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Returning Nursing to Nightingale: The Bigger Picture of Mainstreaming Kenya-Nursing Process

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Abstract

Application of all Nursing Process steps as a standard practice in nursing at national scale is a very rare occurrence in clinical practice and in nursing literature. This paper presents lessons learnt in the bigger picture of mainstreaming Nursing Process within a public sector context at national level covering issues on policy, financing, training, implementation (practice and management) and effects. It discusses Nursing Process in context; structuring discussion in a way integrating nursing theories, facilitating professional empowerment, ensuring higher quality nursing care, and nursing visibility and contributions in healthcare delivery.

Based on practical experience in integrating Virginia Henderson's need theory, Orem's health systems theory, total nursing care and team nursing within Nursing Process, it suggests replacement of medical model paradigm with caring model paradigm to facilitate effective independence and meaningful dependence and interdependence in nursing operations. Thus significant organizational cultural shift is proposed. Nursing Process is presented as the principal vehicle propelling nursing profession and practices forward, sampling success stories that demonstrate effectiveness and improved patient care.

On standardization of nursing language, new innovative ideas under Nursing Process steps of assessment, diagnosis, planning and documentation are presented with suggestions of a new approach in measuring Nursing Process implementation using Benner's "stages of clinical competence" scale, focusing on levels of knowledge and skills in Nursing Process. In that thinking Nursing Process implementation is likely to succeed through challenges, especially when competency level is reached and surpassed; notwithstanding exogenous challenges such as restructuring in a health system or a political system that bear influence on nursing operations.

It is proposed that nurturing Nursing Process implementation through training to competency level within the premise of "totality of knowledge and experience" is critical in achieving reasonable nursing visibility in clinical settings, enhancing quality nursing care, and ensuring sustainability through the principle of critical mass. Thus a significant shift from developing individual nurses in single bits to collective development of a nursing workforce in Nursing Process must be made, availing a committed and cohesive critical mass of nurses working towards achieving desired professional and organizational goals despite challenges; promoting Nursing Process practices to the level of organizational culture in healthcare delivery. This requires time, resources, commitment and above all, strong and focused leaderships in nursing.

The article is in four parts. Part 1 discusses contextual information critical in understanding the Kenya Nursing Process and its context. Part 2 discusses detailed explanation and practical understanding on the six Kenya Nursing Process steps. Part 3 discusses the theoretical frameworks critical in mainstreaming activity. Part 4 discusses outcomes, challenges, and concerns. It also includes way forward and conclusions.

Keywords: Nursing process; Mainstreaming nursing process; Assessment; Nursing diagnosis; Nursing outcomes; Nursing sensitive outcomes; Nursing interventions; Nursing documentation; Care planning; Nursing theories; Nursing models; Empowerment; Nursing services

Introduction

Mainstreaming Kenya-Nursing Process was a project of the Department of Nursing in the Ministry of Medical Services (Box 1) initiated by and under the leadership of the author. It had five objectives: To improve quality of nursing services; to strengthen accountability in nursing practice; to bridge the gap between nursing education/theory and practice; to improve nursing visibility in healthcare delivery; and to contribute towards knowledge building in nursing profession. In doing so it was guided by three strategic messages drawn from Florence Nightingale's published letters and a national conceptual framework on nursing developed by the Division of Nursing (DoN).

First: as Florence Nightingale puts it, Nursing is "putting us in the best possible condition for nature to restore and preserve health"; Second: "For us who nurse, our nursing is a thing, which, unless in it we are making progress every year, every month, every week–take my word for it we are going backward" [1]; and Third: "Do not let the world move on and leave us in the wrong" [2]. These words of Florence Nightingale resonated in every mainstreaming Kenya-Nursing Process (Kenya-NP) workshop alongside the following national strategic conceptual framework in nursing developed by the Division of Nursing:

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1. Nursing is a service; and as a service it is an act of caring and therapy that people seek and nurses provide. It must therefore be available and accessible in reasonable and acceptable quantity and quality standards;
2. Nursing is a discipline; and as a discipline it has its unique philosophy, values, and work cultures that must fit with health needs, and social and cultural values of society;
3. Nursing is a career; and as a career it is studied up to the highest possible limits and has its own career progression ladder along which its members grow;
4. Nursing is an organisation; and as an organization, it has a vision, mission, goals, and objectives that socially fit and feed into the bigger health care organisation; it has unique core value concepts, self-governance structures; and it functions alongside others within the context of the wider health care governance and operation structures for specified health reasons and outcomes.

Each thematic area therefore has strategic programs and projects with specific objectives. Nursing as a service has this project on Mainstreaming Kenya-Nursing Process alongside nursing commodities project that focuses on improving quality of nursing services through improved commodity supply and management; and neonatal nursing project focusing on improving quantity and quality of neonatal care services in public hospitals by establishing new-born units across the country.

Nursing as a career has Scheme of Service for Nursing Personnel project; human resource planning, recruitment and promotion programs; and nurse-leaders development/training project. Nursing as a discipline has projects initiating and institutionalizing specialised nursing education programs in paediatric nursing, peri-operative nursing, renal nursing, sign language for nurses, nursing anaesthesia and palliative care, including higher education in nursing. Nursing as an organisation had a project of structuring and positioning nursing appropriately within the ever restructuring health sector in Kenya.

Those are strategic nursing reform agenda the author instituted under the vision of "empowering the Kenyan Nurses" when he became Chief Nursing Officer (now Director Nursing Services) in January 2006, to address fundamental "wholeness" and "uniqueness" in nursing systems [3]. The purpose of this paper is therefore to share technical and leadership experiences gained on Mainstreaming Kenya-Nursing Process as service delivery initiative.

Background

Contemporary nursing came into being courtesy of medical model's failure to meet holistic health needs of individuals, families and communities, sick or well. Florence Nightingale (1820-1910), the founder of modern nursing, achieved her glory partly by delivering nursing services in a focused holistic model that filled the void. But it was not until the emergence of Nursing Process in 1950s that nurses seriously began to differentiate the caring model from the medical model. More efforts by nurse thinkers thereafter have continued to perfect the caring model in different ways, culminating to contemporary nursing theories and models that today enable nurses operate from the points of "Know How" and "Know Why". Some nurse writers have however emphasized on holistic care model while others have stressed on patient care model; both of which, in this project, make up the Caring Model.

The term "Nursing Process" (NP) has existed since mid-1950s. But historical analysts attribute earliest application of elements in NP to the principals and practices of nursing as introduced by Florence Nightingale in mid-19th Century [4]. The fact that elements of NP can be traced that far back, and the fact that scientific nature of NP emerged way back in 1950s coupled with its resilience to healthcare politics over time and its simultaneous technological advancement, attest to its vitality and uniqueness in nursing practice, especially the scientific meaning it gives to nursing in quantitative and qualitative values and social identity. And to the present economic world, NP defines socio-economic values nursing has in contemporary healthcare delivery [5].

