

Special Article

Evaluation of Nursing Care Value: Rhetoric of 21st Century Nursing Frontiers

Kolawole Damilare Ogundeji, RN, RM, RPHN, BNSc, MSc in Medical Surgical Nursing
Department of Nursing Science, Faculty of Basic Medical and Applied Sciences, Lead City University,
Ibadan, Oyo State, Nigeria

Correspondence: Kolawole Damilare Ogundeji, RN, RM, RPHN, BNSc, MSc in Medical Surgical Nursing, Department of Nursing Science, Faculty of Basic Medical and Applied Sciences, Lead City University, Ibadan, Oyo State, Nigeria e-mail: kolawole.ogundeji@gmail.com

Abstract

The cost of nursing care is often sub-summed into medical or surgical procedural cost. However, nursing researchers are scaling up processes to formulate universally acceptable method of evaluating the value of nursing care. This is imperative because to provide value-based, efficient and effective healthcare, the cost of nursing services should be understood and measured. From literature review, most nursing care cost formula failed to recognise the variability across patients, nurses and unit characteristics. Therefore, the thrust of this study is to underscore the need to articulate nursing care cost accounting system where the value of nurses' interventions are link to patient, nurses and unit characteristics

Key Words: Nursing care cost, evaluation, variability, frontiers

The Burden of Price for Nursing Care

The twenty first century model of nursing care and costing is witnessing a paradigm shift from the traditional room and board rate of categorizing nursing services. Across the globe efforts are being made to re-engineer the process of evaluation and costing of nursing services. This process is to divorce the usual method where nursing care is subsumed into medical or surgical procedural cost. Nurses are keenly concern about the patient physical, social, psychological and spiritual wellbeing, thus, a complete care of man' sprit, soul and body. In other words, nurses are the glue of medical practice and they provide unparalleled support for the patient recovery

However, despite nursing care form the largest patient experience in the hospital, nursing care have not been seen as an important hospital fund generating unit (Dykes, Wantland, Whittenburg Lipsitz, Saba, 2013). Nursing care at best are seen as humanitarian services that does not require hospital charges whereas the Royal College of Nursing, RCN (2009); Welton & Harper, (2015) argued that nursing care cost will comprise half of the patient hospital charges if

adequately tracked. Services rendered by physicians, dentists, physiotherapists, pharmacists and dieticians are quantified with specific tariffs and are therefore form part of the hospital generating source (Dykes et al, 2013). Rutherford, (2012) suggested daily nursing care billing to generate data which can be useful for hospital financial decision making. Similarly, The RCN (2009) also, posited that nurses should keep a daily activity log to enable them track the cost of nursing care to prevent nursing care cost being treated as a fixed cost and then bill as daily room rate (Jenkins, 2013)

Significantly, it is often difficult to accurately evaluate the value of nursing care because of various variability regarding patient, nurses, unit and hospital. For example, patient social demography, disease burden, severity or acuity rating differs. Evidence also suggest that even patient with similar diagnosis and the same acuity rating will require different nursing intensity and management (Rutherford, 2012: Jenkins, 2013). In the same vein, nurses diversity in term of educational preparation, years of experience, cadre, specialty and care settings influence the cost of nursing care. This support

the inference that multidimensional issues are impeding the science of costing nursing care across the globe

Methods of Costing Nursing Care: A Synthesis of Literature

In most part of the world, standardized, scientific method for costing nursing services has not been formulated (Dykes et al., 2013; Jenkins & Welton, 2014). Specifically, Jenkins,(2013) opined that if nurses can articulate a standard method of costing nursing care then nurses services will become a significant revenue source for hospitals. However, as the vision is laudable, the science of developing a standardized, effective and globally acceptable nursing care costing method has not been established. Estimating the cost of quality services rendered by nurses should be the subject of discussion among nurses in this 21st century

