

## The Clinical Nurse Leader Role: A Pilot Evaluation By An Early Adopter

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### Introduction

As an early adopter of the Clinical Nurse Leader (CNL) role, Veterans Affairs Tennessee Valley Healthcare System (VA TVHS) located in Nashville, Tennessee, partnered with the American Association of Colleges of Nursing (AACN) to develop an evaluation tool aimed at capturing clinical outcomes pre and post assignment of unit-based CNLs. Four indicator evaluation domains (financial, satisfaction, quality/internal processes, and innovations) were identified based on an exploration of clinical and academic experiences and literature reviews. Specific measures, data capture sources and methods for each indicator were developed. For reference and future evaluation purposes, the evaluation tool is provided.

Indicator	Measure	Data Capture Source And Method
Financial	a. Inpatient readmission within 30 days of discharge by specialty and/or primary discharge DRG. (Harris, 2006)	<b>Method:</b> 3 months, pre and post assignment of CNL. <b>Source:</b> VHA Support Services Center (VSSC) readmission rate. (Harris, 2006))

Indicator	Measure	Data Capture Source And Method
	<p><b>b. Nursing Hours per Patient Day:</b> Productive hours worked per patient day divided by all staff (RN/LPN/NA) providing direct care. (CNL and Nurse Manager are excluded). (Harris, 2006)</p> <p><b>c. Average Length of Stay</b> by treating specialty. (Harris, 2006)</p> <p><b>d. Nursing Care Hours:</b> gross or raw productive hours worked by nursing staff with direct patient care responsibilities for greater than 50% of their shift. This excludes vacation, sick time, leave, orientation, education, and committee time. The hours worked by staff employed directly by the facility are to be reported separately from contract/agency staff. (NDNQI, 2005)</p>	<p><b>Method:</b> 3 months, pre and post assignment of CNL. (<i>Manual extraction and calculation required to separate RN, LPN, and/or NA</i>).  <b>Source:</b> The Manhours Edit, AMIS 1106a. Data is stored in the NURS AMIS 1106 Manhours file. (Harris, 2006)</p> <p><b>Method:</b> 3 months, pre and post assignment of CNL.  <b>Source:</b> VSSC average length of stay data. (Harris, 2006)</p> <p><b>Method:</b> 3 months pre and post assignment of CNL  <b>Source:</b> Patient Acuity System, Payroll/Accounting/Staffing System (NDNQI, 2005)</p>

Indicator	Measure	Data Capture Source And Method
	<p>e. <b>Patient Days:</b> the total number of patient days for the month is reported for each eligible unit. This indicator is required to process nursing hours per patient day (nhppd) (NDNQI, 2005)</p>	<p><b>Method:</b> 3 months pre and post assignment of CNL  <b>Source:</b> Midnight Census, Midnight Census+Patient Days from Actual Hours for Short Stay Patients, Midnight Census + Patient Days from Average Hours for Short Stay Patients, Patient Days from Actual Hours, Patient Days Averaged from Multiple Census Reports (NDNQI, 2005)</p>
<p><b>Satisfaction, Patient</b></p>	<p><b>Discharge Plan:</b> Percent of patient discharges (primary diagnosis of heart failure) with complete discharge instructions (activity, diet, weight, follow-up, medications, &amp; symptoms). (Harris, 2006)</p>	<p><b>Method:</b> Abstraction of 100% of patients in the inpatient External Peer Review (EPRP) sample who have had treatment for heart failure/diabetes in VA 3 months pre and post CNL assignment. Calculate % of compliance.  <b>Source:</b> External Peer Review Data. (Harris, 2006)</p>
<p><b>Quality/Internal Processes</b></p>	<p>a. <b>Patient Falls:</b> Unplanned descent to the floor, either with or without injury to the patient. Includes assisted falls with or without injury to the patient. (Harris, 2006)</p>	<p><b>Method:</b> Calculate the total unit fall rate (FR) and fall injury rate (FIR) and compare for 3 months pre and post CNL assignment using the following calculation:  <math display="block">FR = \frac{\text{Total patient falls} \times 1000 \text{ days}}{\text{Total inpatient days}}</math> <math display="block">FIR = \frac{\text{Total falls with injury} \times 1000 \text{ days}}{\text{Total inpatient days}}</math> <b>Source:</b> Manual extraction from patient incident reports (QM offices). (Harris, 2006)</p>

Indicator	Measure	Data Capture Source And Method
Quality/Internal Processes	<p><b>b. Pressure Ulcer, Hospital Acquired:</b> any lesion that has developed since the patient's admission to the facility and is caused by unrelieved pressure resulting in damage of underlying tissue. They are usually located over bony prominences and are staged according to the extent of observable tissue damage. (NDNQI, 2005)</p> <p><b>c. Surgical Infection Rate</b> by treating specialty and/or total site specific infection rate: Post Operative–Deep Infection that occurs within 30 days after an operation and involves deep soft tissues of the incision and patient has at least one of the following:</p> <ol style="list-style-type: none"> <li>1. purulent drainage</li> <li>2. wound dehiscence</li> <li>3. an abscess</li> <li>4. diagnosis by an attending surgeon</li> </ol> <p>(CDC, 2005)</p>	<p><b>Method:</b> Prevalence as:  <math display="block">\frac{\# \text{ of patients with ulcer}}{\# \text{ of patients surveyed}}</math> Expressed as a percentage for 3 months pre and post CNL assignment.</p> <p><b>Source:</b> Pressure ulcer Prevalence data for VANOD sites. Manual extraction data from quarterly surveys conducted on all patients by a skilled survey team. (NDNQI, 2005)</p> <p><b>Method:</b> Percent of patients with surgical infection in relation to total number of cases surveyed for 3 months pre and post CNL assignment.</p> <p><b>Source:</b> National Surgery Quality Improvement Program (NSQIP) data within 30 day of surgery. (Harris, 2006)</p>