Despite being introduced in Kenya in 1970s and being taught in nursing colleges since then, NP is yet to develop its firm roots in delivery of nursing services among practicing nurses within the Country [6]. Therefore, the challenging question is: "If NP is this vital in nursing practice and the profession, why then has its generalization and application in nursing practice been so low despite its long inclusion in nurses' training curriculum in Kenya?"

Most studies on NP in various countries have identified and defined NP scope, benefits, and reasons why it is not working properly in clinical settings. But there are very few studies reporting on "how Nursing Process can be made to work" more effectively in clinical settings despite the challenges [7]. A secondary challenging question therefore emerges that: "How can Nursing Process get institutionalized effectively in nursing practice in clinical areas within an entire nursing system in a country?"

This article attempts to answer these two fundamental questions from two viewpoints. First, the authors' experience in Mainstreaming Kenya-Nursing Process between 2006 and 2013 (i.e., four years conceptualizing, surveying, lobbying and planning from 2006 to 2009; and four years implementing from 2010 to 2013) provide primary data. Second, additional information come from published literature on NP and related subjects from several countries, largely outside Africa; some of which were published several years before; importantly noting that Africa generally still suffers a paucity of NP literature.

What is Nursing Process?

When the author introduced the idea of mainstreaming Nursing Process in clinical settings in public hospitals, for discussion at high policy level in Kenya for the first time, the bombarding question that spontaneously came along was: What is this Nursing Process? This question was subsequently asked by hospital managers as NP gets introduced further down the health system. Despite several technically sound definitions of NP by nurse scholars like Alfaro-LeFevre [8] and Mahmoud and Bayoumy [9]; the author found one practical and dynamic definition of Nursing Process in Masaba [4] that states:

"THE nursing process is a scientific method of approaching and planning [and executing] the nursing care of the patient. It is an ongoing process and has a different meaning for each patient at different stages of his illness. It also varies from one nurse to another and at different levels of a nurse's professional maturity and in different nursing situations".

The phrases "different levels of a nurse's professional maturity" and "in different nursing situations" are underlined by the author as they form vital antecedents providing critical understanding to the concept of Mainstreaming Kenya-Nursing Process. The phrase "a scientific method of approaching and planning [and executing] the nursing care of the patient" is a critical attribute to NP definition and functions in

modern times. The words "[and executing]" are the author's addition maximizing the definition to encompass utility.

The phrase "different levels of a nurse's professional maturity" refers to an individual nurse's level of professional knowledge and experience in practicing nursing and applying NP. But it also refers to the aggregated totality of knowledge and experiences of all nurses working within a nursing system on NP at any given time. Therefore Mainstreaming Kenya-Nursing Process aims at raising the level of that 'totality of knowledge and experiences' on application of NP within the Kenya nursing care system.

The phrase "different nursing situations" has two connotations. First, in the context of general systems theory [10] nursing is a system operating within a bigger healthcare system and political establishments. Therefore policies arising from the two supper-systems impact positively or negatively on nursing (Box 1). These factors vary with players and time, determining different situations in which nursing operates. Second, every nursing system is unique and is faced with unique internal and external influences that differ in time and space. Thus what works in one nursing system may not necessarily work in another nursing system in exactly the same way, though principles remain constant. Even within the same nursing system happenings change with varying circumstances in time and with players despite constant organizational objectives.

The phrase "a scientific method of approaching and planning [and executing] the nursing care of the patient" defines the purpose and principal functions of NP that are essential in quantifying and valuing nursing practices; recognizing that for centuries nursing suffered a lack of scientific measurements critical in quantifying nursing activities and performance, professional management and improvement, social identity, and resource allocation.

Therefore, hypothesized dichotomy guiding further discussion is: "being an expert in nursing is not necessarily being an expert in Nursing Process; similarly, being knowledgeable in Nursing Process is not necessarily being skillful in Nursing Process. Nursing services effectiveness requires both "knowledge" and "skillfulness" in NP". This project intended to enhance both "being knowledgeable" and "being skillful" in NP among practicing nurses.

The Concept of Mainstreaming Kenya-Nursing Process

Mainstreaming Kenya-Nursing Process integrates several concepts in four interlocking operating clusters. One cluster is enshrining NP within health systems policy framework. A health system could be a single or a group of healthcare institutions as in private sector; or a handful of health facilities within a region or a very large collection within a country/state as in the public sector. Focus here is on integrating NP within health policies and priorities within a health services establishment and getting buy-in and ownership from top level healthcare leadership [11].

The second cluster is integrating NP with appropriate nursing theories and models. In this context NP has two dimensions. First, it is a framework operationalizing nursing theories and models in clinical practice [12,13]. Appropriate nursing theories are required to strength nursing practice by "providing structure and language to describe, explain, support, and guide professional nursing practice" [11]. It is the theories that facilitate professional culture in the conduct of practitioners. Second, NP is a framework that defines sequential activities during a nurse's professional clinical practice, thus providing scientific visibility and measurability of nursing practices. In this way nurses apply appropriate knowledge base signified by rational reasoning, judgment and decision-making in a measurable or observable sequence.

The third cluster is setting an environment conducive to implementing NP. This occurs at two levels. The first level is reorganizing nursing operating systems to provide congruency with Nursing Process. This includes improving human resources capacities and skills mix, redefining scope of nursing practice, redesigning duty assignments, and reevaluating models and modes in nursing care delivery. Second level is long-term and perhaps the most difficult. It is changing or amending the philosophy of healthcare management and delivery as it applies to nursing. As Turkel et al. [14] put it, "the harsh reality is that nursing practice within organizations is structured on the medical paradigm". Yet the truth is that Nursing Process and medical model operate from two different paradigms.

Whereas medical model operates from separatist ontological platform, NP operates from "holistic relational ontology of unity" of the caring model [14,15]. The two ontological viewpoints are antonymous to one another though practically synergistic. Healthcare organisations therefore need to develop policies and management systems that relieve nurses of medical model burdens and support coexistence and compatriotism of both medical and caring models. Thus Mainstreaming Kenya-Nursing Process is an organizational cultural evolution.

