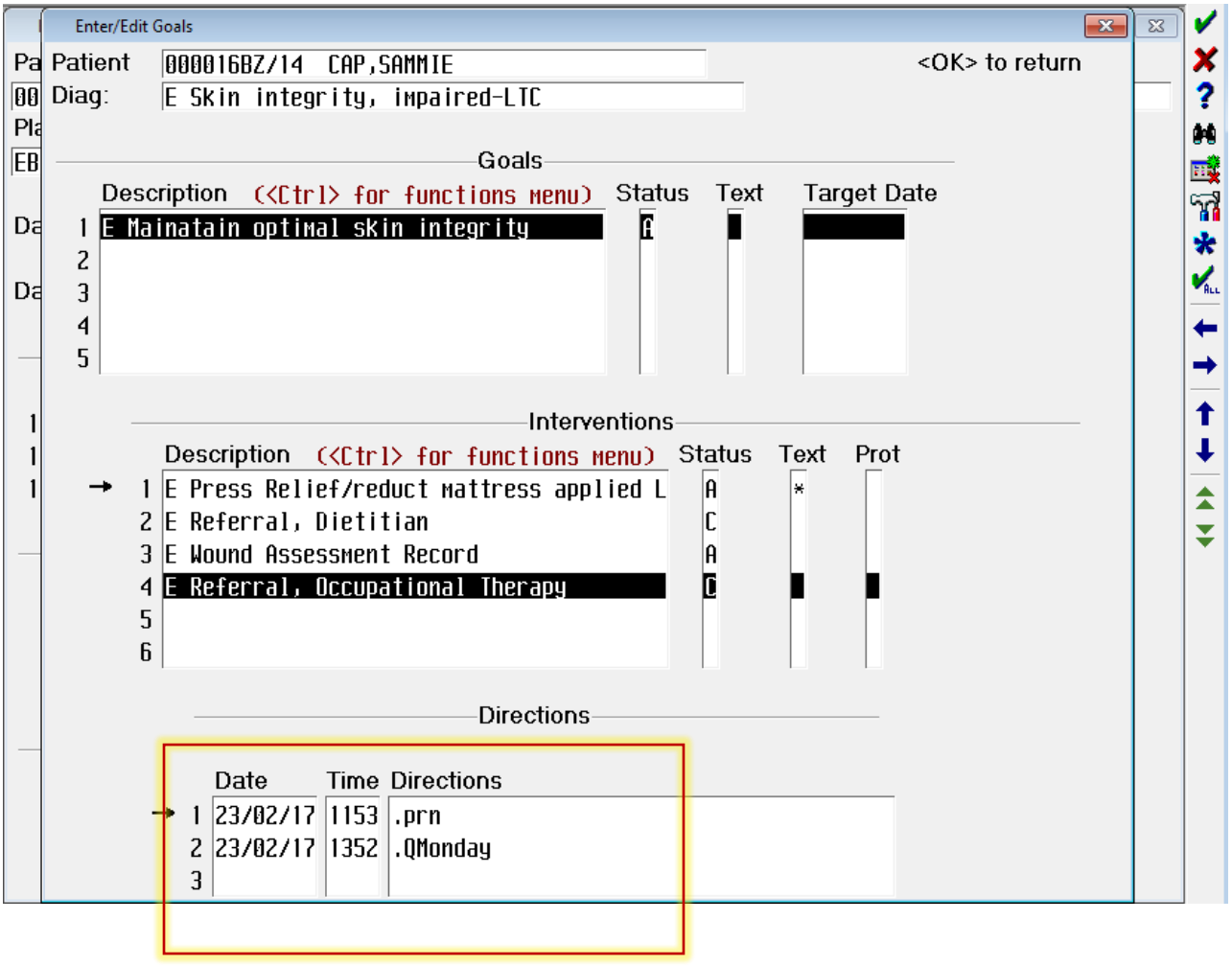
Changing Directions

The directions of when an intervention should be completed can be altered on the *Plan of Care* screen. This is an important aspect of care planning because it gives staff completing the intervention indication as to when the actions should be carried out. For example, vital sign documentation may be required on Mondays.

To change the directions of an intervention, select the diagnosis requiring changes and press the **SHIFT** and **RIGHT ARROW** key. Once in the *Goals and Intervention* screen click in the directions section of the screen with the mouse. There will be an initial direction already in the field, which is a standard direction attached to the intervention.

To add a new direction, click into an empty space in the *Directions* section and in the **date** field, type the letter **T** to indicate today's date. Next, in the **tim**e field type the **current time** or the letter **N** for now. Finally, in the directions field type in the required direction. i.e. **.QMonday**

* Please note: a period (.) must be placed in front of the QMonday to override the look-up that is associated with the field.



These actions can also be carried out in the *Process Intervention* screen by clicking on the *Change Direction* button on the verb strip and typing in the new direction, similar to above.

Unit 3: Section 5
Changing the Level of Care

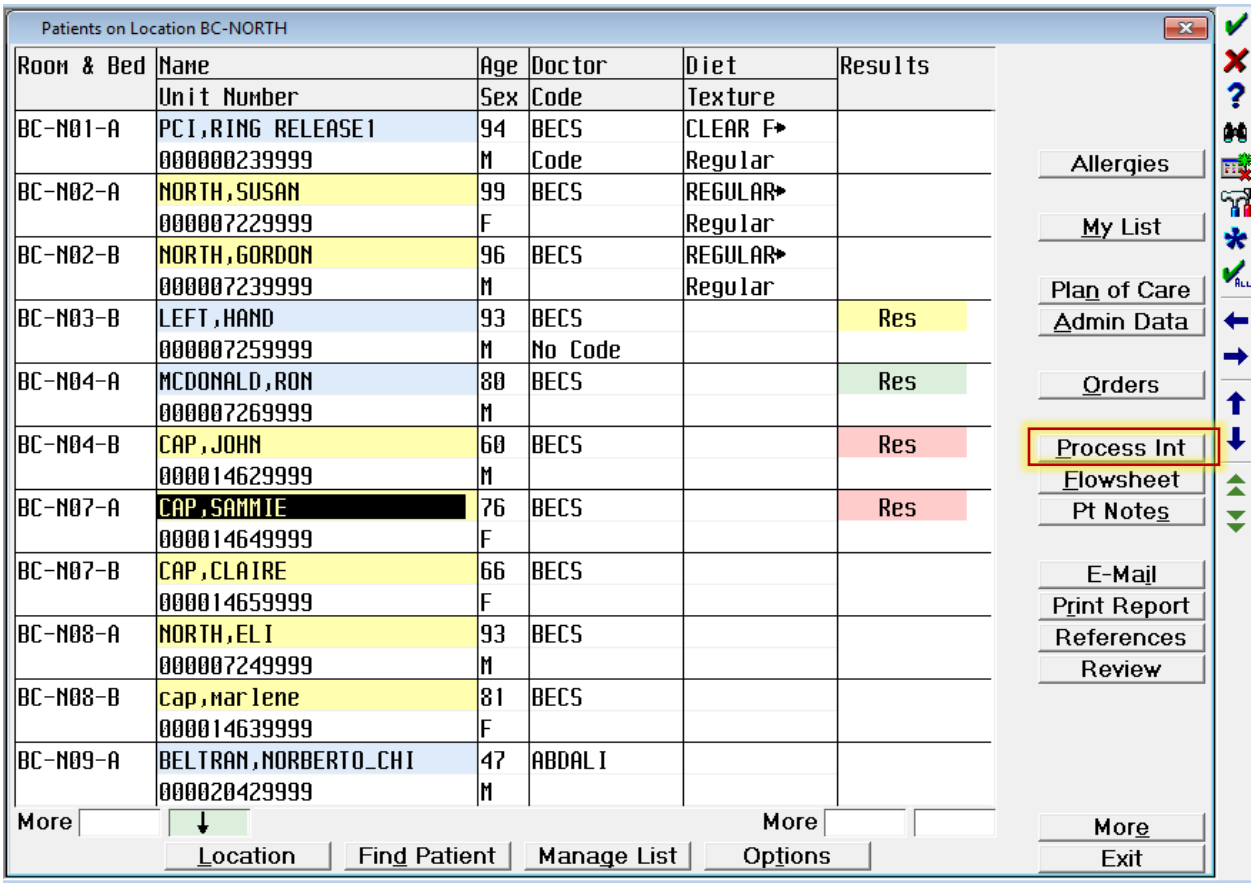
Upon completion of Section 3.5, you will be able to:

- Demonstrate the ability to change the level of care that is required to carry out a specific intervention for a resident
- Understand why it is important for the Plan of Care to reflect the level of care that is required for specific residents

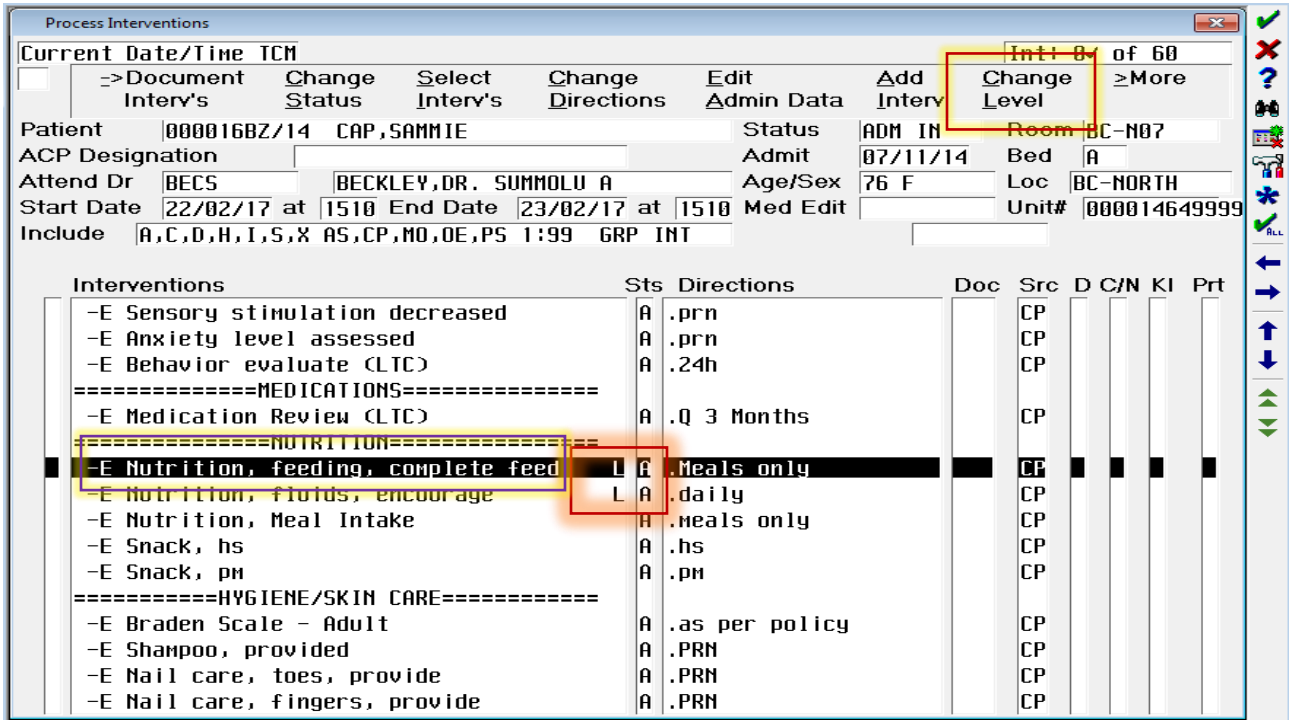
The level of care required to complete specific interventions should be individualized to meet the resident's needs. Some residents require 1-person assist, or 2-person assist, or mechanical lift. They may also be a complete feed, a partial feed, or a set-up tray only. Care plans should always be individualized to show these specific requirements. This helps ensure the resident is receiving the care they should and decreases the chances of injury or error on behalf of the staff member.

To change the level of care required to carry a specific intervention:

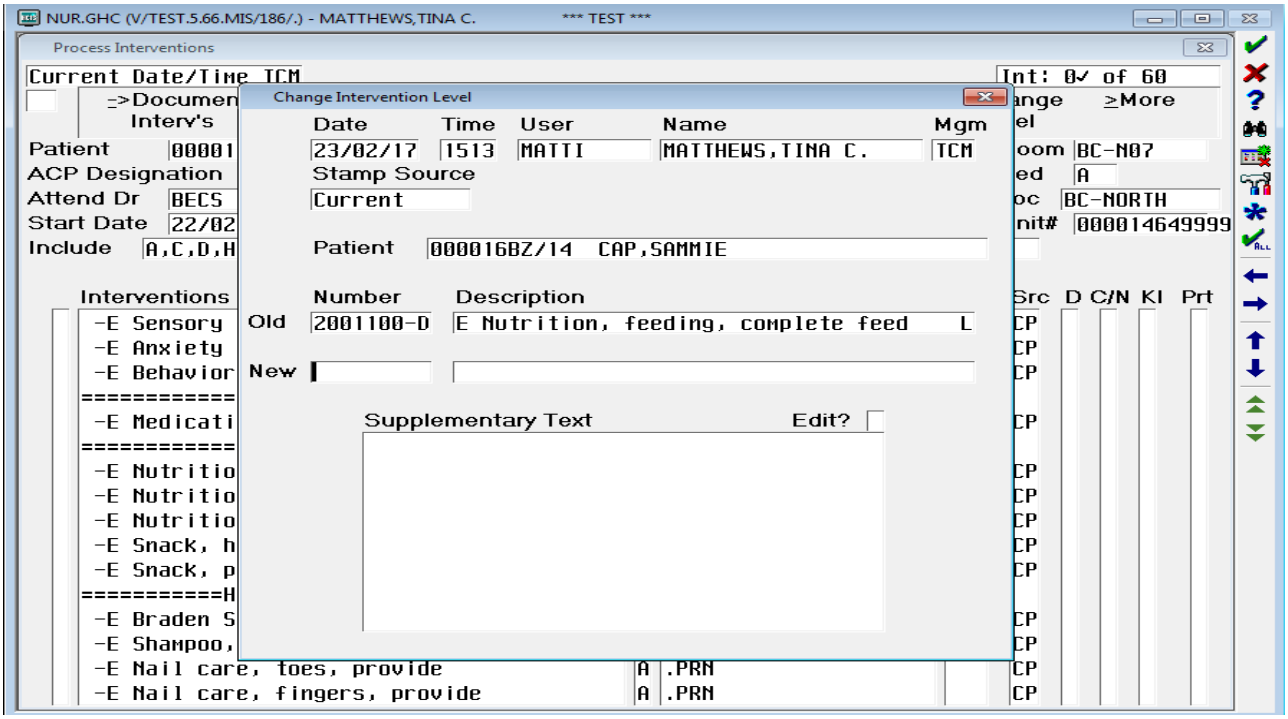
Step 1: Enter the *Process Intervention* screen from the S*tatus Board*.