Indicator	Measure	Data Capture Source And Method
	<p>d. <b>Ventilator–Associated Pneumonia:</b> Nosocomial pneumonia in a patient on mechanical ventilatory support by endotracheal tube or tracheostomy for <math>\geq 48</math> hours. (Harris, 2005)</p>	<p><b>Method:</b> Number of patients on the unit with nosocomial pneumonia for 3 months pre and post CNL assignment.</p> $\frac{\# \text{ Vent Associated Pneumonias} \times 1000}{\# \text{ of Ventilator Days}}$ <p><b>Source:</b> Local Facility Infection Control data. (Harris, 2005)</p>
<p><b>Innovations form CNL Pilots</b></p>	<p><b>Qualitative Data:</b> Role implementation and perceptions of the experience from a qualitative viewpoint. This includes changes made within the practice setting related to structure, process, and outcomes.</p>	<p><b>Method:</b> Practicing CNLs and student CNLs journal their experiences in the clinical setting on a weekly basis.</p> <p><b>Source:</b> Journal summary reports collated by the CNL Coordinator on a quarterly basis.</p> <p><b>Method:</b> Nurse managers or other providers in the setting asked to complete a brief survey identifying changes seen, including implementation of evidence–based practice &amp; innovations.</p>

## Evaluation Process and Outcomes

Guided by the CNL evaluation tool and a computerized data retrieval system, the chief nursing executive at the VA TVHS chartered a team to collect outcomes data for a six month period (3 months pre and 3 months post CNL assignment). The team was comprised of a project champion and seven staff who were assigned to unit-based CNL positions. Data were collected by the assigned CNL using the indicator and measures applicable to their practice environment. Analysis followed and changes to the measures were necessitated as the data collectors identified the need to delimit the information being collected. For example, data collection initially focused on unit readmissions within 30 days of discharge versus readmissions by a specific service or discharge diagnostic grouping.

While the pilot evaluation is a snapshot of a six month period, the preliminary findings evidence outcomes that support the assignment of CNLs on units within healthcare systems. For purposes of this pilot evaluation synopsis, unit specific findings are provided. A longitudinal CNL outcomes evaluation at VA TVHS is in process and innovations are being collected for future analysis and publication.

Unit	Outcomes
Acute Medical	<p>The readmission rate for patients discharged with a primary diagnosis of heart failure was reduced from 15.4% (<i>n</i>=603) pre CNL to 13.0% (<i>n</i>=519) post CNL. <i>Financial Indicator</i></p> <p>The number of RN hours per patient day increased from 2.4 hours (<i>n</i>=244) pre CNL to 2.66 hours (<i>n</i>=272) post CNL. <i>Financial Indicator</i></p> <p>Discharge Instructions for patients diagnosed with heart failure increased from 95% (<i>n</i>=22) pre CNL to 98% (<i>n</i>=30) compliance post CNL. <i>Satisfaction Indicator</i></p>

Unit	Outcomes
Medical Intensive Care	<p>The readmission rate for patients discharged with heart failure was reduced from 6.6% (<i>n</i>=202) pre CNL to 5.7% (<i>n</i>=211) post CNL.</p> <p style="text-align: right;"><i>Financial Indicator</i></p> <p>The length of stay for patients diagnosed with heart failure reduced 3.6 days (<i>n</i>=202) pre CNL to 2.6 days (<i>n</i>=211) post CNL</p> <p style="text-align: right;"><i>Financial Indicator</i></p> <p>An increase in discharge instructions for patients with a primary diagnosis of heart failure from 33% (<i>n</i>=30) pre CNL to 50% (<i>n</i>=34) post CNL.</p> <p style="text-align: right;"><i>Satisfaction Indicator</i></p>
Acute Surgical	<p>The number of RN hours per patient day increased from 2.69 (<i>n</i>=488) pre CNL to 3.17 (<i>n</i>=540) post CNL.</p> <p style="text-align: right;"><i>Financial Indicator</i></p> <p>Patient falls decreased from 1.07% pre CNL (<i>n</i>=488) to 0.53% (<i>n</i>=540) post CNL.</p> <p style="text-align: right;"><i>Quality Indicator</i></p> <p>Surgical infection rate 30 days post operative decreased from 8.8% (<i>n</i>=340) pre CNL to 5.4% (<i>n</i>=385) post CNL.</p> <p style="text-align: right;"><i>Quality Indicator</i></p>
Surgical Intensive Care	<p>Surgical infection rate 30 days post operative for Coronary Artery Bypass Graft patients decreased from 2% (<i>n</i>=22) pre CNL to 1.6% (<i>n</i>=30) post CNL.</p> <p style="text-align: right;"><i>Quality Indicator</i></p>

## References

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