The fourth cluster is managing actual providing direct holistic nursing care to patients and clients using NP as integrated with appropriate nursing theory. At this point nursing care becomes visible and NP practically defines nursing practice and quality of care, making clients of nursing services feel and accept actual nursing care. Performance of nursing care is managed at this point. Thus in this endeavor consideration is given to including NP in the Scheme of Service for Nurses and nurses' job descriptions (policy); and having nurses within a health system rigorously trained to acquire skills in applying NP in services delivery and individual nurses' performance evaluated (practice). Performance of nursing care is measured using NP focused scales. Thus nurse-managers and nurse-practitioners converge and agree with each other on methods and quality of care and performance evaluation. It is also at this point that nurses demonstrate to top managers and policy makers that they have solutions to predicaments bedeviling the health system and gain recognition. The paradox is that mainstreaming Nursing Process is a step by step time-consuming venture. Within the concept of Benner [16-18], an entire nursing system can deliberately move forward the level of its "totality of knowledge and experience" on NP overtime through the five progressive learning steps, i.e., from novice, advanced beginner, competent, and proficient to expert levels. The process requires vision, patience, and persistence since the path is long and may be marred with some unexpected omissions and commissions.

As such, a nursing system can be "Nursing Process compliant" when its "totality of knowledge and experience" is high enough. Efficiency level can be measured using a double scale. Scale 1 is Physical Coverage Scale based on percentage of nurses and health units/facilities within a nursing system trained and are practicing NP. Scale 2 is Skillfulness Scale using the five levels in "Benner's stages of clinical competence" scale of novice, advanced beginner, competent, proficient and expert, measuring aggregated level of "totality of knowledge and experience" in NP among nurses in a nursing system [18]. In this project competency level is the minimum accepted level of compliance upon which sustainability and future progress can be vested.

Before the December 2007 General Elections, public health sector was unitary under Ministry of Health. Following the 2007 General Elections the Ministry was split into Ministry of Medical Services (MoMS) and Ministry of Public Health and Sanitation (MoPHS). The former took charge of hospital-based health services while the latter took responsibility over rural health services encompassing health centers, dispensaries and community health units. The CNO and the DMS remained in MoMS, though overseeing services in MoPHS through appointees, thus directly supervising activities in MoMS and indirectly supervising those in MoPHS.

Following March 2013 General Elections the two ministries got merged into a new Ministry of Health where health facilities and service delivery are devolved to 47 autonomous counties; creating two levels of health operations and governance, i.e., the National Health System and county health systems. The CNO (now Director of Nursing Services w.e.f. May 2014) operates at the national level while each county has a County Nursing Officer. Both merger and devolution of 2013 had their unique challenges to healthcare delivery and governance, and to nursing in particular.

Nursing in the Ministry of Health (MoH) has undergone some simultaneous paradoxical metamorphosis. Before 2008 there was the Division of Nursing, which became Department of Nursing in 2008 reporting directly to the DMS. In 2014, it was to become Directorate of Nursing Services but instead became Nursing Unit in the MoH organisation structure with Director of Nursing Services (DNS) reporting to the second level below DMS, yet the approved Revised Scheme of Service for Nursing Personnel [20] raises the post of DNS one step above the former post of CNO to report directly to the Principal Secretary. Such is the confusion and contradictions that at times bedevil nursing.

Box 1: Ministry of health restructuring.

Kenya Health System

Health governance

Before 2008 the Ministry of Health managed Kenya's public health sector. From 2008 to 2013 the sector was run by two ministries (Box 1), though still considered unitary in that the sector was managed by the National Government. The Chief Nursing Officer (CNO), later Director Nursing Services (DNS), was head of nursing services, operating at highest policy level within the Ministry's headquarters directly under the Director of Medical Services (DMS), who was the Ministry's technical head, and the Permanent (later Principal) Secretary (PS) being Chief Executive Officer (CEO) of the Ministry. The CNO was chief advisor of government on nursing matters. The CNO was supported by a team of 12 senior nurses that formed the Division of Nursing, later Department of Nursing.

From that apex public health sector formed a pyramid downwards through eight provincial health offices countrywide. Each province had several district health offices and a broad base service delivery structures formed by hospitals, health centers, dispensaries and community health units (CHU). However, CHUs were a new creation that largely remains inadequately established by the end 2013.

Hospitals were established in their own hierarchical pyramid with two national (tertiary) referral hospitals at the top; eight provincial (secondary) referral and seven high volume (secondary) referral district hospitals in the regions; and district and sub-district hospitals forming primary hospitals. Health centers and dispensaries were community based health facilities largely serving rural populations. CHU were non-institutional health groups established for social cooperation, support and access to community-based health programs provided by community health extension workers (CHEW), who were either nurses or other healthcare provider.

Thus the CNO supervised nursing services countrywide. In each province was a provincial nursing officer (PNO) heading nursing services within the province and taking directions on nursing matters from the CNO. In each district was a district public health nurse (DPHN) heading rural (community) health nursing services comprising health centers, dispensaries and CHU; while each hospital had a nursing services manager (NSM) formerly nursing officer in-charge, responsible for nursing services within the hospital. Each service delivery area in a hospital had a unit nurse-manager responsible for nursing services within that unit, and heads a team of nurses assigned to that unit. These nurses provided direct nursing services to patients. They had various professional orientations ranging from certificate level to diploma and to basic degree holders. Some nurses had specialised skills. Nurses with higher trainings above basic degree in nursing were largely in schools of nursing [19,20]. In large hospitals, units with similar functions form a department with a departmental nurse manager (formerly unit matron).

Both DPHNs and NSMs directly took instructions on nursing matters from the PNOs. Thus the CNO had unlimited influence and accountability on nursing activities including quality of nursing services and maintenance of discipline among nurses at institutional level through the established hierarchy.

The CNO's influence on nursing education was through other institutions as the CNO was a statutory board member of the Nursing Council of Kenya (NCK), from where he influenced nurses' training policies and practice standards. He was also a statutory board member of the Kenya Medical Training College (KMTC), a conglomerate of training institutions in the public sector and the largest producer of nurses at both diploma and certificate levels in Kenya.From such positions the CNO widely influenced nursing operations in Kenya. For this project, approved training hospitals received student nurses from adjacent training schools of nursing for practical placement and experiences; during which students take part in active delivery of care to patients and clients in both in-patient and out-patient units alongside experienced nurses. Thus it is the responsibility of training hospitals to develop psychomotor nursing skills in the student nurses.

Devolution and Nursing System

The Constitution of Kenya [21] establishes devolved governance structure from the National Government to 47 independent and dependent county governments. Devolution in health sector took place in July 2013 after the March 2013 General Election. Much of the health structures discussed above significantly changed. All eight provincial health offices were abolished and replaced by 47 county health departments, one in each county, to manage health activities on behalf of the county government. Delivery of services and ownership and supervision of health facilities became functions of county governments. The National Government through the Ministry of Health only remained with health policy development, training, national referral hospitals and health research.

Thus the responsibility of DNS (formally CNO) on supervising nursing services at health facilities became devolved to County Nursing Officers, who no longer report to the DNS but to County Directors of Health, who intern report to the County Executive Committee Member (CECM) responsible for health answerable only to the Governor of the County. However, the new system of governance and its influence on Mainstreaming Kenya-Nursing Process is not a subject of discussion in this paper. This paper focuses only on events between January 2006 and June 2013.