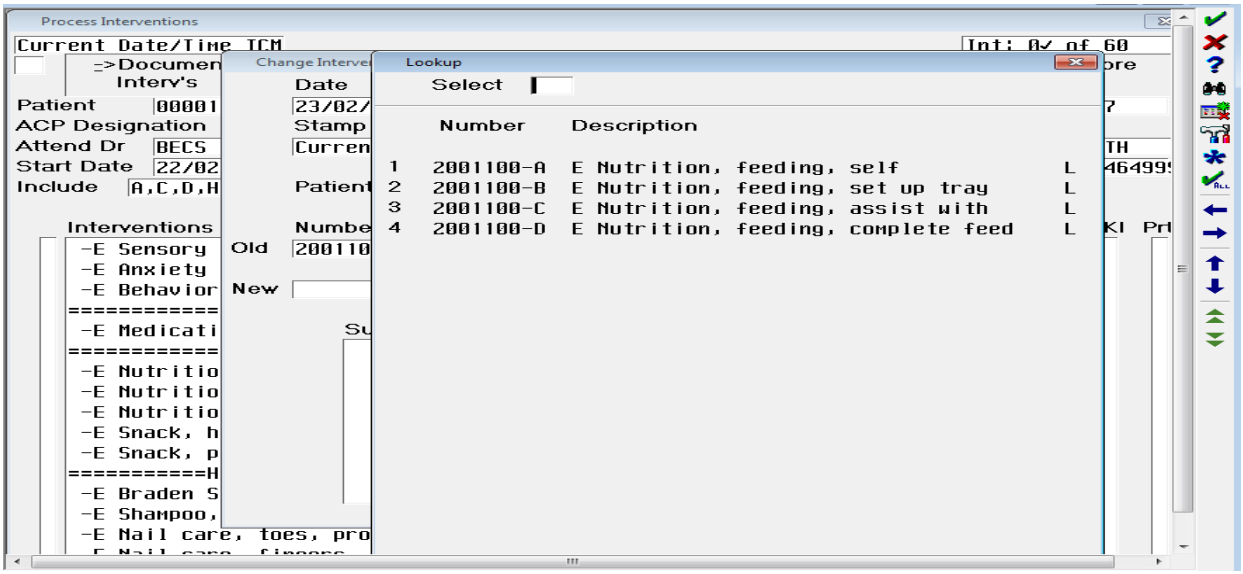
Step 2: This example will illustrate how to change the level of the *E Nutrition, Feeding* intervention from **complete feed** to **set-up tray**. Highlight the intervention and type CL.
*Please note: Only those interventions that have an L besides them can be altered.



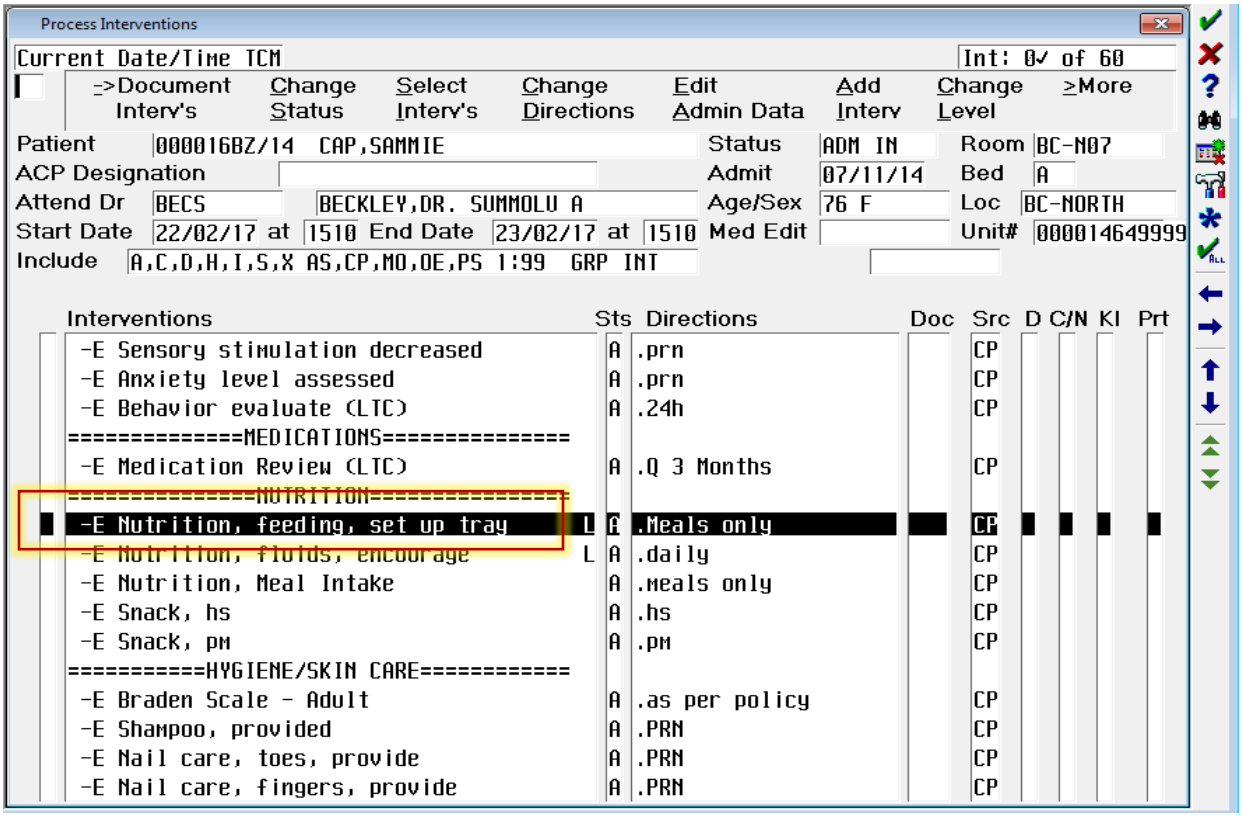
The following screen will appear:



Step 3: Under the New field, press the **F9** look-up key and from the options provided and select the appropriate one for the resident. In this example, option 2 (set-up tray) would be selected.



Step 4: After selecting the correct option press enter and save the changes by pressing **F12**.



The intervention is now ready to be documented on. Other interventions that frequently have the level changed include: bathing, dressing, SPHR, toileting, surveillance, side rails, and activity.

Unit 3: Section 6
Edit Text

Upon completion of Section 3.6, you will be able to:

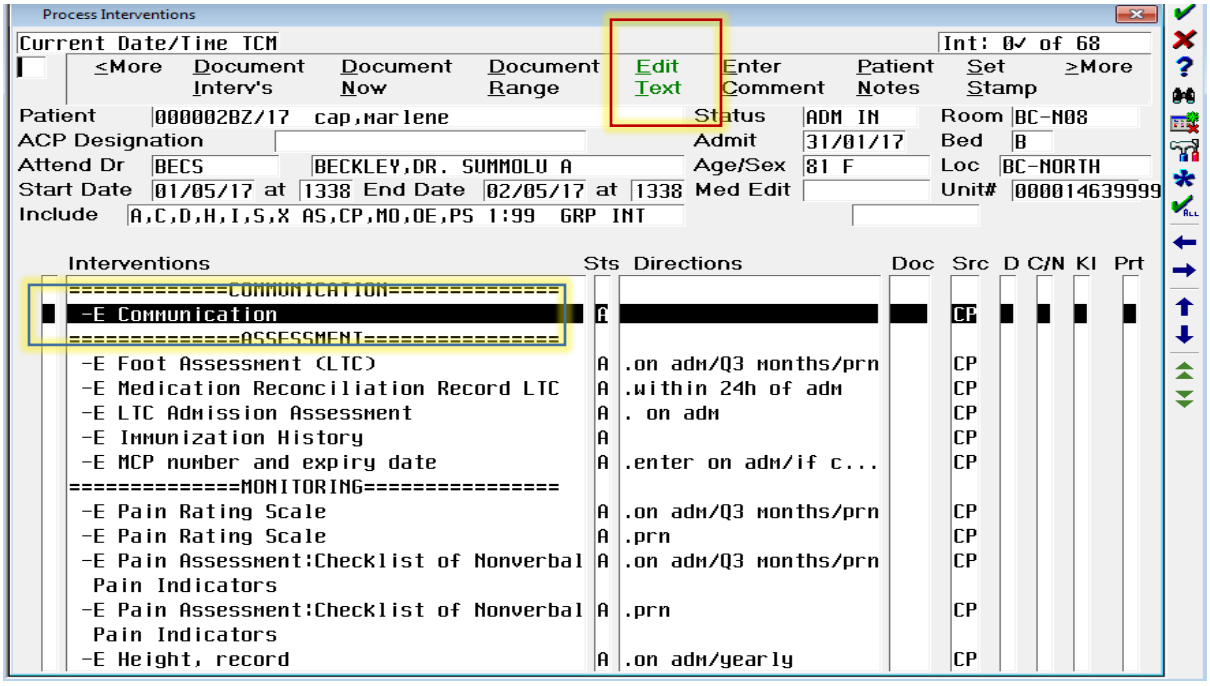
- Understand when and why to use an edit text on an intervention

- Edit text allows the RN to add additional information that may be required for a specific intervention. It is not a permanent or legal part the electronic health record
- Once the text that is placed under an intervention is no longer required, it should be purged to ensure the care plan is not cluttered with unnecessary information.
- Edit text is commonly used under the Communication header in the *Process Interventions* screen, as well as under the Braden Scale intervention, Incontinence Care intervention, and others deemed appropriate.
- Ensure to enter the date that the Edit Text is written, otherwise, it will be unknown to others.

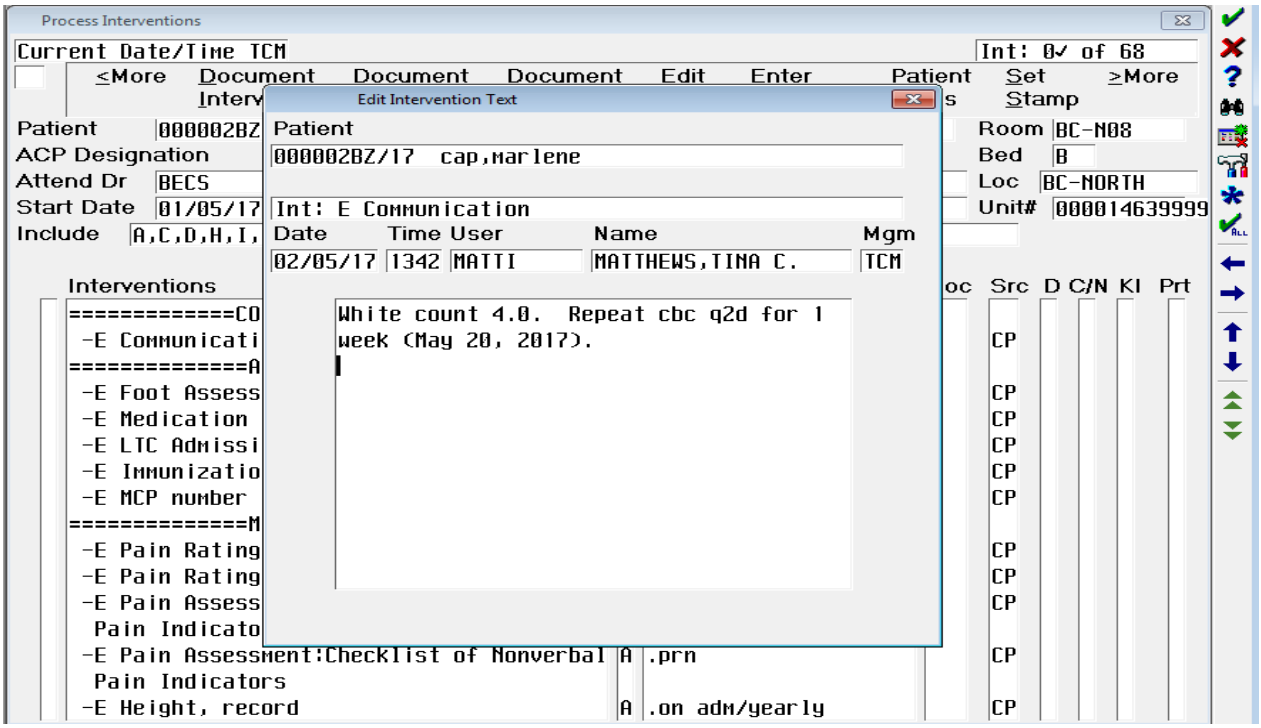
To add an Edit Text:

Select the desired intervention that requires additional information from the *Process Intervention* screen. The example shown below relates to the Communication header, which is the most common intervention that Edit Text is used for.

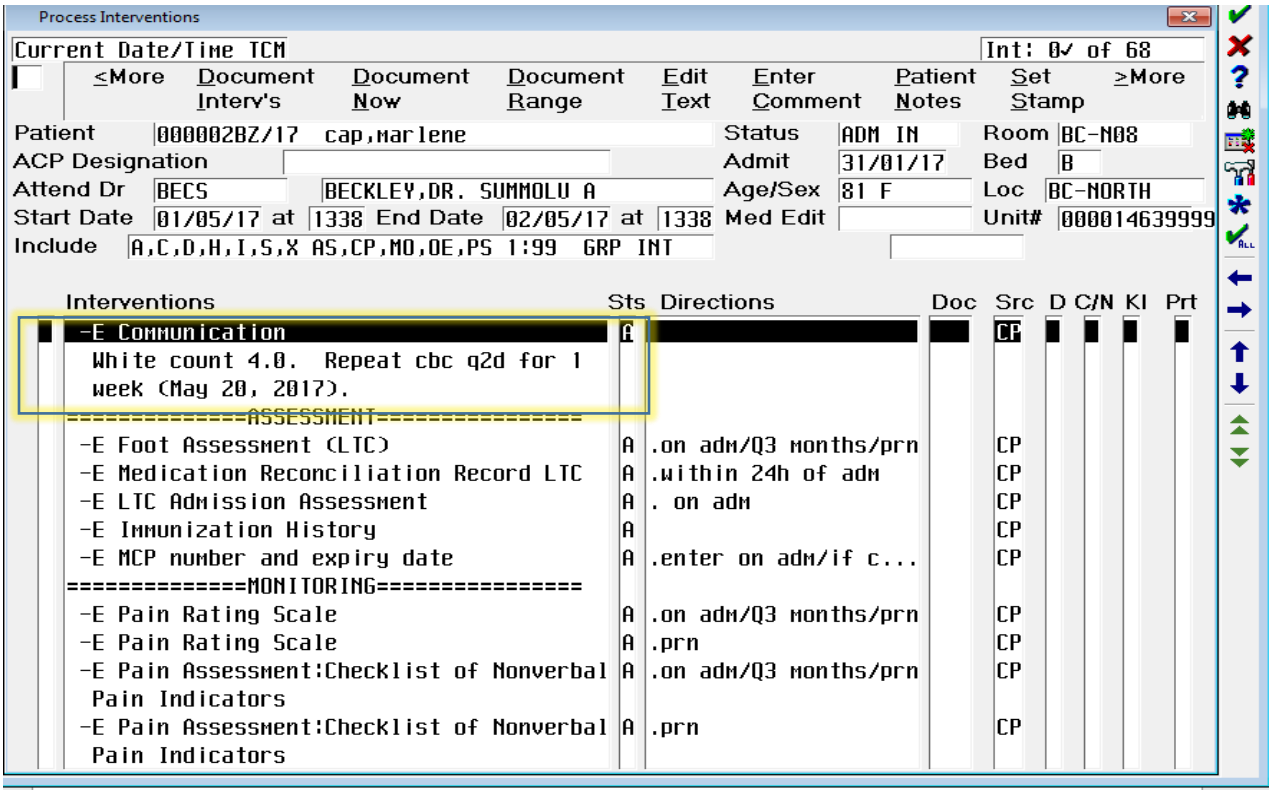
Ensure that the **Communication** intervention is highlighted black. Then, on the **Verb strip**, select **Edit Text** with the mouse or type **ET** and press the **enter** key.



