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# **Accuracy of Medical-Surgical Nurse's Prediction of Patient's Health Literacy Level**

**POSTER  
PRESENTATION**

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## Abstract

Low health literacy (HL) is common in rural locations with limited resources and abundant socioeconomic issues. This study sought to determine if a relationship existed between a nurse's assessment of medical-surgical patient's HL levels and actual HL levels [measured by the Newest Vital Sign (NVS)] of patients seeking care in a rural border region. Data collected from 84 RNs and patients revealed a moderately strong positive correlation ( $r_s = .418$   $p < .01$ ), between the RN's prediction of patient's HL level and actual HL level, contributing to the support for the use of standardized HL assessment tools to accurately identify low HL in patient populations.

*Doctoral Capstone*

# Problem

Health literacy levels are often lower in rural locations challenged with socioeconomic factors and limited health care resources (Golbani et al, 2017).

**Low health literacy** is associated with poor health outcomes, decreased rates of treatment compliance and increased hospitalization rates (Dickens, Lambert, Cromwell & Piano, 2013; Morris et al, 2011).

With an estimated one-third of the population in the US suffering from low health literacy, clinicians need to not only be familiar with health literacy but also accurately identify when low health literacy is present in their patient population (Kutner, Greenberg, Jin & Paulson, 2006; Morris et al, 2011).

Healthcare clinicians have limited exposure to the concept of health literacy and tend to **overestimate a patient's abilities** (Goggins, et al, 2016)

Many studies have explored the nurse's familiarity with health literacy and its importance on patient outcomes; however, few have focused on the ability of the nurse to effectively detect the presence of low health literacy in their patient population without the use of a standardized assessment tool (MacabascoO'Connell & Fry-Bowers, 2011).

# Purpose

The purpose of this quantitative study was to analyze the relationship between the medical-surgical nurse's prediction of their patient's health literacy level and the patient's actual health literacy level as measured by the NVS tool.

## Significance

There is currently no industry regulation to effectively screen patients for low health literacy in the acute care environment.

There is also no current industry regulation to educate a patient using verbiage and materials at a level they are able to comprehend.

Without an industry or regulatory standard, there is little in the way of support for acute health care organization to utilize precious time and resources to ensure the patient's health education needs are being met.

## Theory or Framework

The **Social Ecological Model (SEM)** examines the relationships and influence between the physical and social environment and the individual (McCormack, Thomas, Lewis & Rudd, 2017).

The SEM is derived of 5 unique factors, **intrapersonal, interpersonal, institutional, community, and public policy**, and the relationship and influence between them (McDaniel, 2018).

This study viewed SEM's institutional factor, represented by the relationship between the patient and the nurse, through the health literacy lens.

Each factor of the SEM may directly or indirectly influence the patient's abilities to understand their health-related information.

## Relevant Scholarship

In the acute care medical surgical setting, registered nurses are responsible for providing patients the majority of their care, including appropriate education (Goggins, et al, 2016).

The acute care environment is wrought with barriers, with patients often receiving standardized educational handouts that resemble a short novel, limited face-to-face interaction with a knowledgeable health care provider in which information is delivered in a rushed manner and often using a one-way communication technique (Goggins et al, 2016; Harnett, 2017).

A nurse's ability to accurately predict a patient's health literacy level while they are hospitalized is important to ensuring the patient has the knowledge and skills required to effectively manage their own health.

The Newest Vital Sign (NVS), a standardized health literacy assessment is a tool available to healthcare organization at no charge.

The NVS's easy to use format and rapid administration time of less than 3 minutes makes it an ideal tool for the busy medical-surgical environment.

The NVS has been comparatively analyzed against older standardized health literacy assessment tools and found to achieve similar valid and reliable results. The NVS was also found to have a high level of sensitivity, appropriately identifying limited patient literacy levels correctly 95% of the time (Osborn et al, 2007).

The NVS has been found to perform consistently across a variety of populations and in varied health care settings.

## Research Question

**What is the relationship between medical-surgical nurse's assessment of patient's health literacy levels and actual health literacy levels of patients who are hospitalized on a medical-surgical unit and live in a rural border region?**

## Participants

A convenience sample of 84 pairs of registered nurses (RN) who worked in a rural-border acute care medial-surgical setting who were paired with patients who were alert and oriented and who had received ongoing health care in the same setting were identified. To be considered for the study, the RN must have provided care to the patient for a minimum of 6 hours prior to the data collection period to support familiarity with the patient and the establishment of the patient-nurse relationship.

## Procedures

The NVS tool was administered at the patient's bedside and data were recorded on a data collection sheet. Data regarding the nurse's prediction of the patient's health literacy level were collected in a private location away from the patient care environment. The data were coded to reflect the relationship between the nurse and the patient and to support analysis of the patient's actual health literacy level as measured by the NVS and the RN's prediction of the patient's health literacy level.

## Analysis

Data were analyzed using Spearman's rho test, comparing the nurse's predicated health literacy level with the patient's actual health literacy level as measured by the NVS tool.

## Findings

Analysis revealed a positive correlation ( $r_s = .418, p < .01$ ) between the registered nurse's prediction of the patient's health literacy level and the actual health literacy level as measured by the NVS

Further, it was noted that the mean score of the actual patient health literacy level as determined by the NVS was 1.71 while the mean score of the registered nurse's prediction of the patient's health literacy level was 4.26.

## Interpretation

Medical-surgical RNs, like other healthcare professionals, tend to overestimate their patient's health literacy abilities as evident by the difference in the mean health literacy level of 2.55 when the actual health literacy level was compared to the RN's predicted patient health literacy level (Table 2).

Using the NVS's scoring rubric, results indicated patients were classified as having adequate health literacy, when in fact low health literacy was likely

In terms of SEM's institutional factor, a patient's ability to understand their health-related information may be directly influenced by the nurse's ability to detect the presence of low health literacy. When left undetected, patients may not be able to make truly informed decisions regarding their health and treatment and thus could limit their abilities to experience good outcomes (Morris et al, 2011).

## Limitations

The nature of the sample limits generalizability to 31 other rural-border regions located in the United States.

At the time the data were collected, the healthcare organizations were experiencing a higher volume that typically occurs during the Winter months. To meet the demand for nursing care, healthcare organizations often supplement their department staffing with agency nurses to support the higher patient volumes. During this peak time, staffing could swell by as much as 50% with staff that are not as familiar with the patient population or the local dialect, leading to an inappropriate nurse assessment of a patient's health literacy abilities.



## Recommendations

### For future study:

- Expanding the current research model to encompass other rural-border areas, as well as examining other acute settings, such as in the maternal child specialty area or the emergency department.
- Considering the acute status of the patients within the target healthcare settings and their ability to participate in the data collection phase of the study.

### For registered nurses and hospitals

- Implementation and use of a standardized health literacy screening tool, like the NVS, supports better patient education and outcomes.
- In the absence of a standardized health literacy screening tool, healthcare professionals should be cognizant of health literacy and what signs to look assess for in patients at risk for low health literacy.

## Social Change Implications

Through greater awareness of health literacy and its association with better patient outcomes, registered nurses can directly impact the patient's abilities to participate as an active member of their care team.

When patients are informed and understand their care, they are more likely to participate as an active member of the healthcare team, thus contributing to the overall health and wellness of the community.

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