Strategic and performance management for quality of care

In 2006 quality of healthcare in public hospitals was characterized by outcries and negative press reports in local dailies. Often nurses received the largest share of blames, at times unfairly. As a result a

vicious cycle of poor performance set in as more nurses get discouraged and became demoralized. A number of steps were to be taken to resolve this crisis. First, in 2006/2007 operation year the then Ministry of Health began to intensify periodic supervisory visits to health facilities throughout the country. A supervisory tool was designed for this purpose and annual reports produced. Then in 2008/2009 operation year, policy makers in the new Ministry of Medical Services (Box 1) decided on the policy of back to basics in healthcare delivery, based on two years supervisory data collected from various hospitals across the country.

Each technical section in the Ministry was directed to redefine basic professional standards vital for quality improvement in healthcare delivery. In nursing there was need for a care delivery system that motivates nurses, improves quality of nursing services, and provides evidence for defense to nurses unfairly accused. A systematic internal audit was conducted by the Department of Nursing that lead to development of a strategy focusing on empowering the nurse with basic nursing skills, improving nursing knowledge and positive attitude, raising self and professional confidence levels and spontaneous recognition and respect to nurses.

Coincidentally, this was also a time when strategic management and performance contracting were being introduced in health sector by the wider government for the first time. Departments and units at the Ministry were required to develop their own strategic plans and contribute to the bigger ministerial strategic plan. Health service leaders were sponsored to Government Training Institute (now School of Government) for training on strategic leadership. In performance contracting leaders were trained on corporate governance and performance management to facilitate performance contracting; noting that performance contracting operationalizes strategic plans through Annual Operation Plans (AOPs).

Each department or unit within the MoMs headquarters developed its own AOP from its strategic plan. The AOP once accepted turned into a performance contract (PC) with set output targets for the year; thus creating a signed document committing attainment predetermined outputs. This process would cascade downwards from the PS at top through departments/divisions/units at the Ministry to provinces, districts and hospitals up to service delivery units in each hospital. Lastly, at individual worker level it forms performance evaluation system (PES) between a supervisor and the individual staff delivering health service. In this way each department/section/division in the Ministry, and in deed each discipline, practically justified its existence.

During 2006/2007 and 2007/2008 operation years, the Division of Nursing could not draw and sign its own performance contract. However, through lobbing and advocacy the now Department of Nursing drafted its nursing specific strategic plan, drew its first AOP and PC in 2008/2009 operation year with Mainstreaming Nursing Process as its flagship project during the next five years. Thus "Mainstreaming Nursing Process" entered the ministerial AOP and policy documents that year till 2012/2013 operation year. It became an item in ministerial supervisory tool and annual performance report [6], making government commitment to mainstream Nursing Process a reality.

Strategy

Mainstreaming Kenya-Nursing Process started in 2006 with discussions and slow activities at policy level within the then Ministry of Health. For example, in 2006/2007 NP was incorporated as a technical criteria in job interviews for recruiting and promoting nurses since it was already a training item in basic nursing education; during which interviewees' inadequate knowledge and confusion in NP definition and steps were significantly noted as a major concern. In 2007/2008 it became a nursing supervision criterion in nursing supervisory tool for the Division of Nursing and all PNOs. In 2008/2009 it was incorporated as a nursing specific ministerial supervision criterion in the Ministry of Medical Services service supervisory tool, the same year first nursing specific AOP was developed with NP as the flagship project. And in 2009 Nursing Council of Kenya (NCK) incorporated NP in nurses' procedure manual. Discussions to include NP in nurses Scheme of Service began in 2008; and in 2014 it became a component in the new Revised Scheme of Service for Nursing Personnel, meaning that in Kenya a nurse is now required to demonstrate effective application of NP in care giving to gain job promotion. The revised Scheme of Service has therefore generated the need for policy clarification and incorporation in performance management for all nursing personnel in public sector.

Actual Implementation in clinical areas only began in 2010 under the MoMs. The project noted Masaba's [4] view that "nursing process operates whenever there is a patient and a nurse", whether in a home situation or an institutional setting. Thus it works in both in-patient and out-patient (ambulatory) as well as in home care nursing services. Masaba [4] indicates that NP has preventive, promotive, curative and rehabilitative role functions in any healthcare settings. And, according to Bulson and Bulson [22], NP is applicable in a disaster situation as well.

Strategy on mainstreaming Kenya-Nursing Process was therefore designed in three phases. Phase I covered implementation in hospitals. Regional referral and training hospitals were given first priority followed by larger (high volume) district training hospitals due to their hierarchal influence in service delivery. Other district hospitals became third priority in Phase I. Phase II covered community health services that include health centers, dispensaries and CHUs. Phase III was a wrap up phase linking hospital-based care and community-based care through practical discharge planning, continuity of care and two-way referral systems. Phase III was not a stand-alone phase but built within phase II to provide linkage between hospitals and rural health services. Implementing Kenya-NP means two successive things. One: training nurses on implementing NP steps and on health policy and management matters for two weeks in theory and practice using a designed curriculum, aiming at building knowledge and initiating skills development through confidence building in practice and reasoning. Two: conducting at least two supportive supervisory visits to trainees during the next 2 month after classroom work to affirm knowledge, skills and confidence and enhance competence in practice [23].

Each training activity targeted nurses in a single hospital to ensure having a critical mass that can facilitate change within the hospital. Where nurses from two hospitals were trained together this principle of critical mass guided allocation of representation. Service delivery units of priority in participant selection were child health, maternal health (specifically maternity service) and management in that order, due to their critical role in influencing service delivery and relations to adverse national health indicators and priorities. Thus participants comprised nurse managers, nurse practitioners and nurse educators with varying education and experience backgrounds training together as a single group.

Phase I trained nurses practicing in public hospitals although some participants from mission hospital were trained on request jointly with public hospital participants. Each hospital was to have

20-40 nurses trained in NP in a single session. Each training session lasted 2 weeks of intensive lectures and coaching followed by 2 months practical experience in clinical areas with at least 2 support supervisory visits and mentorship lasting 5 days each [23]. During the visits mentors held separate and collective feedback discussions with members of the hospital management team being knowledge users [23] and with trainees and other nurses on challenges unique to the hospital, possible solutions and action plan. Trainees were met in their respective working groups for clinical teachings and also as one large group discussing unique and common challenges met during practice. Challenges, successes and achievements were noted by mentors and discussed with management as applicable. The other nurses discussed their involvement and learning on the job from their colleagues. With management teams mentors discussed their role in facilitating learning and quality service delivery. However, a general meeting reviewed achievements, common challenges and possible solutions and developed way forward specific to the hospital.