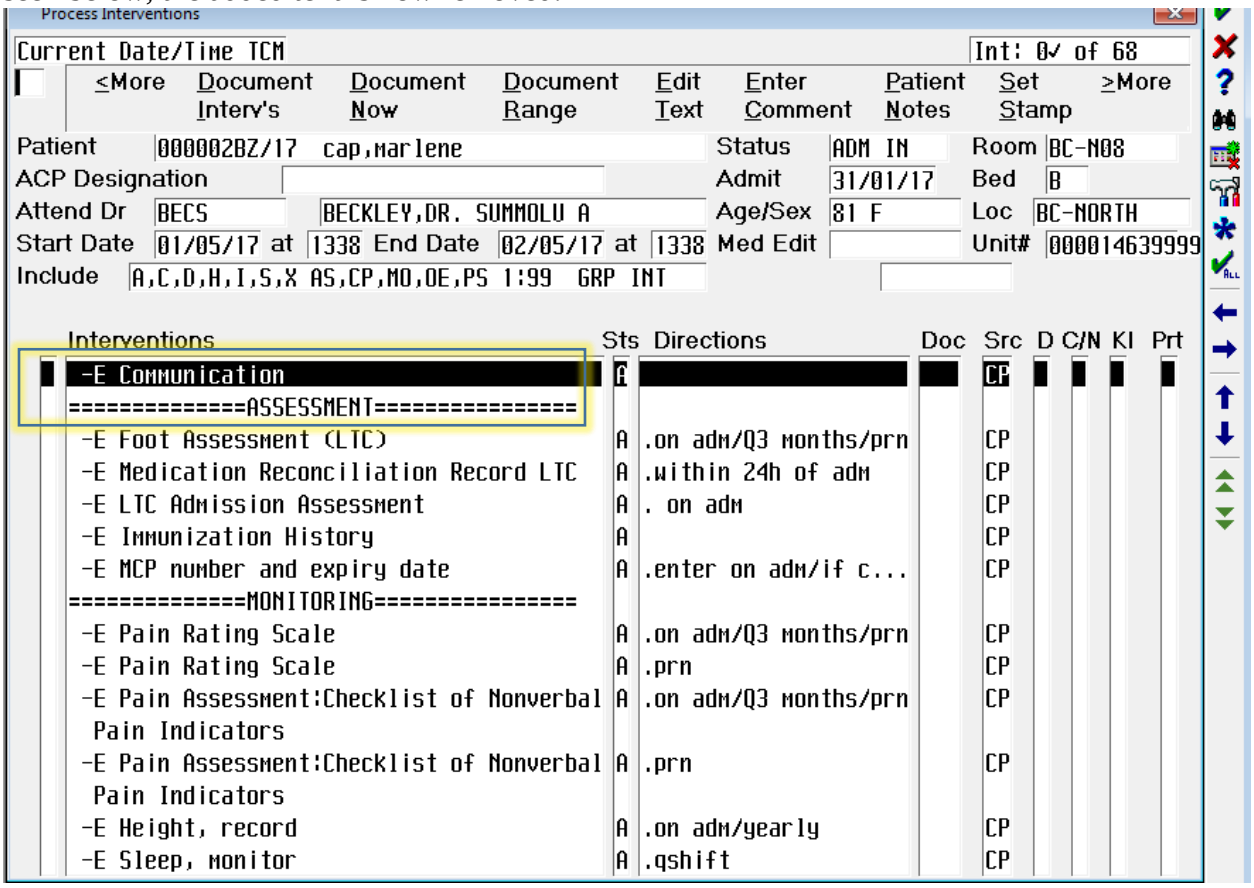
Once the screen appears, **type** in the required text.



To save the new information, press the **F12** key.



Once the information is no longer applicable, press the **Edit Text** button again, and either press the backspace button on the keyboard several times to **delete** the text (or press the **F10** key at the beginning go each line of text). Then press the **F12** key to save the changes. As seen below, the added text is now removed.



Unit Three Summary

Unit Three covered a vast amount of information that is associated with individualizing the resident care plan. Each section described a different action that can be carried out during the care plan process. Section one showed the 16 standardized diagnoses that are included in the LTC basic care plan. It also illustrated the step-by-step procedure for entering the basic care plan in the electronic health record. The main thing to remember when entering the basic care plan is that the mnemonic EBASIC-LTC. The mnemonic can also be found by typing **EBAS** and pressing **F9** in the *Plan of Care* screen.

Section 3.2 discussed adding additional diagnoses to the plan of care. Since only standardized diagnoses, goal, and interventions are included in the basic care plan, more diagnoses may need to be added to make the care plan more specific to meet the resident's needs. To add an additional diagnoses, click on the *Diagnoses* field in the Plan of Care screen and in an empty space, type **ELTC** and press **F9**. This will provide a list of available diagnoses that can be added.

However, there are also situations where required interventions can be added to an existing diagnoses from the basic care plan. Examples include adding catheter or ostomy interventions to the pre-existing diagnosis of E Elimination or adding alarm systems to the pre-existing diagnosis of E Safety.

Section 3.4 discussed changing the status of an intervention from active to complete. This would allow the removal of an intervention from the process intervention screen when it is no longer required. If, however, the completed out intervention is required again in the future, the status can be changed back from complete to active again. Another important component contained in this section was individualizing the care plan by changing the directions on when care is required to be completed. Most interventions contain standardized directions, such as vital sign PRN, but that may not be appropriate for each specific patient. There are two ways to change the directions of interventions and each of these were addressed in this section.

Section 3.5 contained information on changing the level of care of an intervention. It is very important to change levels of care because it informs all staff of the level of care that is needed to carry out a specific activity. For example, changing the intervention SPRH Bed Mobility from 1-person shimmy to 2-person assist. Only interventions that contain the letter **L** can be changed.

Finally, section 3.6 discussed how adding additional text under specific interventions is beneficial to all staff that provide care to residents. For example, under the Braden Scale intervention the RN can write an edit text that states the date the Braden Scale was completed, the score the resident received, and any additional interventions that was carried as a result of the score.

This unit contained a lot of pertinent information that is relevant to individualizing the resident care plan. These functions should be carried out **on admission**, every **three months**, or when the resident's **condition changes**.

Unit Three: Review Questions

Instructions: Please complete the following questions. Circle one answer per question.

1. What is the Meditech Magic mnemonic for the LTC basic care plan?
   a) BASIC-LTC
   b) EBASIC-LTC
   c) BASICCARE-LTC
   d) EBASICCARE-LTC

2. Which diagnosis could the intervention E Intake/Output be added to?
   a) E Communication
   b) E Safety, potential for injury
   c) E Elimination, potential for altered
   d) E Pain, potential for

3. Which additional diagnosis would be most suitable to add the wound assessment record intervention?
   a) E Coping, potential of infection LTC
   b) E Impaired Gas Exchange, potential for
   c) E High Risk Infection
   d) E Skin Integrity, impaired – LTC

4. To view the interventions attached to specific diagnoses, which key do you press?
   a) Page Down
   b) Shift + Right Arrow key
   c) The Right CTRL key
   d) The F9 key

5. What does the function Change Status allow the RN to do in relation to care planning?
   a) Change status from active to complete
   b) Change status from complete to active
   c) Change the time an intervention should be completed
   d) Both A and B

6. When should an intervention be completed out of a care plan?
   a) When different nurses perform the intervention
   b) When the directions of when care should be completed is changed
   c) When the specific care is no longer required to be completed
   d) When the resident is transferred from one bed to another

7. Which **one** of the following is **not** true?
   a)Directions can be changed when resident status changes
   b)Directions can be changed upon admission
   c)All directions can be changed
   d)Changing directions should only be done on admission

True or False – Please check off either true or false

		True	False
8.	Change Level only applies to interventions that has an L to the right of it?	○	○
9.	Change level informs staff when interventions should be completed?	○	○
10.	Edit Text is a permanent part of the health record?	○	○
11.	Edit Text can be placed under any intervention?	○	○
12.	Edit Text proves that care has been provided?	○	○
13.	The screen to enter the care plan is Admin Data?	○	○
14.	The F10 key is used to save the care plan once changes have been made?	○	○
15.	Once an intervention's status is completed out, it cannot longer be brought back into a plan of care?	○	○
16.	Once an intervention is no longer required it should be completed out as to decrease the clutter on the care plan and reduce the risk of anyone documenting on it?	○	○
17.	When changing directions, the F9 key must be used under the diagnoses section so an appropriate option can be selected?	○	○

Case Study

Mrs. Smith is an 82 year old female who was just admitted to a long-term care facility because she has suffered a right sided CVA. Neither she nor her family are able to care for her at home. The RN initialized the LTC basic care plan in the EHR, but now has to individualize it to reflect Mrs. Smith's needs. She has been diagnosed with type II insulin dependent diabetes for the past five years. She is teary eyed and reports being very upset about having to move into the nursing home. Since her stroke she has lost the ability to move her left leg and is using a walker for ambulation. She is currently awaiting to see the Speech Pathologist because the stroke has impaired her ability to swallow food efficiently. What additional diagnoses should be added to Mrs. Smith's plan of care based on the information?

Answers to Unit Three Review Questions

Multiple Choice

1. B
2. C
3. D
4. B
5. D
6. C
7. D

True or False

8. True
9. False
10. False
11. True
12. False
13. False
14. False
15. False
16. True
17. True

Case Study Answer:
A) *E Coping, Potential for ineffective* (Mrs. Smith may have issues coping with her new surroundings because she do not want to leave her home)
B) *E Fall, potential for LTC* (Mrs. Smith cannot move left leg because due to having a right sided CVA)
C) *E POCT, Glucose, potential for altered* (Mrs. Smith is a diabetic and will need her blood glucose levels monitored)
D) *E Aspiration, increased risk for* (Mrs. Smith's ability to swallow has been altered because she had a CVA)

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Unit Four: Clinical Assessment Protocol (CAP)

Unit Four provides an overview of CAPs and how they relate to the care plan. It also provides a step-by-step instruction on how to add CAPs to the resident's plan of care.

Unit 4: Section 1
How are MDS and CAPS Related?

Upon completion of Section 4.1, you will be able to:

- Demonstrate an understanding of the Resident Assessment Instrument- Minimum Data Set (RAI-MDS) 2.0 assessment
- Discuss the relationship between the RAI-MDS 2.0 assessment and CAPS

RAI-MDS 2.0

→The RAI- MDS 2.0 is an assessment tool that is used to assess and collect data on what is considered to be a residents' strengths, needs, and level of functioning over time. This is done in an effort to obtain a holistic picture of the care needs required for specific individuals (Hutchinson et al., 2010).

→ The RAI-MDS 2.0 formulates quality indicators for the care that is provided and generates data that can be used to improve outcomes. All of the information gained from this tool is used to assist in the development of the individualized resident care plan. It also provides staff with the ability to evaluate if goals are being met and revise aspects of the care plan where changes are needed (Hutchinson et al., 2010). In LTC, the RAI-MDS 2.0 assessment is completed on **admission**, **quarterly**, and when there is a **significant change** in the resident's health status.

CAPS

→ The RAI-MDS 2.0 indicates specific care needs of the individual based on the resident assessment and history. Once finalized, the RAI-MDS 2.0 assessment triggers CAP problems through a CAP summary. The CAP summary recommends specific intervention be added to the resident's care plan. CAPS are used to identify factors that may result in undesired resident outcomes, decrease the possibility of decline in resident status, and increase the chances for health improvement (CIHI, 2012; Carpenter & Hirdes, 2013).

* Please note: Just because a CAP is triggered does not mean it has to be added to the resident's plan of care. The use of assessment skills are required by the RN to determine if the CAPS are needed for the individual. If the CAPS are required, the RN must manually add them to the resident's plan of care.

Example of a Triggered CAP:

If upon completion of a resident history and assessment it is discovered that the individual had a fall within the past six months, the RAI-MDS 2.0 will trigger a FALL CAP problem. These CAPS contain additional interventions and should be added to the care plan.

Four Broad Areas of CAPS

There are four areas of resident status that fall under the broad umbrella of CAPs.

1) Functional Performance – Activities of daily living; physical restraints
2) Cognition & Mental Health – Cognitive loss; delirium; communication; mood; behavior
3) Social – Activities; social relationships
4) Clinical Issues – Falls; pain; pressure ulcer; cardio-respiratory conditions; under-nutrition; dehydration; feeding tube; appropriate medications; urinary incontinence; bowel conditions (CIHI, 2012, p.1)

After CAPS are added to a resident's plan of care, a progress note must be written in the resident's chart that summarizes:

- ✓ Which CAPS were triggered
- ✓ Which triggered CAPs were actually added to the care plan (Eastern Health Authority, 2016)

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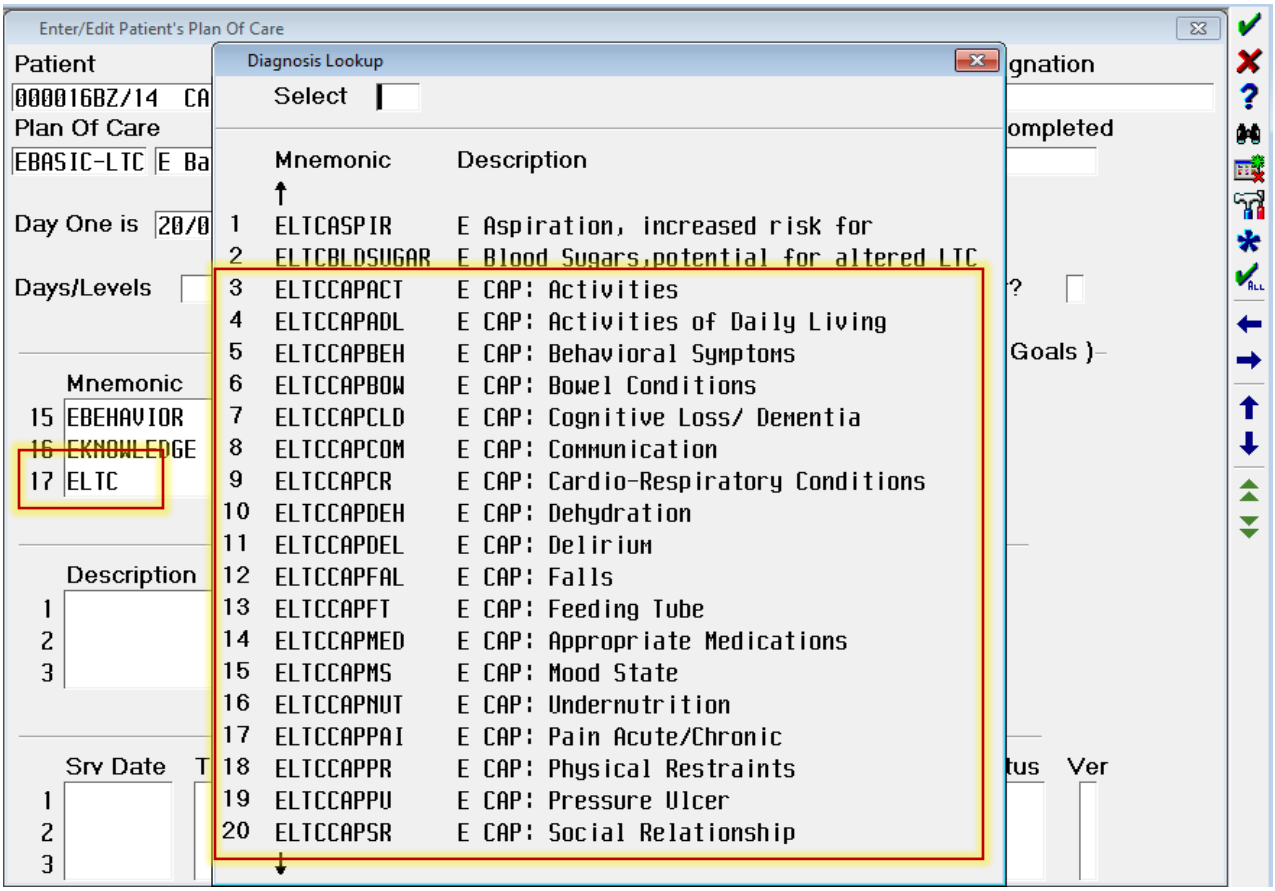
Unit 4: Section 2
Adding CAPS to the Care Plan