Nursing cost studies generally differ in methods used and often do not report many of the relevant nurses and patient characteristics important to the interpretation of their results (Jenkins & Welton, 2014). Capturing of data to support accurate measurement and reporting on the cost of nursing services is fundamental to effective resource utilization. The improvement in health technology and the increasing demand for quality health care services through the emerging health care financing organizations has led to the need to estimate the cost of nursing care for evidenced based practice and for health care planning. Health care policy, financing and clinical priorities are calling for higher quality of care, better patient outcome and reduced cost of care yet very little is known about the cost, quality of nursing care and the effectiveness of nurses providing the care (Welton and Harper, 2016)

Similarly, little is known about the actual relationship between the cost of nursing care, hospital billing and reimbursement because cost accounting system varies across hospitals (Welton, Fischer, DeGrace & Zone-Smith, (2006). Many methods abound in literature in an attempt to determine the cost of nurses' interventions in certain health care setting, specialty or unit but there is no standard formula and this poses challenge to nursing practice. Jenkins, (2013) noted that the difficulty in determining the cost of nursing care per patient measurement is due to lack of hospital data linking patients to nurses in the unit. Obviously, the differences in calculating the cost of nurses'

interventions across nursing specialties is technical and a pointer for further research.

Furthermore, this challenge of costing nursing services may linger considering various factors inherent in nursing which must be considered. Costing nursing services across specialties is a hard nut to crack. There are many specialties in nursing ranging from clinical based practice, community based practice, administration and education. Determining what each of the specialty does as compared with others to determine the cost of the interventions is very technical. One suggestion for researchers is to calculate the cost of nursing services for each specialty

The attempt to calculate the cost of nurses' interventions across nursing specialties have also generated further debate. Some nurses have argued that critical care nurses involve in more technical, holistic and ethico-legal aspect of nursing and have wider horizon than other nursing specialties. Nevertheless, the Royal College of Nursing report (2009) indicated that each specialty or unit of nursing should monitor their activity log to serve as a template to calculate the cost per episode of care (Welton & Harper, 2016) however, comparing the nurses' activities log across specialty is cumbersome and may be unrealistic. The fact remains that nurses need to develop more understanding of their contribution to care from different perspectives.

Moreover, nursing cost is still purely treated as a workforce cost which is associated with the unit or department level and allocated based on the amount of time the patient spent in that unit, for example, theatre hour or bed days. Within this system of costing nursing care, there is little recognition of variation in nursing input or effort as well as patient dependence and nurses' skill. The main focus of classifying activities is predominantly medical procedural cost and diagnosis. Using the number of days the patient stay under nurses' watch or unit as the determinant factor in costing nursing service assumes that all hospital patients used the same amount of nursing resources for each day in the unit (Welton and Dismuke, 2008). Patients with the same diagnosis and under the same nurse may have to use different health resources because of the different nature of individual (Rutherford, 2012; Jenkins, 2013)

Consequently, several methods of costing nursing care have been attempted including the