Due to financial constraints, only 25 public hospitals out of 250 were trained by 2013 of which 17 were fully supervised and only 5 had nurses certified competent. A total of 840 nurses were trained through the program. Nurses who had completed at least two and a half months training program and satisfied mentors were certified competent in implementing NP and were awarded certificate of competency. They were encouraged to conduct internal training for the rest of the nursing staff in their respective hospitals, using national curriculum for continuity, sustainability and creating a larger critical mass. By July 2013 Phase II had not started though a few DPHNs were trained in preparation. Students got practical NP experience in respective hospitals where training had been conducted. Though some faculty were participants in training programs within their respective hospitals the need to induct more teaching staff and create a critical mass in colleges became imperative.

Resources

There are three principal sources of financing public health services–exchequer funding allocated by parliament; donor funding; and cost sharing also called Facility Improvement Fund (FIF). Activities in health sector draw funds from any or such multiple sources. This project was funded by each hospital from FIF collections. FIF are out-of-pocket consumer payment at subsidized rates for services received, directly at point of use. They include insurance payments on behalf of consumers for services consumed. These funds were not subject to exchequer procedures, rules and regulations. They were not Appropriation-in-Aid since they were retained, budgeted and spend by individual hospitals within separate established procedures, rules and regulations under direct supervision of provincial medical officers on behalf of the PS in the Ministry of Health.

Each hospital apportioned funds from FIF account for this project. Budgetary lines were two weeks training; two support supervision visits lasting one week each; and at least one certification visit lasting one week. Funding covered facilitation costs that include facilitators' transport, accommodation and meal allowances; stationary and meals for participants. The course was non-residential since participants were trained at their work stations using other hospital resources at no direct additional costs.

Given that mainstreaming Kenya-Kenya Nursing Process project was in the ministerial AOP and performance contract, hospitals were officially advised by the PS to set their own priorities and budget for this project within their AOP and performance contracts. The CNO was only responsible for technical components of the project. However, funding was erotic and inconsistent, resulting to slowness and incomplete activities. At one time limited financial support was received from a partner/donor, subsidizing efforts by a few hospitals. This funding stopped when the partner run out of funds.

Nursing Education in Kenya

Documented literature indicates that nursing education in Kenya started with training of the first dressers through apprenticeship in 1908. While training of midwives started in 1930s training of enrolled nurses (certificate holders) started during the Second World War (WW II). Training of registered nurses (diploma holders) commenced at the beginning of 1950s [24]. The first degree program for registered nurses started in the second half of 1980s at a private university and by the beginning of 1990s in a public university. Thereafter degree programs have intensified; and by 2015 there were 15 public and 9 private universities providing degree education for registered nurses in Kenya. By 2016, all the three programs are running in the country as regulated by the Nursing Council of Kenya (NCK). Midwifery education is part of nursing education and is a specialization program for nurses [21].

NCK is a statutory body established in 1949 by an Act of Parliament to regulate nursing education and practice in the Country. Being the professional policy-making body the Council introduced NP in nurses' training curriculum in 1970s. The emphasis at the time was more on nursing care plans and intervention skills. However, the 2009 revised NCK manual of clinical procedures describes all nursing procedures using the five steps of NP: i.e., assessment, diagnosis, planning, intervention and evaluation [25].

Certificate and diploma students study in blocks. Each block lasts four weeks when students are taught theory in class. In between blocks students spend more time in clinical areas learning practical skills through apprenticeship under the guidance of qualified nurses working in those clinical areas. According to Davhana-Maselesele et al. [26] this method of training nurses has proved inadequate in integrating theory and practice because teachers belong to colleges and do not work in clinical areas. Thus when NP is taught in class and less or poorly practiced in clinical areas, students are deprived of opportunity to acquire adequate appropriate NP skills, consequently remaining below competency level at the end of training period. Second, integrating theory into practice is difficult since hospital staff usually race against time to complete their work, mostly done in a functional nursing model.

At degree level students are trained differently. While training for nurses at diploma and certificate are hospital based, degree program is college-based with far less clinical exposure and much practical are learnt in skills lab. Graduates therefore undergo one year post-college internship to learn more nursing skills before certification and registration by the NCK. Nurse-interns work under the tutelage of qualified nurses deployed in clinical areas and they more or less face similar situations as diploma and certificate holders in terms of NP skills development.

NCK stipulates a minimum of 4 hours of NP teaching in fundamentals of nursing at diploma and certificate levels and all nursing care teachings in all nursing subjects are taught using NP approach. For degree education in nursing, NP is taught as part of course unit in Medical–Surgical Nursing 1 and thereafter all nursing care under medical-surgical nursing, midwifery, paediatrics and others are taught using NP approach [27].

Students are then assessed on NP knowledge and skills. In NCK

licensing examinations students are tested on NP knowledge in each of the four papers. The final practical assessment is on total nursing care of a patient, which tests application of NP in patient care. The student is required to perform patient assessment, make nursing diagnosis, develop care plan, implement planned nursing activities and evaluate intervention outcomes. Documentation is also an essential element in practical assessment.

Post-basic nursing education programs are specialization. At this level of education less is provided on NP in theory and practice, unless a student selects NP a subject in his project, dissertation or thesis. It is therefore generally concluded, according to Benner [16], that practical skills of a new graduate nurse is at novice stage and reaches competency stage only after 2 to 3 years [28]. Within Kenyan context however, no studies have been published but graduates are expected to qualify at advanced beginner stage, especially at Diploma level due to higher level of clinical exposure they undergo during training; yet this project found their NP skills at novice stage. Thus a Kenyan nurse may be knowledgeable in NP but not skillful due to overall poor or low application of NP in clinical areas.

Kenyan nurses pioneered three things in the region critical in knowledge management, i.e., e-learning, human resource electronic database, and licensing renewal. During the second half of 1990s the Council working together with the then Division of Nursing in collaboration with Marquette University (USA) and AMREF (Kenya), developed a comprehensive e-learning program for upgrading certificate nurses to diploma level in which nurses learnt in their respective stations where they work across the country accessing learning materials electronically.

The use of electronic human resource database began in 2002. It contains and facilitates instant access to data on all students in training colleges and qualified nurses practicing nursing in Kenya. Data contained on qualified nurses include academic qualifications, professional skills, experience and location of practice among others [29]. This database has been useful in managing knowledge and nursing human resources.

Continuing education (CE) or continuing professional development (CPD) is an essential component of nursing system in Kenya today. It is meant to help nurses improve their professional knowledge and skills to higher levels. Towards the end of 1990s nursing pioneered practicing license renewal in Kenya based on continuing learning as provided for in the Nurses Act of 1983 and related regulations. This rule requires nurses to undergo continuing learning processes through seminars and workshops for at least 20 h annually. Thus the Kenya-NP program is based on this professional need. The program enables participants to clock and exceed required CPD hours.