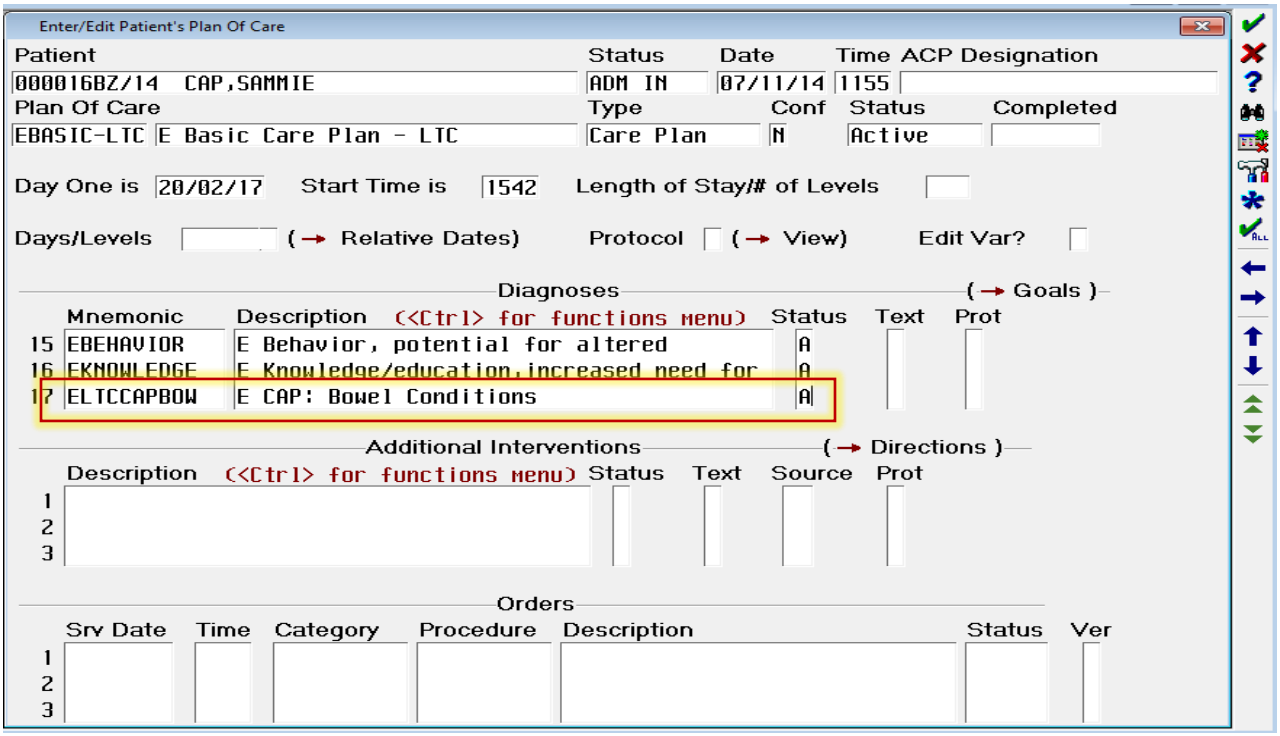
Upon completion of Section 4.2, you will be able to:

- Demonstrate the procedure for adding a CAP to the care plan
- Determine which interventions are attached to specific CAP problems

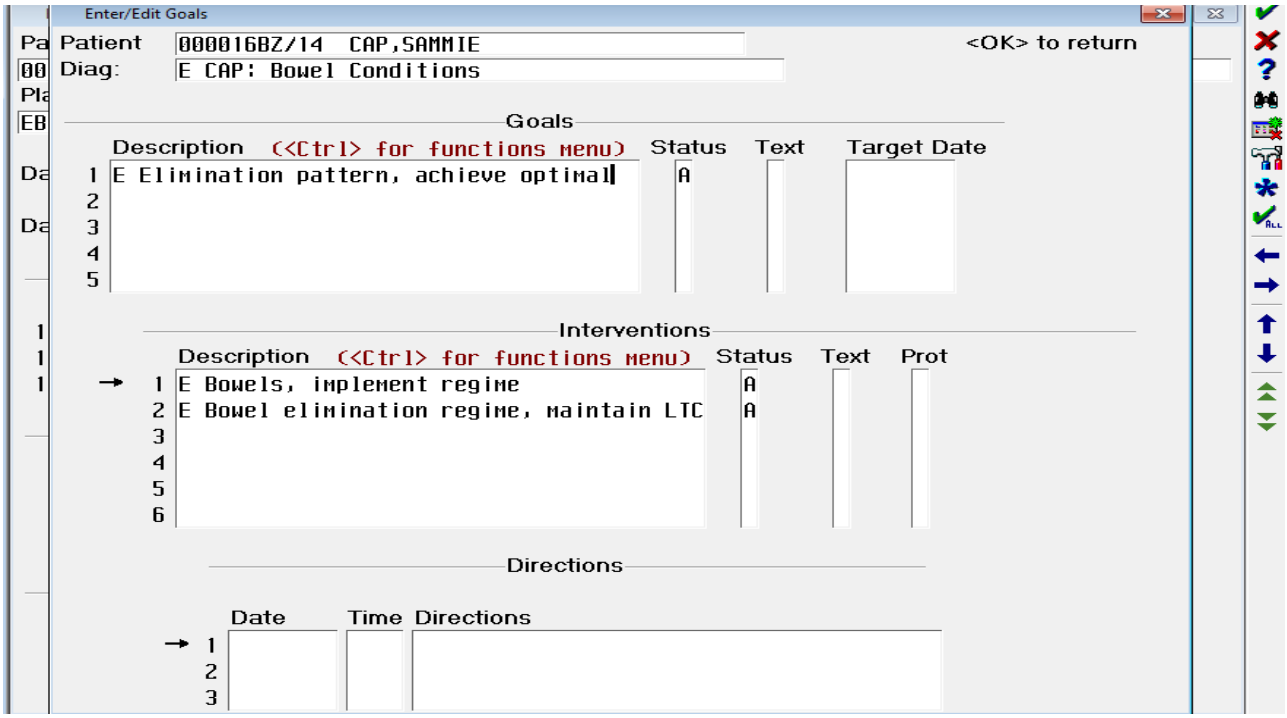
To add a CAP to the resident's care plan, from the *Plan of Care* screen click into an empty field and type **ELTC** followed by the **F9** look-up key.



To add the CAP: **type in the corresponding number** to the desired CAP, or with the mouse, **click** on the specific CAP. The following screen will appear:



To view which interventions are attached to the CAP, hold down the **SHIFT** key and press the **RIGHT ARROW** key. If no changes are required press **F12** to save.



From this example, it is apparent that the problem is ***E CAP: Bowel Conditions*** and the goal is:

- ✓ ***Elimination pattern, achieve optimal***.

Corresponding interventions added to the care plan are:

- ✓ ***E Bowels, Implement Regime***
- ✓ ***E Bowel elimination regime, maintain LTC***

Specific CAP problems with their attached goals and interventions include:

	CAPs Problem	Goal	Intervention
1	**E CAP: Activities**	Maintain/increase activity level	E Socialization, encourage E Activities, diversional, provide E Referral, Therapeutic Recreation
2	**E CAP: Activities of Daily Living**	ADL maintenance (CAP level 1) ADL Rehabilitation (CAP level 2)	E Independence, encourage, maintain (LTC) E Self-care, encourage E Referral, Physiotherapy E Referral, Occupational therapy
3	**E CAP: Behavioral Symptoms**	Behavioral symptoms improvement	E Mood/behavior strategies, evaluate (LTC) E Referral, Developmental Behavior Pract
4	**E CAP: Bowel Conditions**	Elimination pattern, achieve optimal	E Bowels, implement regime E Bowel elimination regime, maintain LTC
5	**E CAP: Cognitive Loss/ Dementia**	E Cognitive improvement/ maintenance	E. Cognitive function changes monitor- LTC E Non-reality based thoughts, assess
6	**E CAP: Communication**	E Communication improvement/ maintenance	E Communication skills, monitor (LTC) E Non verbal cues evaluate (LTC) E Referral, Speech Language Pathology E Communication, alternative means
7	**E CAP: Cardio-respiratory conditions**	Remain free of complications	E Respiratory assessment E Oxygen, setup E Chest pain assessment E Edema, assess for E Pulse oximetry/ Oxygen therapy E Bed position, semi-fowler's
8	**E CAP: Dehydration**	Fluid and electrolyte balance maintain	E Dehydration, monitor for S/S (LTC) E Referral, Dietitian
9	**E CAP: Delirium**	Delirium resolved	E Medications side effects monitor (LTC) E Mental status monitor for changes (LTC) E Infection, monitor signs and symptoms
10	**E CAP: Falls**	Fall risk is minimized/ prevented	E Fall risk factors monitor for (LTC) E Referral, Occupational Therapy

			E Referral, Physiotherapy E Footwear, ensure proper (LTC) E Hip protectors ensure use of (LTC) E Protective floor mats- ensure use of
11	**E CAP: Feeding Tube**	Optimal nutritional status maintained	E Referral, Dietitian E Nutrition, intake/ feeding tube, monitor E Bed potion, Fowler's L E Intake and Output
12	**E CAP: Appropriate Medications**	Med therapeutic effect maintained	E Medications side effects monitor (LTC) E Mental status monitor of changes (LTC)
13	**E CAP: Mood State**	Mood state improvement/ Maintenance	E Referral, Therapeutic Recreation E Mood changes monitor (LTC)
14	**E CAP: Undernutrition**	Optimal nutritional status maintained	E Nutritional intake, encourage adequate E referral, Dietitian E Nutrition, supplements administered E Referral, Speech Language Pathology
15	**E CAP: Pain Acute/ Chronic**	Report pain at tolerable level	E Pain rating scale E Pain assessment: Checklist of Nonverbal E Pain Management strategies implement E Referral Clinical Nurse Specialist LTC E Referral MD/Nurse Practitioner (LTC) E Non Verbal cues evaluate (LTC) E Provide non-med pain reducing methods
16	**E CAP: Physical restraints**	Least restraint	E referral, Occupational Therapy E restraint, Assessment (Initial-Part I) E Referral, Physiotherapy E Referral Clinical Nurse Specialist LTC
17	**E CAP: Pressure Ulcer**	Exhibit intact skin	E Skin integrity monitor S/S impairment E referral, Dietitian E Referral, Occupational therapy E Referral Clinical Nurse Specialist LTC E Wound Assessment Record
18	**E CAP: Social Relationship**	Appropriate social interaction	E Referral, Therapeutic Recreation E Socialization, encourage E Referral, Psychology (LTC)
19	**E CAP: Urinary Incontinence**	GU status improvement/ maintenance	E Infection, monitor signs and symptoms E Urinary elimination regime implement E Urinary elimination regime maintain

Unit Four Summary

Unit four discussed elements of the RAI-MDS 2.0 admission assessment, including what it is used for and when it is completed. It also explained how CAPS and the CAPS summary are used in relation to the resident's care plan.

The RAI-MDS 2.0 assessment tool contains data collected by the RN and other members of the interdisciplinary staff team, such as the Occupational Therapist, Physiotherapist, and Social Worker. All of the data provided by this tool aids in providing a holistic picture of the resident's needs in relation to their functional performance, cognitive and mental health status, social status, and potential clinical issues. The RAI-MDS generates a CAPS summary, which lists potential diagnoses to be added to the care plan. The recommended CAPS are just suggestions and do not have to be incorporated into the plan of care. The RN has to make a decision based on resident assessment and history.

Adding the CAPS to the care plan is completed by entering the *plan of care* screen and typing **ELTC** and pressing **F9** under the diagnoses section. A list of all CAP problems will appear that can be selected by the RN.

Unit Four: Review Questions

Instructions: Please complete the following questions. Circle one answer per question.

1) There are many CAP problems that can be triggered by the RAI-MDS assessment. Which of the following is **NOT** an example of a triggered CAP?
    a. E CAP: Activities of daily living
    b. E CAP: Dehydration
    c. E CAP Falls
    d. E Nutrition, Set up tray

2) What are the clinical issues that may trigger a CAP problem?
    a. Falls
    b. Pain
    c. Cardio-respiratory
    d. All of the above

3) What is the RAI-MDS 2.0 assessment used for in the EHR?
    a. To identify factors that may result in undesired outcomes
    b. To decrease the possibility of decline in resident status
    c. Both a and b
    d. Neither a or b

4) Which statement is true RAI-MDS 2.0 assessment?
    a. It is used to assess the resident's strengths and needs
    b. It is used to initialize the basic care plan
    c. It is completed instead of a care plan
    d. It is only completed on admission

5) Which **one** of the following best describes the RAI-MDS 2.0 assessment tool?
    a. It informs staff when interventions need to be completed
    b. It automatically populates CAPS problems to the care plan
    c. It provides a holistic picture of the care needs required for specific individuals
    d. It can only be completed by the RN

True or False – Instructions: Please place an X by the correct answer

	True	False
1. The RAI-MDS 2.0 is completed over time	○	○
2. Following the completion of adding CAPS to the care plan, a progress note is required only if a suggested CAP is not added	○	○
3. If a CAP problem is triggered, it must be added to the plan of care	○	○
4. The RAI-MDS 2.0 formulates quality indicators	○	○
5 The RAI-MDS 2.0 assessment facilitates the plan of care	○	○

Answers to Unit Four Review Questions

Multiple Choice

1. D
2. D
3. C
4. A
5. C
6. True
7. False
8. False
9. True
10. True

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Unit Five: Updating the Care Plan

Unit five highlights what a target date is, why it is an important function in care planning, and the process for entering target dates to a diagnoses. The target date, with is added to all diagnoses, allows the RN to identify when the resident's care plan should be updated. This unit also addresses how to print the resident Kardex once changes have been made to the care plan.

Unit 5: Section 1
Target Dates: Why are They Necessary? How do I Enter Them?

Upon completion of Section 5.1, you will be able to:

- Understand the importance of updating the plan of care
- Recall the timeline set or adding or modifying target dates
- Demonstrate the procedure for documenting target dates in the plan of care

Care planning is an ongoing process that requires constant revision (CRNNS, 2017). It enables nurses to plan care regimes through the development of diagnoses, goals, and interventions. Since the care planning process focuses on resident-centered care, the resident or their family should be included in the process.

In the LTC facilities contained in the Eastern Health Authority, regular scheduled updates are required **quarterly**, or every **three** months. However, if there is a **significant change** in the resident's condition, unscheduled updates may be required. Once a specific problem has been resolved, it should be completed out from the plan of care (See section 3.4).