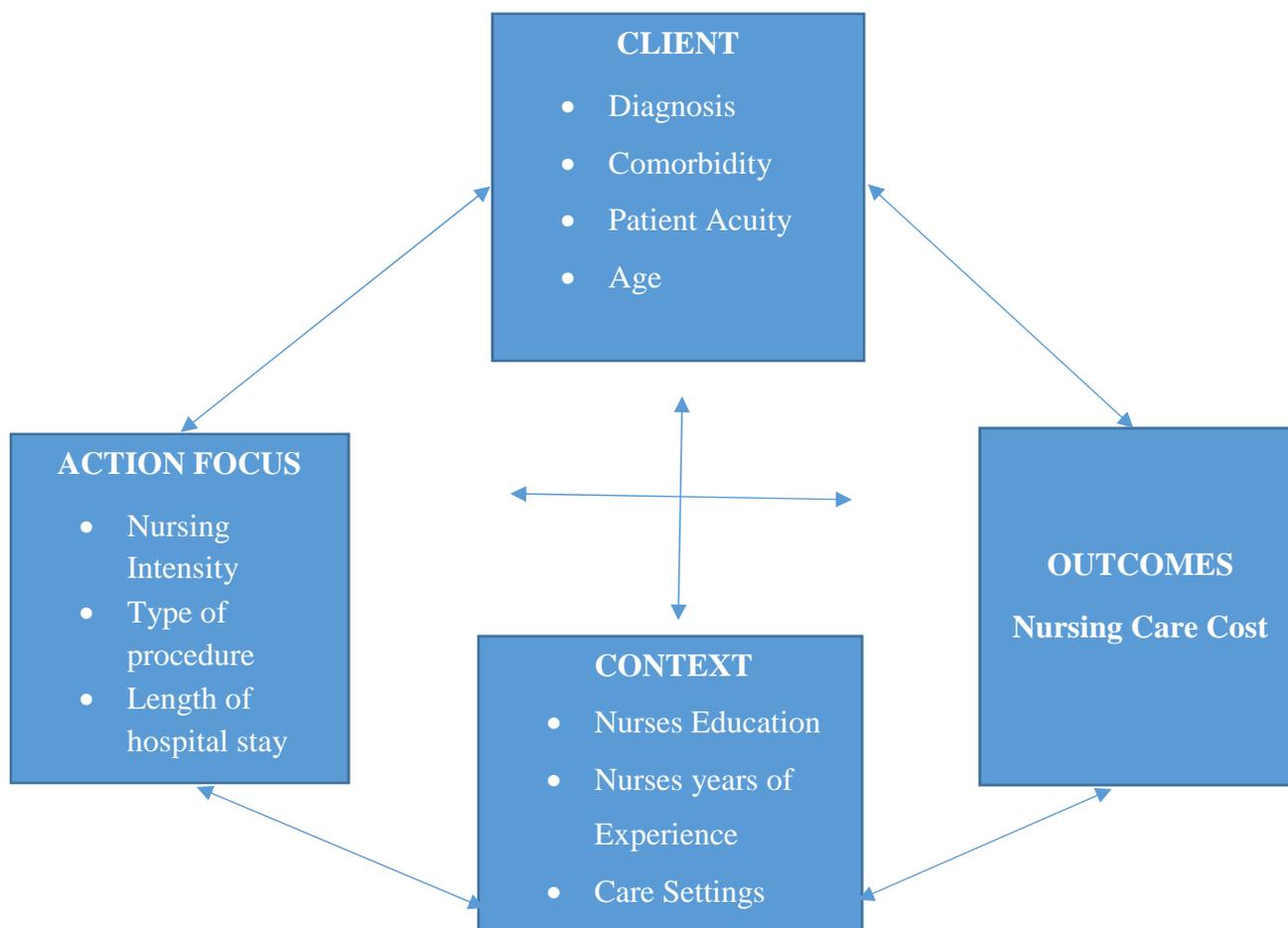
recent approach of calculating the nursing care value from the nursing intensity and the staff wages by Jenkins. Jenkins (2013) estimated the nursing care cost per acute care episode by the product of the nursing intensity and the nurses hourly wage (NI×NW). Methods of costing nursing care had overtime include: *The clinical Care Classification System*- which is basically the electronic documentation of nursing practice using a coded standardized nursing terminology framework, *Per Diem Method*- It involves daily costing of nursing care whereby the nursing care cost is calculated based on the number of days for patients care. The average nursing care cost per day is obtainable by dividing the total nursing services expenditure by the total number of days,

Diagnosis Related Group (DRG) - This method is applicable when comparing the nursing care cost of patients with similar diagnosis. Other known methods include Simple cost to time method, Relative Value Unit, Relative Intensity

Measure (RIMs), Macleod Nursing Intensity, case costing, Therapeutic Intervention Score System- specifically used in intensive care unit where there is variability in patients complexity. The usage of a particular method for costing nursing care is influenced by patient clinical condition in term of severity, acuity rating as well as nursing staffing and care settings. The gap in most nursing care cost calculations relate to the usual diversity in patients, nurses and unit characteristics.