Despite pioneering two electronic systems for knowledge and skills management there are no published studies found by the authors on how nurses use social media in Kenya for continuing learning after college. However, this is an approach that is fast growing globally, especially among students and with their teachers [30,31]. A program such as mainstreaming Kenya-NP can take advantage for such an innovative learning approach to enhance affordable sharing of information and continuing learning among nurses actively learning the Kenya-NP and their mentors. However, guidelines must be established to ensure proper and ethical use of such a platform [30].

A quick survey conducted for this article only provides an insight on current state of e-learning for nurses. What was started as a means for distant learning to upgrade enrolled nurses is growing fast through institutions of higher learning in Kenya. Where applicable students now access learning materials, do quizzes and engage in discussions electronically. Some colleges have introduced m-learning using mobile phone software. It is however unclear on how ethical issues are addressed and what guidelines are available [30]. A systematic study is therefore needed to delve into these concerns.

The Kenya-Nursing Process

Nursing process overview

Lynda Hall coined the term Nursing Process in 1955. She defines Nursing Process with three steps comprising making observations, giving care and validating [22]. Johnson, Orlando and Wiedenbach added value to the concept [32]. Orlando is credited for her "Deliberative Nursing Process theory" [33-36]. In 1967, Yura and Walsh identified and describe Nursing Process with four steps as assessment, planning, implementation and evaluation [36,37]. Efforts by other nurse thinkers and leaders enabled WHO to adopt the four steps of NP in the Family of International Classifications in 1985 [38].

Having participated in several WHO decision-making meetings and being aware of behind-the-scene protocols that go on before adoption of any such positions, this author imagines the intense discussions that surrounded nursing diagnosis before being excluded from adopted steps. Since then a lot of literature has emerged on "nursing diagnosis" and diagnosis has long become an essential second step in NP. Thus in 2008 WHO, through International Classification of Nursing Practice (ICPN), re-adopted NP in the Family of International Classifications with five steps of assessment; diagnosis; planning; implementation; and evaluation [38].

Some nursing literature has since split planning into two separate steps – planning and outcome setting. These pieces of literature now provide the six steps of nursing process that have been adopted in the NANDA-I 2015-17 as assessment, diagnosis, planning, outcome setting, intervention and evaluation [39]. However, the Kenya-Nursing Process (Kenya-NP) has six NP steps with some differences as explained herein below.

Assessment

It is generally accepted that the purpose for assessment by nurses is to establish needs for nursing care that must be anchored on a nursing theoretical framework [4]. Although Gordon's Functional Health Patterns was developed for nursing assessment, assessment seems to have attracted fewer published studies by nurses compared to other

In one hospital a female patient was brought to the female surgical ward from out-patient department, having been seen by a medical officer (a doctor) and diagnosed with inguinal hernia (IH). On arrival in the ward the patient was received by an enrolled (certificate) nurse already trained in Nursing Process for two weeks by the national trainers in this project.

She conducted comprehensive assessment on the patient; and from data she collected concluded that the patient was suffering from a health problem that is different from what the doctor had diagnosed. She considered ruptured ectopic pregnancy as the health problem, concluding that the problem was a gynaecological emergency that required a different line of care by a different healthcare team in a different ward. After sharing the information with her immediate seniors, a gynecologist consultant was called immediately, who confirmed the health problem as the nurse had proposed. The patient was immediately transferred to the right ward and given emergency gynaecological attention by the right team of nurses and doctors.

Another maternal death was averted by a vigilant nurse. This incident earned the nurses in the hospital a lot of respect among the doctors and other healthcare team members.

Box 2: A doctor's misdiagnosis corrected by a nurse.

steps like diagnosis, interventions and outcomes; yet it is indisputable that nursing assessment is the foundation of all other steps [39]. The question is therefore not on whether nurses understand/conduct assessment or not. The critical issue is on quality, context, extent/scope, consistency and usage.

Mentality in medical model is that assessment is a function of doctors' and clinical officers (medical assistants); and that whatever nurses observe in the course of duty must be reported to a doctor for orders. Assessment under NP is not similar to physical examination and history taking by doctors. Paradoxically, it is much broader, deeper and specific. Turkel et al. [14] emphasize that it is holistic and relational encompassing caring and partnering with the patient. In the Kenya-NP, nursing assessment has four components: i.e. observations, history taking, physical examination and laboratory/radiological investigations. Each has unique reason behind it, technique and scope guided by and practiced within the concepts of caring and relationship with the patient.

Observation is seeing. History taking is interviewing, going deeper into the effects of illness on personal and social being of the patient. Physical examination is systematic head to toe assessment based on seeing/inspection, touch/palpation/feeling, hearing and smelling as the nurse goes through body parts, systems and organs one at a time. Laboratory and radiological investigations are confirmatory tests falling within the realm of interdependence role functions of a nurse [40]. Nurses' roles in assessment are based on caring model that is relational [14] and data collected is classified under the 14 elements of Virginia Henderson's model [41].

Such was the challenge to mainstreaming Kenya-NP in clinical areas. Nurses were having medical orientation and were not sure of how much data they should collect and what to do with the findings thereafter. Further, doctors were unaware of nurses' role in assessment other than assisting in physical examination and routinely monitoring vital sign, patients' complaints and reporting any adverse observations to them.

Implementing independent assessment role in nursing practice is further challenged by a lack of nursing taxonomy or standardized practical guidelines. However, when exercising nursing assessment the project focused on the use of a nursing model. For example, McHolm and Geib [42] use Neuman's Health System Model while Krozy and McKathy [43] used Gordon's Functional Health Patterns. According to Amparo [7] nurses in UK largely use the Daily Living Model of Roper, Logan and Tierney. The Kenya-NP project chose Orem's Self-care Model in the pilot phase but switched to Virginia Henderson's Need Theory in subsequent activities for its simplicity and specificity, realizing that participants comprised practicing nurses and lecturers with mixed academic backgrounds ranging from certificate to degree levels have common understanding on the 14 principles of Virginia Henderson's model. Besides, it is basic and was in line with ongoing ministerial policy on going back to basics. Each of the 14 principles is an assessable item on which data is collected and need for nursing care is established.

Nursing assessment provides data for reasoning and judgment-making in nursing diagnosis [39]. Consistency, accuracy and completeness of an assessment process are critical to accuracy in all the NP steps. The use of nursing model guides data collection, clustering/organisation and analysis; and linking that information to appropriate nursing diagnosis, nursing interventions and anticipated nursing outcomes [41,42]. Linkage to outcomes is vital in patient focused goal setting, care planning and evaluating nursing sensitive outcomes.