The overall aim of care planning is to facilitate communication and identify care needs to all disciplines who are providing care to the resident (CRNNS, 2017). This is especially important for those staff members who are unfamiliar with the resident. The care plan also assists in ensuring that appropriate treatment is completed in a timely manner, thereby increasing desired outcomes for the resident.

- ✓ All diagnoses should contain target dates
- ✓ It is important to ensure that target dates are set on each diagnoses within the care plans. If they are not up-to-date elements of care may not be completed, or care appropriate care may not be given.

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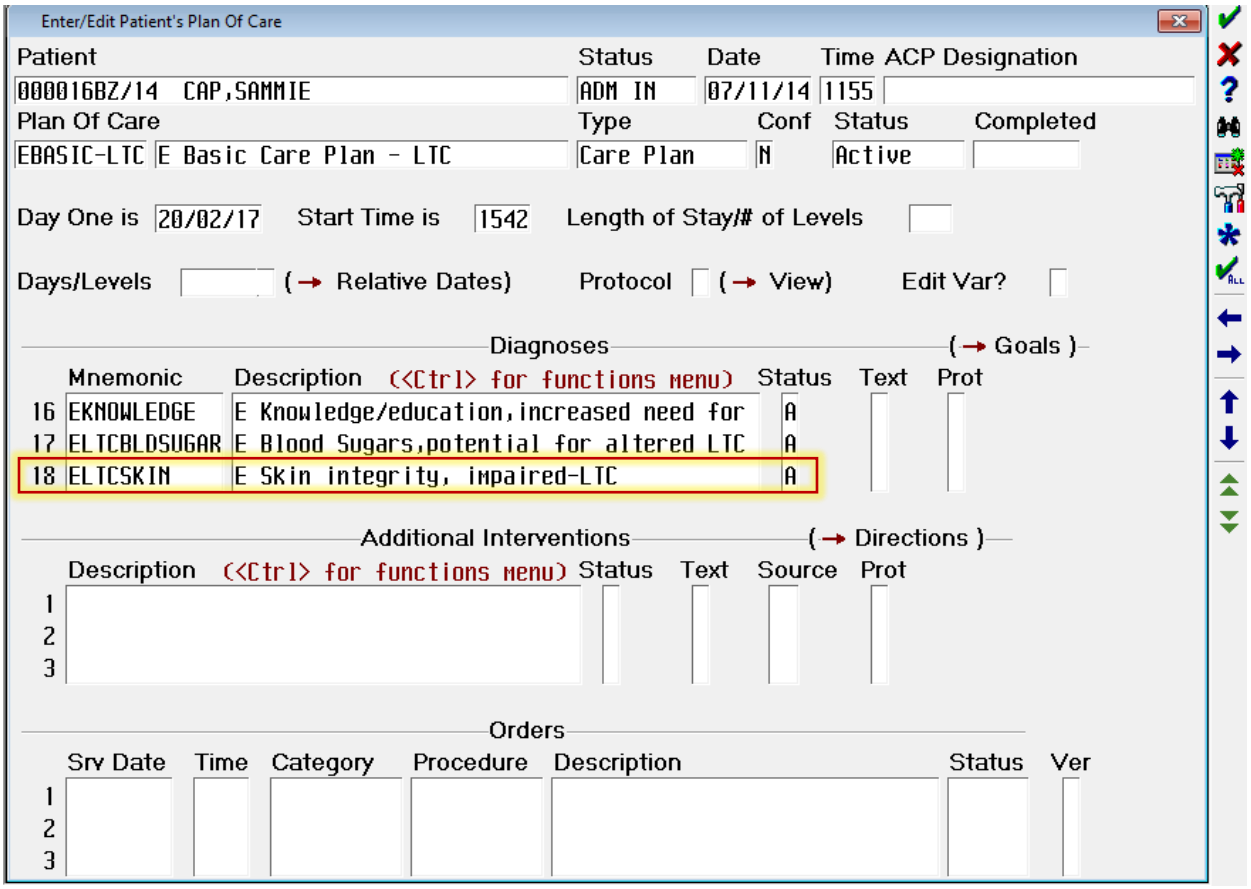
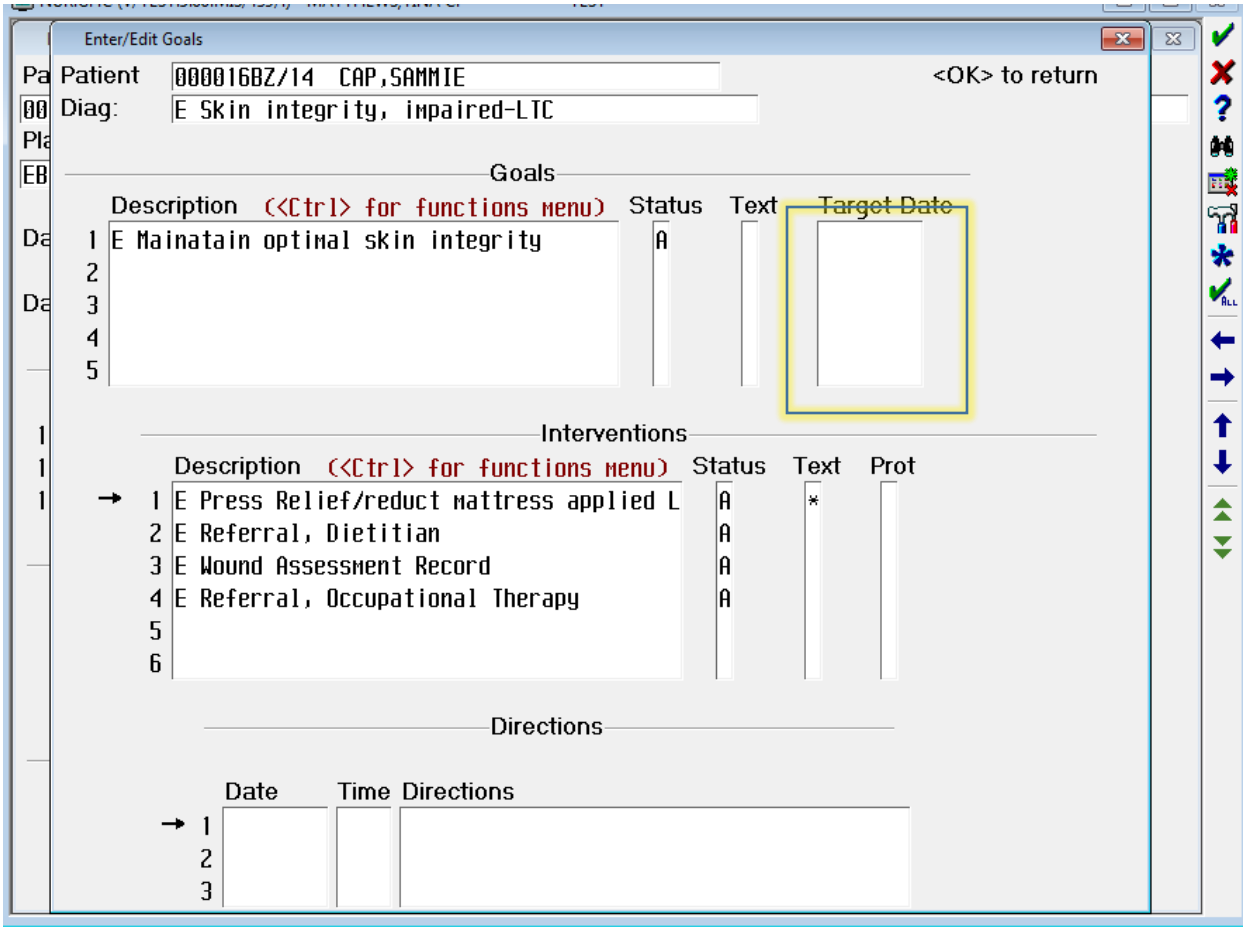
In order for the RN to know when an intervention was initiated and when a scheduled review of the interventions are required for the resident target dates should be added to all diagnoses.

How to Set Target Dates on the Care Plan

Step 1: Select an intervention that requires a target date to be set by highlighting the appropriate diagnosis and holding down the **SHIFT** key and pressing the **RIGHT ARROW** key. This example will illustrate adding a target date to the Wound Assessment Record, which is found under the diagnosis E Skin Integrity Impaired-LTC



Step 2: Under the target date field, type in the date the review will be required in **DDMMYYYY** format and press the **F12** key to save. This will add the review date to all interventions under the E Skin Integrity Diagnosis.



*** Please note, target dates should be set on ALL diagnoses contained in a care plan**

Unit 5: Section 2
Printing the Kardex

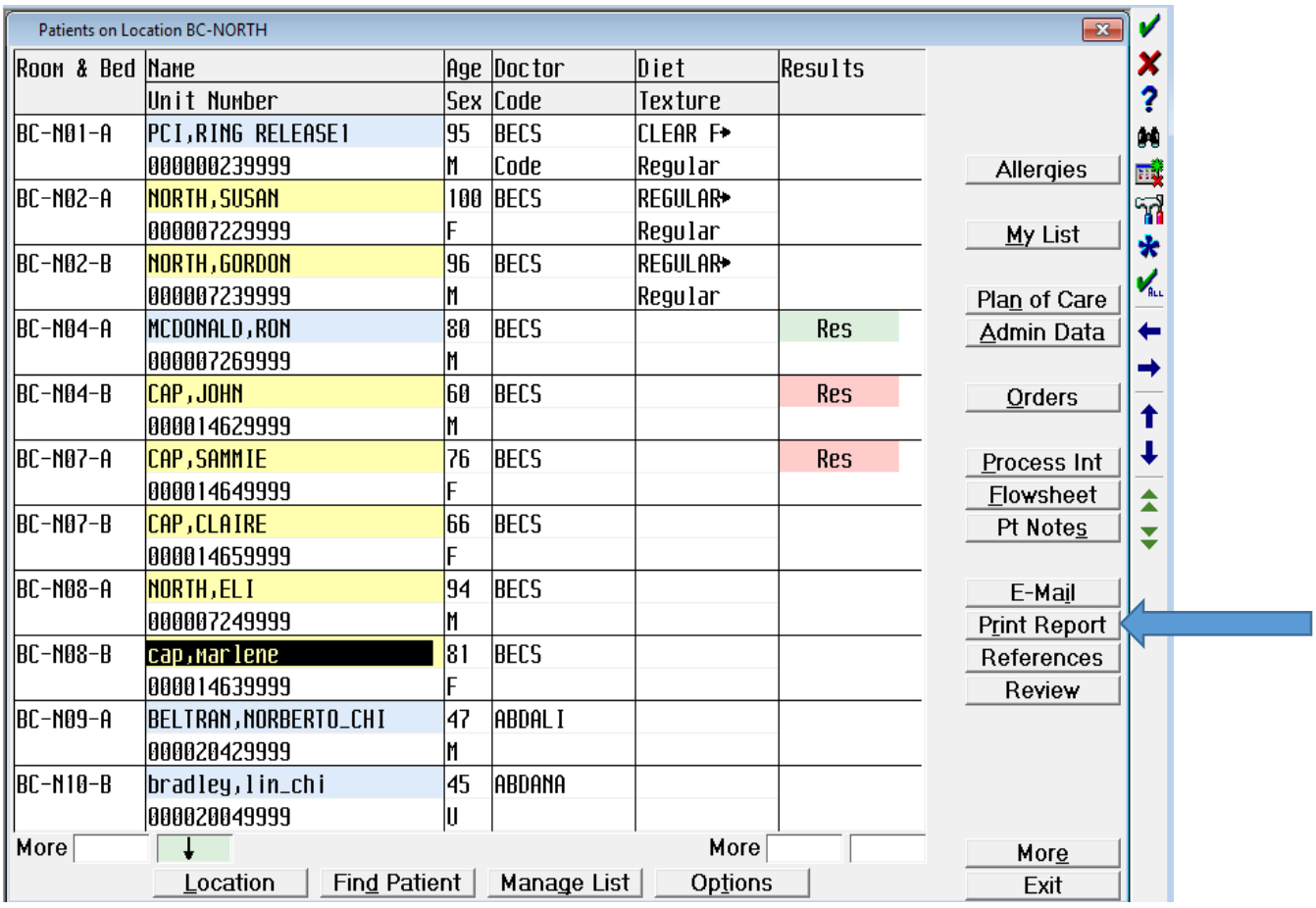
Upon completion of Section 5.2, you will be able to:

- Demonstrate how to print a resident Kardex in Meditech Magic 5.66

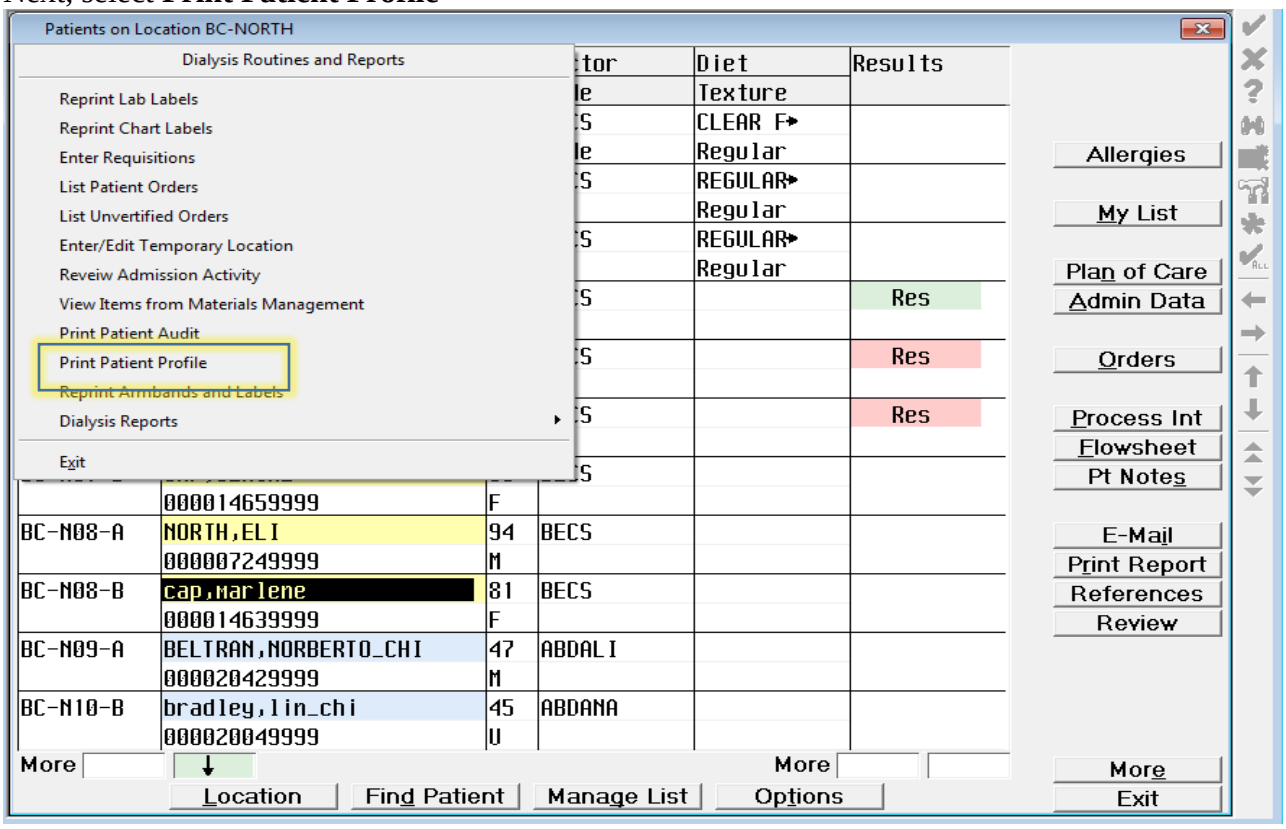
In LTC, the Kardex should be printed **once a week**. RN staff are responsible to update the Administrative Data Screen and the plan of care, if significant changes have occurred in the resident's condition. The data are then printed and placed in a paper chart on the unit. In addition, the Kardex should be printed when **quarterly** updates are required on the resident's chart.

