

# A Pilot Study to Explore the Feasibility of Using the Clinical Care Classification System for Developing a Reliable Costing Method for Nursing Services

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## Introduction and Background

Traditionally, hospital nursing departments have calculated nursing services and resources or personnel costs as part of the facility rate per patient room using the nurse-to-patient ratio in lieu of calculating the real-time cost for individualized nurse-patient services.[1] While nursing has conducted research studies to evaluate quality of care, patient outcomes and the cost of nursing services, different variables and methods have been used without a standardized terminology. The purpose of this pilot study was to evaluate the feasibility of using a standardized nursing terminology, the Clinical Care Classification System (CCC), for developing a reliable method for determining the costs of nursing services. This project tested whether the Relative Value Units RVUs for the 4 CCC Action Types and the simple cost-to-time methods are valid for estimating costs of nursing services.

## Methods

Specific aims:

1. To test and validate four relative value units (RVUs) for the 4 CCC Action Types
2. To determine a unique cost for each of the 4 CCC Action Types
3. To compare the aggregated RVU s and simple cost-to-time costs for the 4 CCC Action Types with hospital financial salary and wage (SW) costs.

Two nurses with expertise with the CCC system recorded observations on medical unit. The observation tool linked the interventions with appropriate Action Types and recorded the time duration for each intervention-Action Type. The durations were used to calculate costs for each Action Type and for the specific Intervention-Action Types using the RVU formula and the simple cost-to-time method.

## Results

We found that the simple cost-to-time method was an accurate and straightforward way of calculating nursing cost. Total costs calculated using this method reconciled (within \$.30) with the salary and wage costs provided by the institution. The RVU costs were less accurate in that the cost of nursing care was consistently over-estimated using this calculation method.

## Discussion

While nursing activities represent a significant proportion of inpatient care, there are no reliable methods for determining nursing costs based on the actual services provided by the nursing staff. Capture of data to support accurate measurement and reporting on the cost of nursing services is fundamental to effective resource utilization. Adopting standard terminologies that support tracking both the quality and the cost of care could reduce the data entry burden on direct care providers. This pilot study evaluated the feasibility of using a standardized nursing terminology, the Clinical Care Classification System (CCC), for developing a reliable costing method for nursing services. Two different approaches are explored; the Relative Value Unit RVU and the simple cost-to-time methods. We found that the simple cost-to-time method was more accurate and more transparent in its derivation than the RVU method and may support a more consistent and reliable approach for costing nursing services.

## References

1. Welton, J.M., L. Zone-Smith, and M.H. Fischer, *Adjustment of inpatient care reimbursement for nursing intensity*. Policy Polit Nurs Pract, 2006. 7(4): p. 270-80.