For example, in Neuman's Health System Model as explained by McHolm and Gaib [42], the internal system of the client comprises five sub-systems of physiological, psychological, sociocultural, developmental and spiritual domains that constitute independent assessment variables. The physiological sub-system is further subdivided into Oxygenation, Circulation, Neurosensory, Nutrition and Fluids, Elimination, Safety, Rest and Sleep, Comfort and Pain, Hygiene, Skin Integrity and Sexuality/Reproductive. Thus each subsystem constitutes an independent assessable variable. Likewise in Virginia Henderson's model, each of the 14 elements is an independent assessable variable in which a health problem requiring nursing interventions is identified [41].

The authors agree with Turkel et al. [14] that "assess is more than knowing the science of the patient, the system review, the laboratory results, the medications and the vital signs". It has to involve the patient and bring him to full view of the nurse, i.e., knowing the whole person. According to Turkel et al. [14] nursing assessment must include identifying and knowing things that matter most in the patient's life and bring meaning into his life, how he/she lived before illness and how the illness has affected that living, e.g. loss of income, relation with the family (e.g. wife/husband run away), etc. Turkel et al. [14] stress that the meaning of "wholeness" in caring is the essence of nursing. The nurse must exercise patience, empathy, vigilance, openness and build relationship with the patient as he/she assesses the whole patient. This relationship will be critical as care progresses.

Some doctors could not agree that a nurse can comprehensively assess a patient and reveal underlying health problems, until nurses started uncovering critical things they missed out (Box 2). Thus in the context of this article, nurses perform assessment for two principal reasons. One reason is to develop appropriate nursing diagnosis; that is to establish the reason for nursing care as specific to a particular patient irrespective of the health condition. Second reason is to validate a doctor's diagnosis and treatment plan as articulated in Boxes 2 and 3. A prudent nurse is not expected to administer treatment prescribed by a doctor blindly but reasonably and rationally. This validation is critical for patient safety as demonstrated in Box 2 below and professional safety as demonstrated in Box 3 below. The nurse must therefore have deep and wide knowledge on body functions, diseases, disease process and treatment, psychosocial function, and the confidence to face the reality as it is in each particular situation. Thus in Kenya-NP vital skills in nursing assessment are interpersonal relations, data collection, data organization, data validation and communication as supported by reasonable documentation.

Diagnosis

Nursing diagnosis (ND) is widely written about in NP literature; yet in Kenya the challenge to implementing NP for the first time in a clinical environment unfamiliar with NP came from non-nurses, mainly doctors, in use of the word "diagnosis". The word "diagnosis" is treated as sacrosanct and sacrilegious for anybody other than a doctor or a clinical officer to use. The first reaction is outright rejection to the whole idea of Nursing Process on account of using the term "nursing diagnosis", based on reasoning that nurses are "now treading" in a wrong domain that is not theirs.

It is critical to explain the difference between "nursing diagnosis" and "medical diagnosis". The question often asked is: why nursing diagnosis? NANDA-I (2015-2017) defines nursing diagnosis as the identified "actual or potential human responses to health conditions/life processes or vulnerability for that response". The phrase "human

response" is important because, while doctors' diagnose "health conditions", nurses diagnose "human responses" to health conditions [39]; noting that different people respond differently to same health conditions thus requiring different nursing interventions or approaches.

The NANDA-I (2015/2017) states that "Each health profession has a way to describe 'what' the profession knows and 'how' it acts on what it knows". In patient care model [44] or holistic care model [45], where nursing is patient-focused, nurses express what they know and do and how they do it through NP; as opposed to medical model where nursing is task-oriented and nurses mainly do what doctors order. Doctors' orders are based on International Classification of Diseases (ICD-10) while psychologists' and psychiatrists use Diagnostic and Statistical Manual of Mental Disorders (DSM-5) in addition to ICD Chapter 5. Nursing diagnoses are based on NANDA-I as updated regularly. It uses nurses' intellectual capacity in making clinical judgments and decisions. In Kenya-NP the term "diagnosis" refers to a process while the term "nursing diagnosis" refers to the product of that process. Diagnosis as a process comprises three steps that are also vital practical skills; i.e., data analysis; identification of health problems, risks and strengths; and formulating a nursing diagnostic statement. The nursing diagnosis statement so formulated becomes the end product of the activity. It is consumed in the next steps.

Progress in development of nursing diagnoses standardized language and taxonomy backdates to the early efforts of Kristine Gebbie and Mary Ann Lavin in organizing the First National Conference on Classification of Nursing Diagnosis in 1973 and subsequent formation of North America Nursing Diagnosis Association (NANDA) in 1982 that became NANDA-International Incorporated (NANDA-I), an international non-governmental organisation (NGO), in 2002 [46].

Since 1973 plenty of literature on ND has been published that have informed and enlightened readers and learners. From 1994 regularly updated lists of classified nursing diagnosis have been published every 2 to 3 years; the latest is NANDA-I 2015-2017 with 235 nursing diagnoses. Dynamism of nursing diagnosis is evident in these lists. For example, NANDA-I 2008 had only 201 nursing diagnoses [47] compared to 235 diagnoses in 2015. In every edition some obsolete nursing diagnoses are removed, others are revised and new ones added. For example, NANDA-I 2015-2017 has 25 new diagnoses and 13 revised diagnoses. This dynamism arises from contributions by nurse researchers and practitioners around the world as they apply ND in research and in clinical practice.

Current NANDA-I taxonomy (2015-2017) uses Gordon's Functional Health Pattern and classifies the 235 nursing diagnoses into 13 domains and 47 classes. A domain is a sphere of knowledge and the 13 domains are Health Promotion, Nutrition, Elimination/Exchange, Activity/Rest, Perception/cognition, Self-perception, Role Relationship, Sexuality, Coping/Stress Tolerance, Life Principles, Self-protection, Comfort and Growth and Development [39].

Classes are groupings of items within a domain that share common attributes. For example, within the domain of nutrition there are classes of ingestion, digestion, absorption, metabolism and hydration. Under each class are approved nursing diagnoses arranged in alphabetical orders. Each nursing diagnosis is coded with a five figures code, e.g. 00097 - Deficient diversional activity; and 00168 – Sedentary lifestyle [39].

Standard classified ND usually fall in five categories – problem-focused (actual), health promotion (wellness), risk, syndrome and potential or possible nursing diagnosis [39,48]. In practice, actual diagnosis is expressed in three parts, i.e., Diagnostic label; Etiology (causative/related factors); and Signs and symptoms (defining characteristics). However, risk diagnoses have two parts, i.e., diagnostic label and etiology. The argument is that risk diagnosis is an anticipated diagnosis with no defining characteristics. Yet it is also argued that a risk diagnosis must have evidence that risk exists. Kenya-NP therefore asserts that even for risk nursing diagnoses that evidence on risk existence forms the third part just as in actual diagnosis; except that for risk nursing diagnoses, the evidence is for etiology rather than diagnostic label as in actual diagnosis [23].