To Print a Resident Kardex

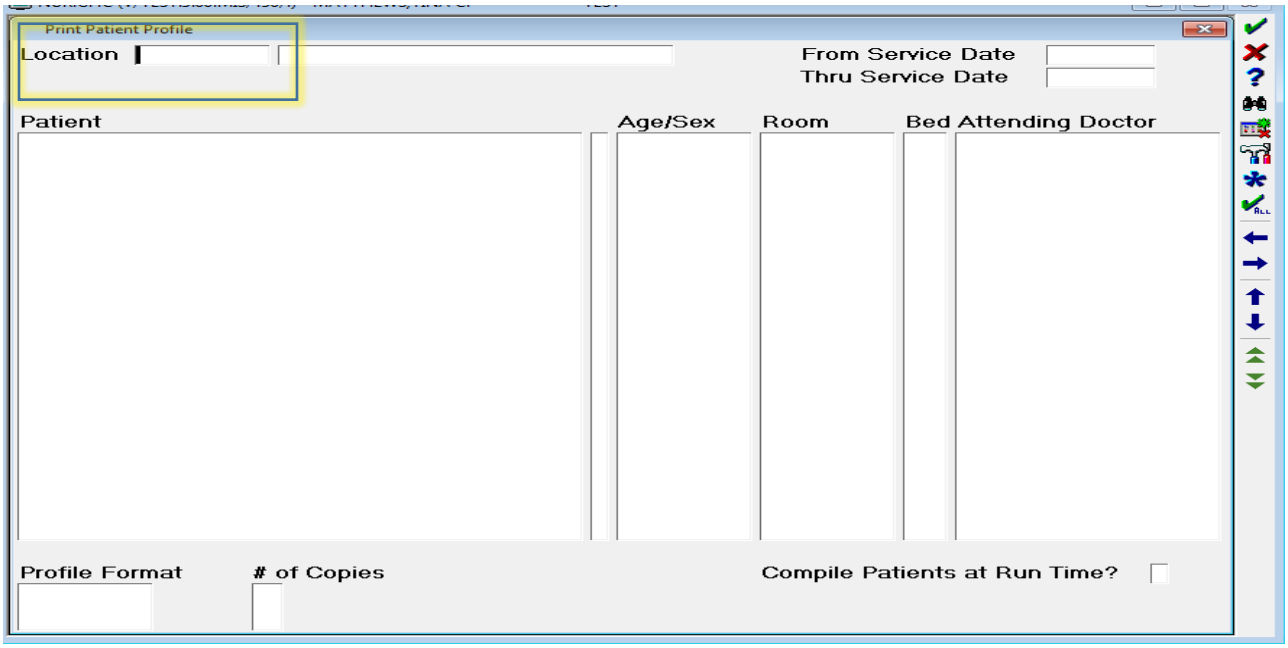
From the status board, with the mouse, select *Print Reports*



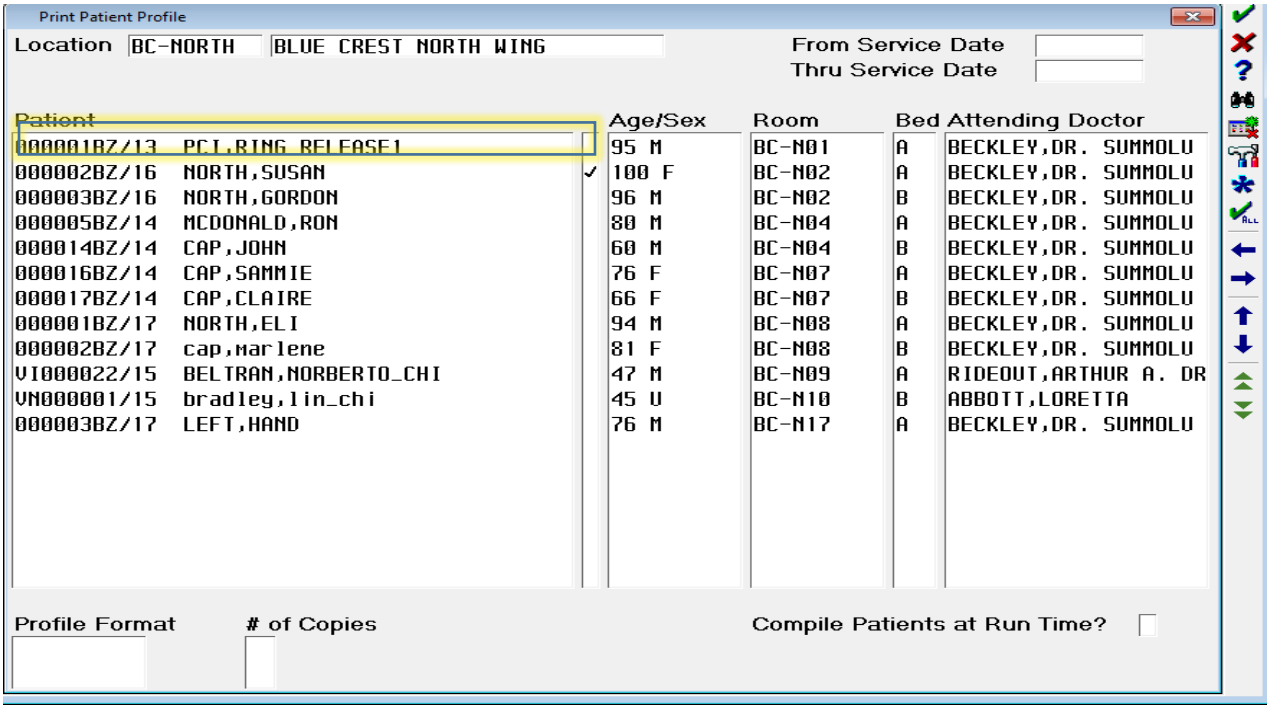
Next, select **Print Patient Profile**



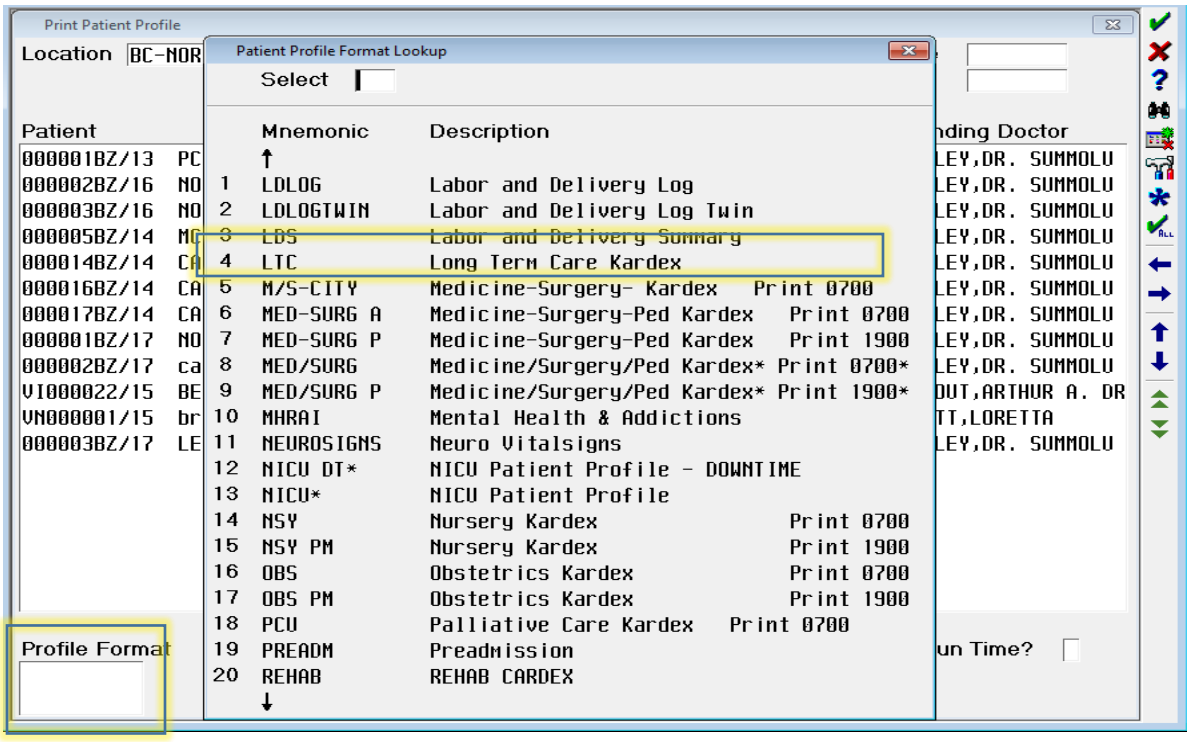
Under the location field, type the mnemonic of the resident's facility i.e. For resident's in the Blue Crest Nursing Home, type **BC** and the **F9** (look-up) key. Next, select either the North or South Wing.



Select the resident who requires a Kardex to be printed by clicking on their name with the mouse and placing a check mark with the **right CTRL** key.

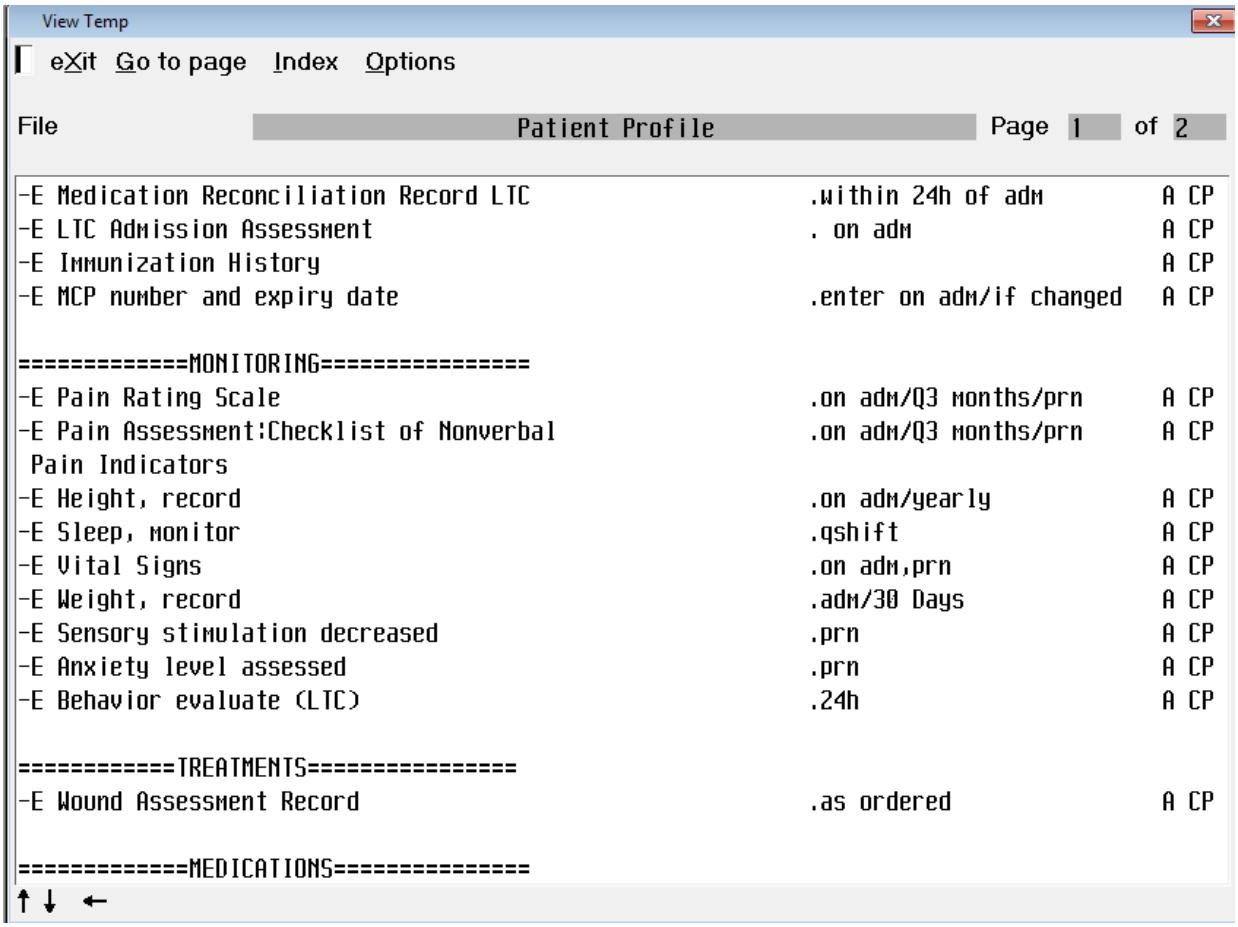


Next, go to the Profile Format section and press **F9**. A look-up box will appear. Select the option for the *Long Term Care Kardex* as shown in option 4 below.



A prompt will appear to type in the name of the printer. Names of printers are located on white label stickers on the front of each printer. This will print out the Kardex.

Below is an example of the first page of the resident care Kardex



Unit Five Summary

Unit five provided information on updating the care plan, which included why target dates are important, when and how they should be placed on a resident's chart, and how often they should be considered. This unit also provided a step-by-step instruction on how to print the resident Kardex in the event of any care plan changes.

Care planning is a dynamic process that constantly changes as the needs of the resident changes. In addition, target dates, which are review dates, need to be placed on each diagnoses that is included in the basic care plan, as well as to any additional diagnoses that are added. Adding target dates ensures the RN reviews the diagnoses at least **every three months** to ensure they are still relevant to the resident's care regime.

Target dates should be added to care plans upon admission and set for a **three month** time period. Once the three months are up, each diagnoses should be reviewed for relevance. However, if there are significant changes in the resident's condition, the care plan should be reviewed before that time period.

Once a care plan review occurs, the RN should write a progress note indicating that a review occurred and what changes were made, if any.

A resident Kardex should be printed **once weekly** in LTC. The kardex identifies any allergies the resident may have, as well as all interventions that are on the current care plan. If changes are made to the care plan, it is important to print a new Kardex and place it in a binder located on the nursing units. This provides any staff providing care who are unfamiliar with the resident to have instant access to information. This routine is carried out through the *Print Report* process.

Unit Five: Review Questions

Instructions: Please complete the following questions. Select one answer per question.