Again, the author suggests the use of standardized nursing languages as a possible panacea to the methodological variations confronting the process of costing nursing care. Nursing care framework such as the nursing process, Nursing Intervention Classification (NIC), Nursing outcome Classification (NOC) and NANDAI can be explored to determine the feasibility of costing nursing care. Also, a theoretical framework which will guide the costing process and technicality is also essential.

Application of Srom to Evaluation of Nursing Care Cost



Theoretical Framework

The System Research Organizing Model (SROM) can be used to understand the concept underpinning the evaluation of nursing care value in clinical practice. SROM consists of four constructs which are *client*, *context*, *action focus* and *outcomes* (Effken, Brewer, Patil, Lamb, Verran & Carley, 2003). The four constructs are interrelated and represent the relationship between the patients, nurses, the nursing care and cost of nursing care. The client is the patient which requires nurses' interventions for recovery. The patient characteristics such as age, diagnosis, acuity rating and comorbidities can influence the cost of nursing care

The context represents the variables in the healthcare environment which influence the outcome. Such variable is the nurses' characteristics which include staff level of education, years of clinical practice experience. These nurses' factors including unit characteristics influence the cost of nursing care. The third SROM construct, action focus represents the interventions that also have influence on the outcome. Typically, the action focus is the nursing actions targeted at positive patients' outcome. These are the nursing interventions perform every shift that require costing at each episode of care. Arguably, the nursing interventions form the largest patient needs in healthcare environment. Importantly, nursing interventions have often been categories as board and room rate within the healthcare ecosystem and therefore require a theoretical framework to explain the concept of cost of nursing care. The outcome which is the fourth construct is the end-product of interactions of the client, context and the action focus. This is the cost of nursing care. SROM is a holistic model because measurement variables can be attributed to patients, nurses, interventions in the system

Conclusion

The review essentially underscore the need to articulate nurses' friendly accounting system where nursing services are evaluated within the

context of nurse-patient interactions. In essence, nursing researchers across the globe are scaling up strategies to evaluate the value of nursing care. The review shows that variability across patients, nurses and units characteristics are the major challenges in estimating the cost of nursing care. Nevertheless, one suggestion is that nursing care cost calculation should link the patients' characteristics with the nurses' characteristics in the unit.

References

- Dykes P.C, Wantland D, Whittenburg L Lipsitz S, and SabaV.K (2013): A Pilot Study to Explore the Feasibility of Using the Clinical Care Classification System for Developing a Reliable Costing Method for Nursing Services. *AMIA Annual Symposium Proceeding*. American Medical Informatics Association
- Effken J.A, Brewer B.B, Patil A, Lamb G.S, Verran J.A & Carley K.M (2003): Using computational modeling to transform nursing data into actionable information. *Journal of Biomedical Informatics* 36: 351- 361. www.sciencedirect.com
- Jenkins P.A (2013): Nursing cost per acute care episode exploring- Relationships using patient level data. A doctoral thesis submitted to the College of Nursing, Faculty of the Graduate School of the University of Colorado
- Jenkins P. and Welton J. (2014): Measuring direct nursing cost per patient in the acute care setting. *Journal of Nursing Administration* 44.5:257-262. Doi: 10.1097/NNA.0000000000000064.
- Royal College of Nursing (2009): Nursing and Payment by Results: Understanding the cost of care. Policy briefing. Policy unit. London
- Rutherford M (2012): Nursing is the Room Rate. *Journal of Nursing Economics* 30.4:193-199. Jannetti Publications, Inc.
- Welton J.M and Dismuke C.E (2008): Testing an Inpatient Nursing Intensity Billing Model. *Policy, Politics, & Nursing Practice* 9.2: 103-111.
- Welton J. M and Harper E.M (2015): Nursing Care Value-Based Financial Models. *NURSING ECONOMICS* 33.1
- Welton J.M and Harper E.M (2016): Measuring Nursing Care Value. *NURSING ECONOMICS*
- Welton J.M, Fischer M.H, Degrace S & Zone-Smith L (2006): Nursing Intensity billing. *Journal of Nursing Administration* 36. 4: 181-188.