1) What does RAI-MDS stands for?
    a. Resident Ailment Intervention- Medical Directive System
    b. Resident Assessment Inquiry- Medicine Delivery System
    c. Resident Assessment Instrument- Minimum Data Set
    d. Resident Admission Interventions- Maximum Data Set

2) How often should the RAI-MDS be completed?
    a. Quarterly
    b. When the resident's condition changes
    c. On admission
    d. All of the above

3) What does CAP stand for?
    a. Clinical Ailment Protocol
    b. Clinical Assessment Protocol
    c. Client Assessment Procedure
    d. Client Ailment Protocol

4) What is the use of the CAP summary?
    a. To identify diagnoses that should be added to the care plan
    b. To identifies diagnoses that have to be added to the care plan
    c. To identify which target date should be added to the care plan
    d. To identify the basic intervention on the care plan

5) Which **one** of the following are the four broad categories related to CAPS?
    a. Functional performance, cognition & mental health, social, clinical issues
    b. Food preferences, Family supports, diabetic status
    c. Functional status and mobility Aids
    d. Financial needs and visiting hours

6) Which Meditech Magic screen is used to add a CAP problem to the care plan?
    a. The Process Intervention Screen
    b. The Plan of Care screen
    c. The Print Report screen
    d. The Admin Data screen

7) In the Plan of Care, which **one** of the following is used to look-up available CAPS?
    a. LTC + F9
    b. CAP + F9
    c. ELTC + F9
    d. ECAP + F9

Answers to Unit Five Review Questions

Multiple Choice

1. C
2. D
3. B
4. A
5. A
6. B
7. C

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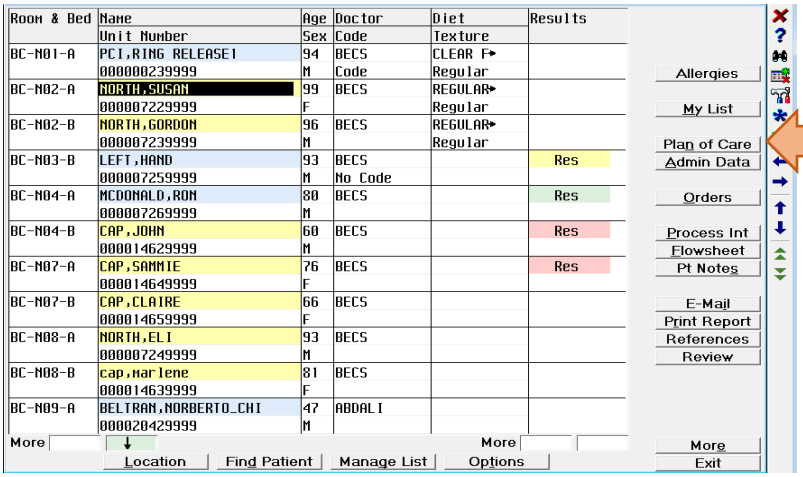
Appendix A

CARE PLANNING QUICK REFERENCE GUIDE

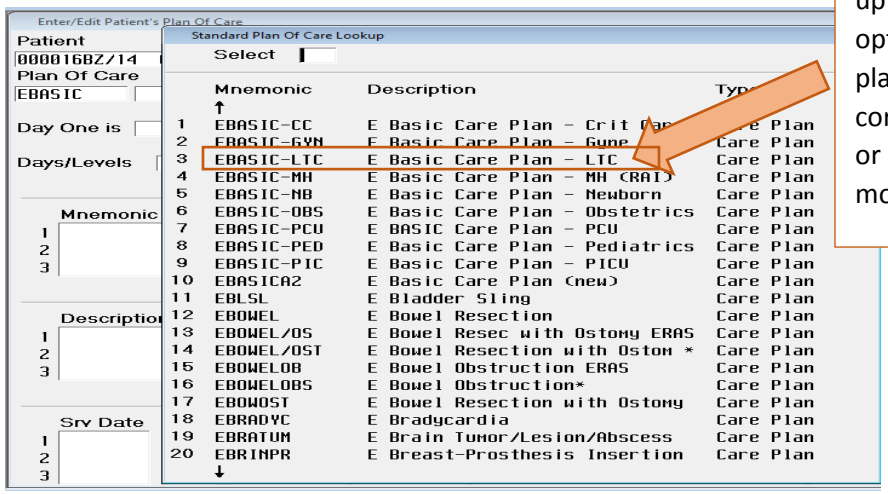
INITIALIZING THE BASIC CARE PLAN

Before any documentation can be completed on a resident's chart, a LTC Basic Care Plan must be initialized by the RN

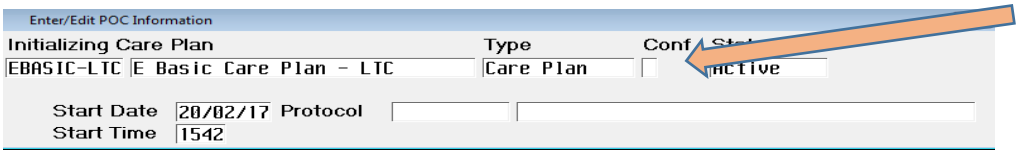


Step 1: To initialize the LTC Basic care plan, enter the *Plan of Care* screen through the status board

Step 2: Type **EBASIC** in the *Plan of Care* field, and press the **F9** (look-up) key



Step 3: Under the Look-up dictionary, select the option for the LTC care plan by typing in the corresponding number or clicking on it with the mouse



Step 4: When the following screen appears, type an **N** in the *Conf* field and press **F12** to initialize. Then press **F12** again to save the plan of care

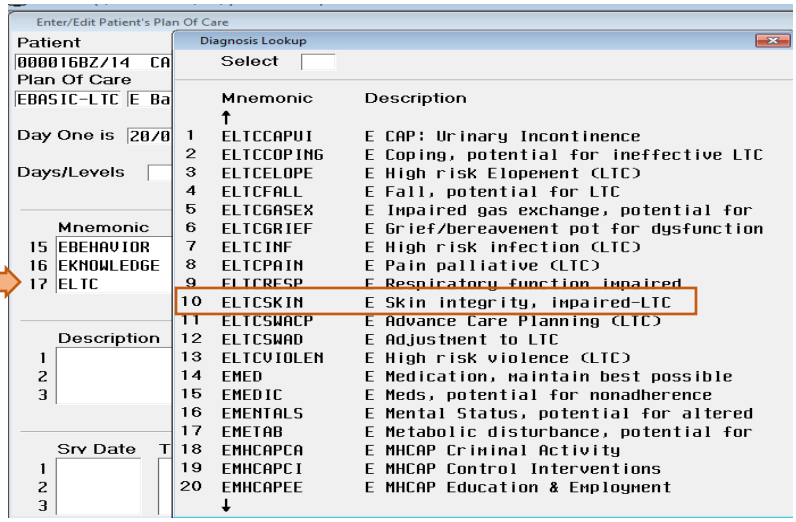
CARE PLANNING QUICK REFERENCE GUIDE

INDIVIDUALING THE PLAN OF CARE – Adding Additional Diagnoses

The basic care plan adds sixteen of the most common diagnoses, goals, and interventions that are suitable to meet the basic needs of any resident admitted to a LTC facility.

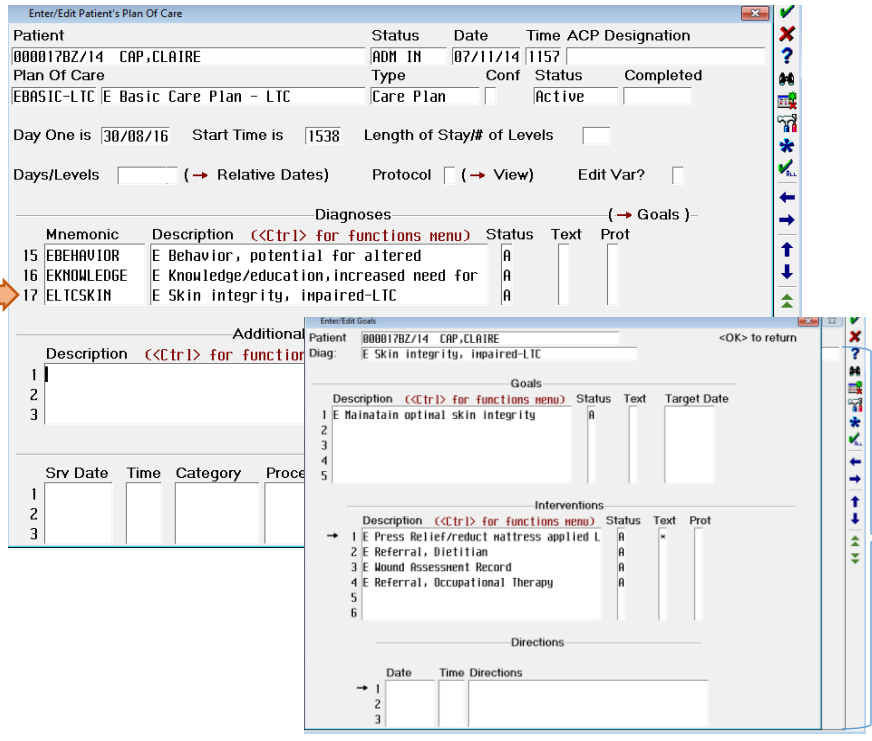
To individualize the plan of care and make it more suitable to meet the resident's needs, additional diagnoses may be added by first going to the *Plan of Care* screen available from the status board.

Step 1: Click on a blank line in the **Mnemonic** field under *Diagnoses* in the *Plan of Care* screen and type **ELTC** followed by the **F9** key



Step 2: Select the desired diagnoses from the list provided in the dictionary by clicking on it with the mouse, or typing in the corresponding number and pressing the enter key.

Step 3: Once a selection is made, to view the goal and interventions attached to the diagnoses, hold down the **SHIFT** key and press the **RIGHT ARROW** kev



Displayed, are the goal and interventions that are attached to the ELTCSKIN (Skin Integrity) diagnoses

CARE PLANNING QUICK REFERENCE GUIDE

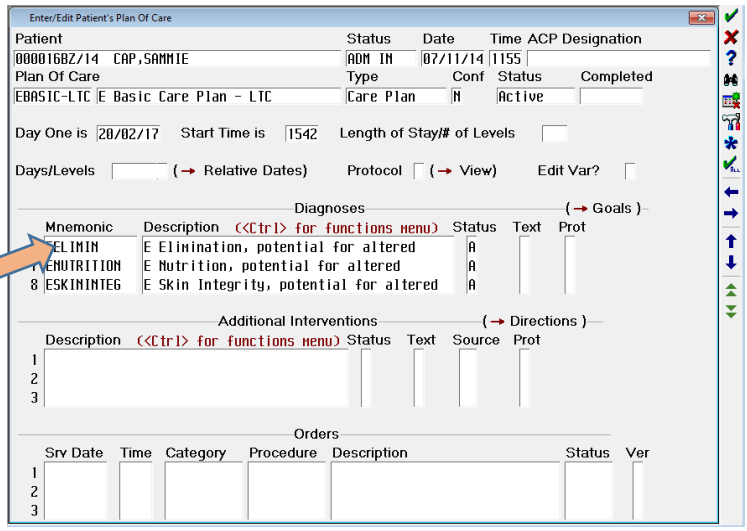
INDIVIDUALING THE PLAN OF CARE – Adding Additional Interventions

Some interventions can be added to a diagnoses populated from the basic care plan

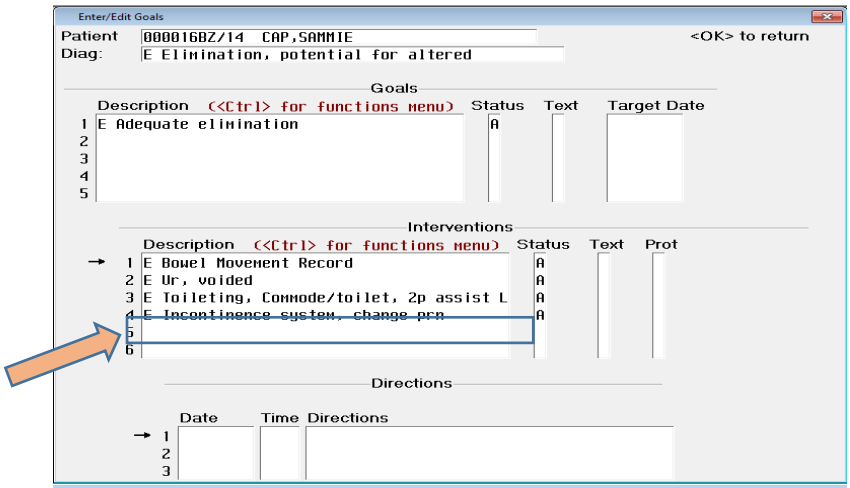
Example

Catheter interventions are not included in the basic care plan because the typical LTC resident does not have a catheter insitu. Also, there is no additional diagnosis that exists just for catheter care. Given this information, the RN would have to go through the list of existing diagnoses and select the diagnoses that most appropriately suits the interventions. Based on the basic care plan diagnoses, catheter care would be best suited to the E Elimination diagnosis.

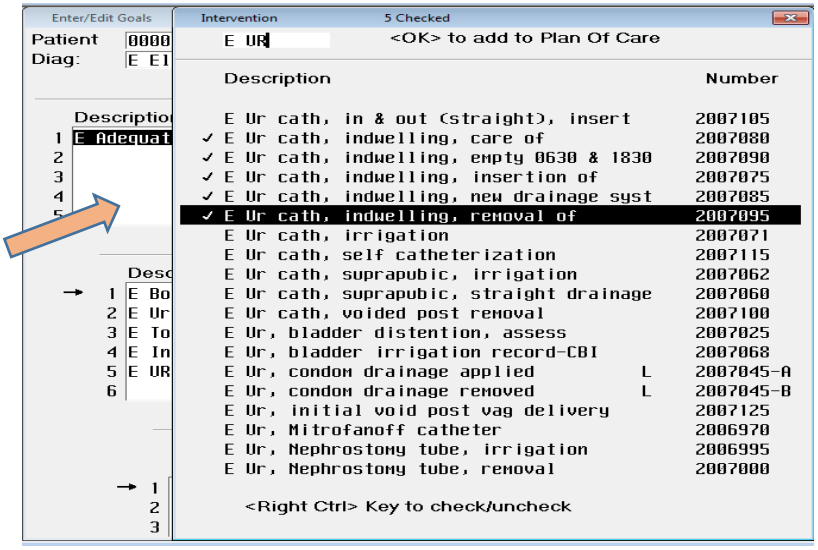
Step 1: Find the **EElimin** mnemonic under the diagnoses section of the *Plan of Care* screen. Hold down the **SHIFT** key and press the **RIGHT ARROW** key

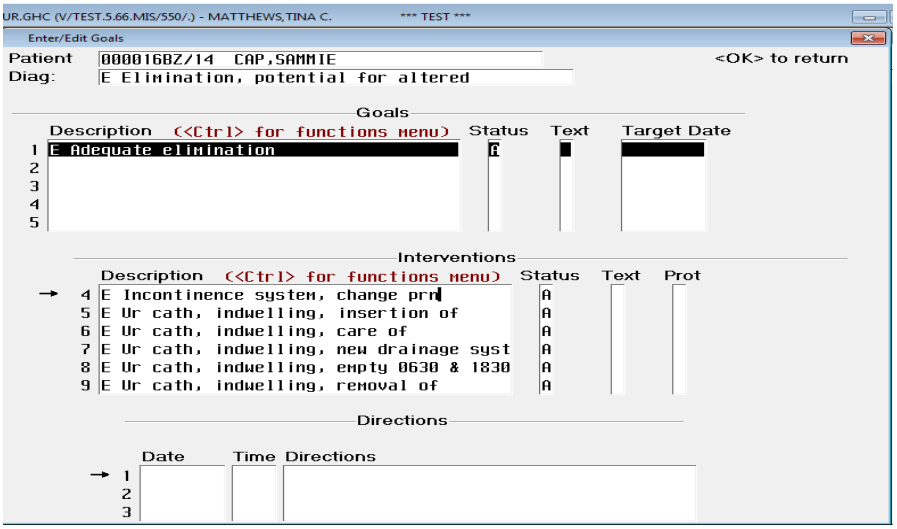


Step 2: This screen shows the goal and interventions attached to the elimination diagnosis. To add additional interventions, with the mouse, click to an empty line under the *Interventions* section and type the name of the intervention you are looking for. In this case, it is **E UR** and the **F9** look-up key. A list of interventions will appear to pick from.



Step 3: From the dictionary list, select the required interventions by selecting each intervention and pressing the **RIGHT CTRL** key. This will place a check mark in front of the interventions. Then, press the **F12** key to file the selections.





Step 4: You will then be brought back to the goal and intervention screen. From here, ensure all required interventions are added and press the **F12** key to save the interventions to the plan of care

CARE PLANNING QUICK REFERENCE GUIDE

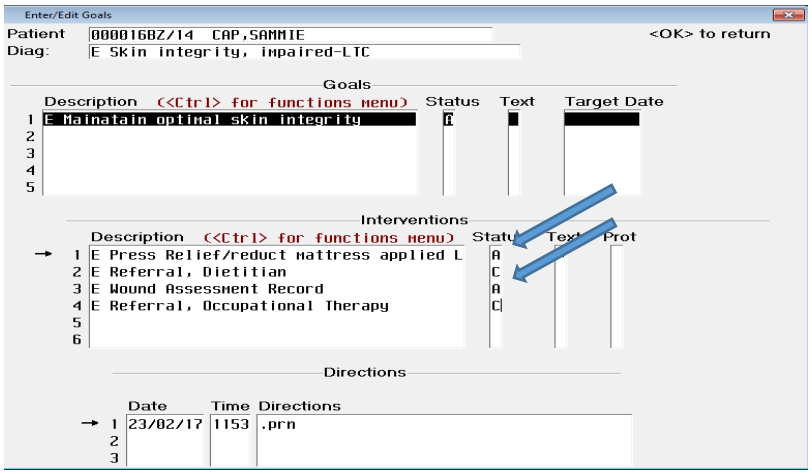
INDIVIDUALING THE PLAN OF CARE – Changing Status, Directions, Levels and Edit Text

Changing Status: Interventions that are no longer required for a resident should be removed from the care plan.

Step 1: To change the status of an intervention from **A** (Active) to **C** (complete) enter the plan of care screen. Next, select the diagnosis that the coorosponding intervention is attached too; hold down the **SHIFT** key and press the **RIGHT ARROW** key.

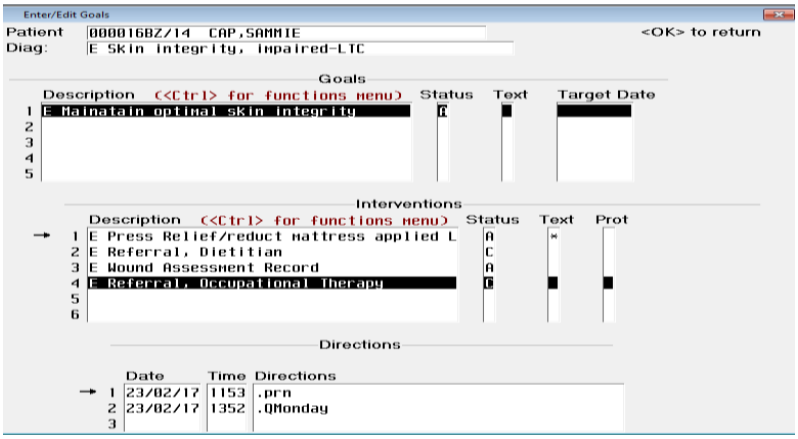
Step 2: Click in the *Status* section under *interventions* and remove the **A;** and **y**ype in the letter **C**. These interventions will no longer show up on the *Process Intervention* screen.

Note: Changing status can also be done from the *Process Intervention* screen by typing **CS** in the verb strip



Changing Directions: The directions/time of when an intervention should be carried out can be altered on the *Plan of Care* screen. This is an important aspect of care planning because it gives staff completing care indication as to when the interventions should be carried out.

On the bottom of the Goal/ Intervention screen, the *Direction* section is used to change the direction of the selected intervention.
Step 1: Click into an empty field under *directions* section. Under *Date* type **T** for today; under *Time*, type **N** for Now; and under *Directions*, type **.Direction**. Ex. .QMonday
Step 2: Press **F12** to Save
NOTE: a . must go before the direction

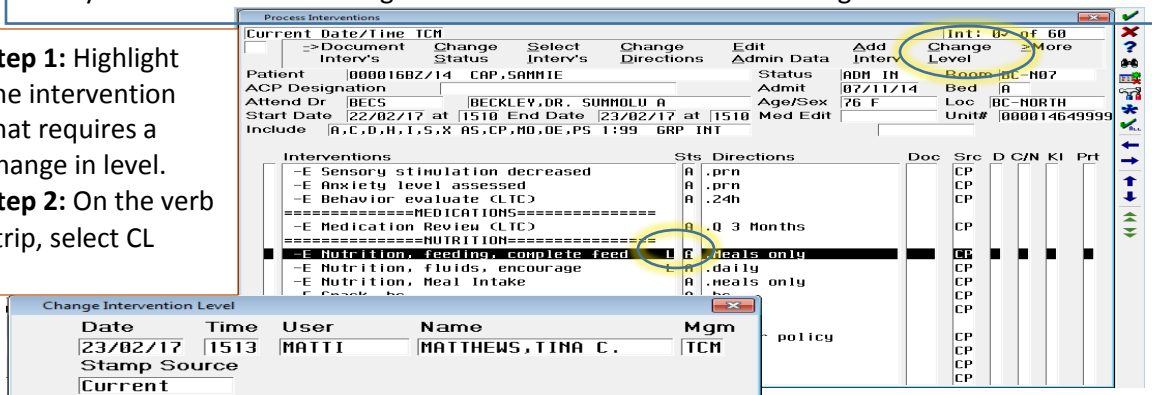


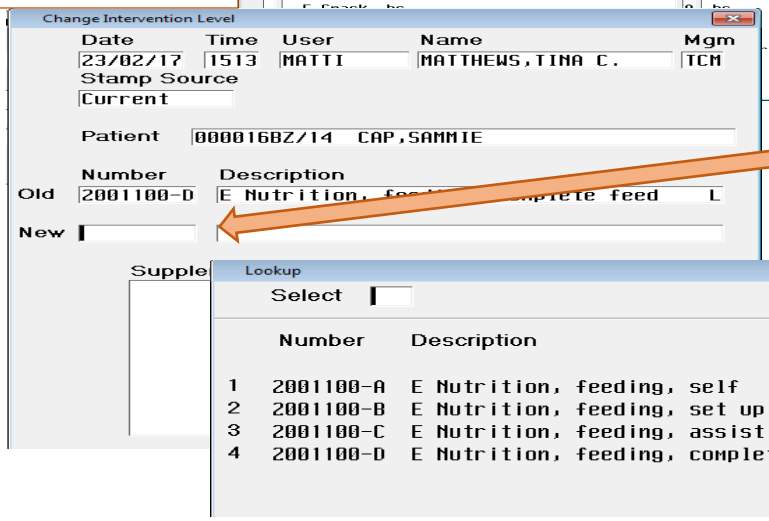
DID YOU KNOW: Changing directions can also be done from the *process interventions* screen by typing CD in the verb strip

CARE PLANNING QUICK REFERENCE GUIDE

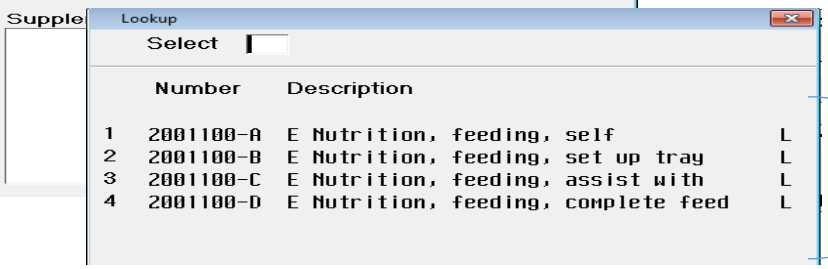
Changing Level: The level of care required to complete an intervention should be individualized to meet the resident's specific needs.
Example: Some resident's may be a complete feed, a partial feed, or a set-up tray only. Care plans should always be individualized to reflect these needs.
** Only interventions containing an **L** at the end can have a level changed

Step 1: Highlight the intervention that requires a change in level.
Step 2: On the verb strip, select CL





Step 2: In the *New* field, press the **F9** key

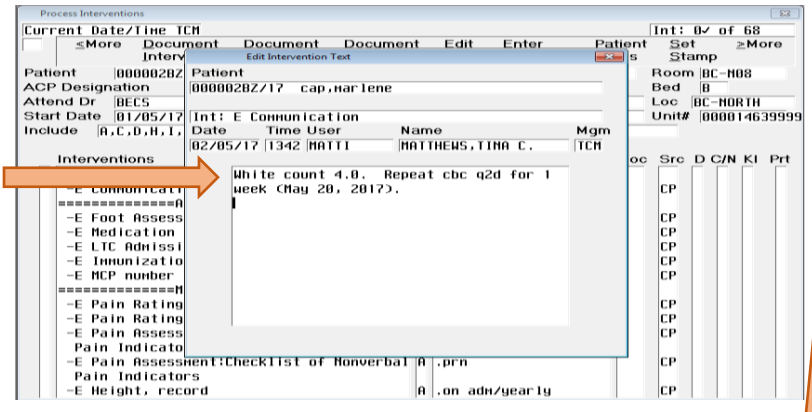


Step 3: In the look-up dictionary, select the option that best suits the resident.
*The Level will then be changed upon returning to the *Process Intervention* screen

Edit Text- Edit text allows the RN to add additional information under an intervention that indicates some aspect of the resident's care. IT IS NOT A PERMENANT-LEGAL PART OF THE RESIDENT'S CHART

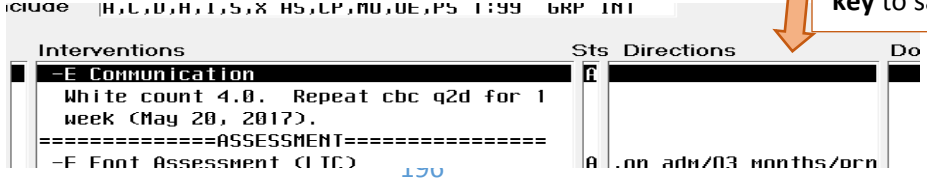
Step 1: From the **Verb Strip** on the *Process Intervention Screen* select **Edit Text**

Type in the additional text you would like under the intervention and press the **F12** key to save



Here you can see what it will look like.

When the additional text is no longer required, it should be deleted by selecting **Edit Text** again from the *Verb Strip* and deleting the line. Followed by the **F12 key** to save the



CARE PLANNING QUICK REFERENCE GUIDE

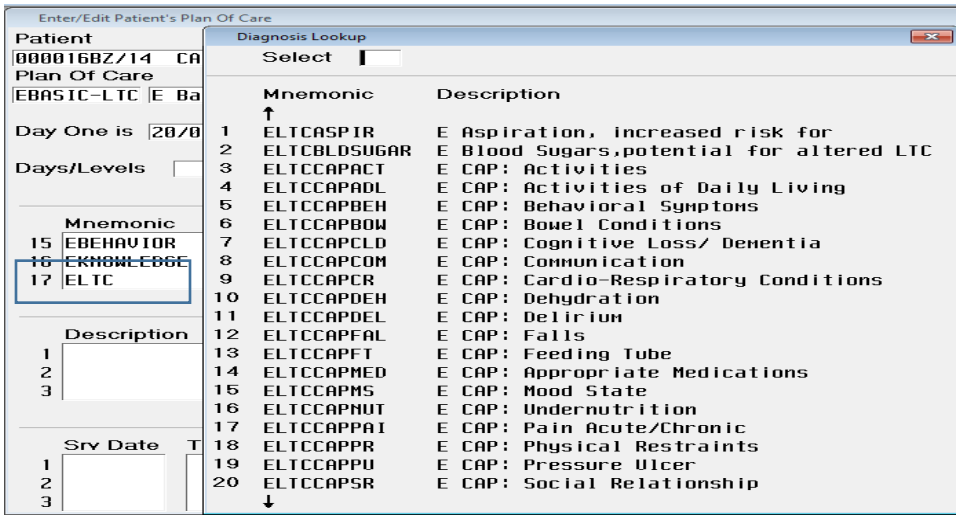
INDIVIDUALING THE PLAN OF CARE – CAPS

Clinical Assesment Protocols (CAPS) – CAPS are triggered diagnoses and interventions from the RAI-MDS 2.0 assessment and are used to asssit in the development of the individualized resident care plan.

To add a CAP to the care plan enter the *Plan of care* screen.

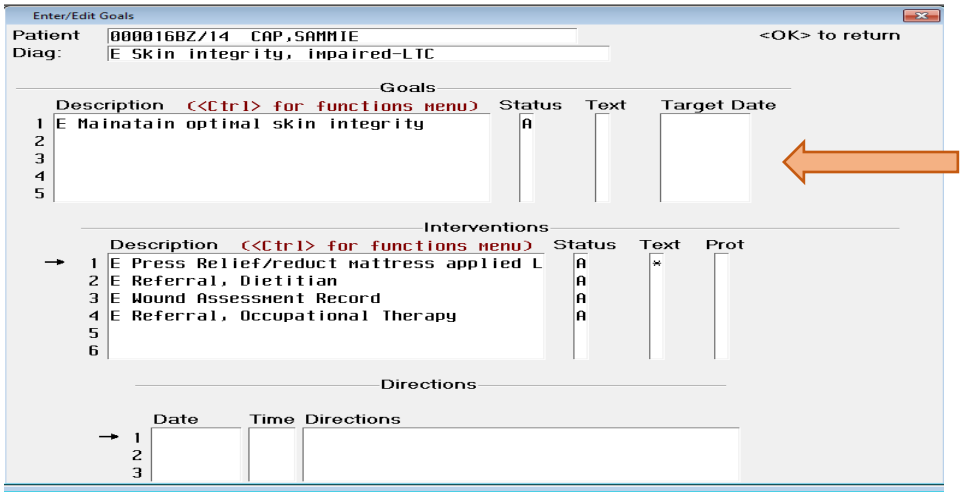
Step 1: Under the diagnoses section, type **ELTC** and press the **F9** look-up key. On the right you will see multiple diagnoses with the word CAP in them.

Step 2: To pick one of the CAPS, either **click** on the desired diagnoses with the mouse, or **type the number** and press enter.



Step 3: Once the selection is made, press **F12** to file the changes. You will then return to the *Plan of Care* screen where you can press **F12** again to file the changes made to the Plan of Care.

Target Dates - Target dates should be added to *all diagnoses* so the RN knows when an intervention was initiated and when a scheduled review of the interventions are required. They should be set for every **three** months. However, if the resident's condition changes, a care plan review should be conducted before that date.



To add a target date to a diagnoses, enter the *Goal/ Intervention* screen. Over to the left of the screen is the **Target Date** section. In there, type the date that the review should take place in **DDMMYYY** format. Once that is done, press **F12** to save the changes.

DON'T FORGET: Target dates should be added to every diagnoses contained in the resident's plan of care!!