Additional challenge to implementing ND is to assume that the domains presented in NANDA-I classifications are cast on stone. The current NANDA-I taxonomy II using Gordon's Functional Health Pattern came into use in 2002, replacing the NANDA-I taxonomy I that used various models since 1987. Dr. Gunn von Krogh has already proposed 7-domain taxonomy with 31 classes that may become NANDA-I Taxonomy III, if approved [39]. This means that a researcher has the liberty to tinker around with domains, classes and diagnosis based on a sound theoretical concept to generate new ideas. Likewise, a nursing system can modify the domains and classes based on sound theoretical concept that suits a local health situation for effective applicability in addressing local health needs.

That is to say, a nursing system can identify locally applicable taxonomy like Kenya-NP uses Henderson's model for its simplicity. In this context, Kenya-NP currently practices 14 domains according to the 14 principals of the Virginia Henderson's model. However, it is necessary to note that not all approved nursing diagnoses may fit in such a localized taxonomy. Similarly, such a localized taxonomy may also help in discovering new diagnoses. Thus, some diagnosis already approved may come under new scrutiny under different taxonomies or become locally redundant. Therefore, diagnosis step has specific skills being acquired through training: i.e. data analysis; identify health problems, risks and strengths; and formulating accurate a nursing diagnostic statement. Besides, the nurse must learn nursing knowledge and skills in applying standardized nursing diagnosis in a localized taxonomy.

Finally, ND is necessary because, besides its contribution to quality care by keeping nurses focused; it promotes nurses' knowledge, judgments and decision making skills on patient care needs. ND also provides nurses with opportunities to use logical factors as evidence in healthcare delivery and policy development; i.e., for evidence-based action. It is ND that drives nursing interventions [29].

Planning

Care planning has no universally accepted standardized guidelines, especially in goal setting. There is yet to be a generally agreed upon nursing care plan format. Besides, the use of electronic data management in healthcare delivery, which is fast rising in Kenya, complicates standardization of care planning that it is supposed to simplify, as different organisations use different software and nurses are in different stages of computer skills development. However, the challenge may be more on low computer skills among nurses than documentation itself [49].

Nursing care planning is more than picking nursing interventions from Nursing Intervention Classification (NIC) list. It must reflect on intellectual capacity of a nurse, as the nurse uses nursing knowledge and judgment to identify and prioritize nursing interventions that

appropriately link to assessment data and ND to produce desired nursing-sensitive outcomes. According to Turkel et al. [14], "plan needs to become connecting with a purposeful emphasis on integrating the wholeness of the patient, patient patterns and patient meaning into the nursing initiatives.

The authors appreciates efforts in developing NANDA-I 2015-2017 and believes that a lot of discussions lead to approving the six steps in NP, where traditional planning phase is sub-divided into two new phases of outcome (goal) setting and planning. Aware of the long historical background on this position especially from the American Nurses Association (ANA) position paper of 1988, the authors argue that care planning, as in strategic management; comprise goal/objective setting and actionable items. In support, Yildirim and Özkahraman [50] subdivides planning step in four parts: determine immediate priorities; establish expected outcomes, determine interventions and individualize the plan of care. Thus in Kenya-NP Planning has four phases: Goal Setting; Interventions Identification; Interventions Justification; and Interventions Prioritization.

Goal setting: Goal setting is acting with the end in mind. It directs thinking in realistic action areas that produce desired outcomes. For example, using Neuman's model as explained by McHolm and Gaib [42] that health is a state of being expressed in a continuum where wellness and illness are at either extreme, the authors postulate that as "state of being" oscillates in between wellness and illness, the exact point of location along the continuum is dependent on degree of concurrent influence from both negative and positive stimuli, arising from both internal and external environments. In that context negative stimuli are phenomena causing illness while positive stimuli maintain/promote wellness. When the two forces reach equilibrium a patient's condition stabilizes. When interventions overpower negative forces state of being improves towards wellness and health is restored. Health promotion interventions reduce inversion from negative stimuli and improve wellness. Most importantly, positive forces must come from both internal and external environments to achieve wellness. Thus, a provider's willingness to partner with patient in care is critical.

Goal setting is deciding on what is to be achieved by the patient and by when. It must encompass the wholeness of the person. More often providers focus on physical being excluding collective psycho-social being and spiritual wellness. Kenya-NP emphasizes on setting patient-oriented SMART objectives using Nursing Outcome Classification (NOC) list; where SMART stands for Specific, Measurable, Achievable, Realistic and Time bound. Alternative to measurable is observable. According to Center for Nursing Classification (CNC) at the University of Iowa as adopted in NANDA-I 2015-2017, "a nursing outcome refers to a measurable behavior or perception demonstrated by an individual, family, group or community that is responsive to nursing intervention" [39]. These outcomes must be patient related not nurse related.

A progressive road-map can therefore get developed toward the set goal(s) with timeline milestones along the recovery path, signifying step by step anticipated gains. These milestones are specific care objectives along the continuum of health and in between are specific nursing interventions. Thus care planning is both short and long terms. This is the nursing sensitive critical/clinical or care pathway/map [51].

However, NOC is not just a bag of outcomes from where a nurse would just pick outcomes. The selected desired outcomes must have connection to nursing diagnosis and assessment data. The totality of the selected outcomes must also bear wholeness of the individual and restoration of health and desirable lifestyle. Therefore a nurse must have sufficient logical reasoning for choosing a particular expected outcome.

Intervention identification: Nursing interventions are selected from the Nursing Intervention Classification (NIC) list. But not all interventions may be listed in NIC. Intervention selection is done with both ND and the goal in mind. Interventions aim at addressing ND and adverse assessment data. For example, interventions that lead "to achieve wellness" or "to regain ambulation" or "to improve health status" seek to correct or prevent related health problems (actual or risk) and causative factors (actual or possible).

Just numerating a list of tasks as interventions is self-defeating. As Robin and Donnelly [45] put it, "we must make this knowledge visible or we will continue to be defined not by what we know, but by the visible skills and tasks we perform". Up to this point much of what the nurse has been performing is largely obscure and could easily go unnoticed, ignored and unaccounted for. Planning for intervention is the beginning of its visibility. In planning the nurse has the opportunity to articulate and practically demonstrate nursing knowledge and its importance to health of the people [45,52].

In Box 2 above the nurse conducts comprehensive assessment and diagnoses extraordinary health problems: "misdiagnosis" and "misdirection of the patient" by a doctor that may cause incorrect care and medications through inappropriate providers"; and chooses to "consult" and "redirect the patient to the appropriate point of care". In Box 3 below the nurse identifies "wrong prescription" that would lead to wrong and harmful treatment as a problem. She identifies "withholding treatment" and "consulting" as appropriate interventions. "Consulting" is the most appropriate intervention in both cases because identified health risks fall within the domain of nurses' depended role functions [40], yet these interventions are outside NIC list and the diagnosis are outside NANDA-I list but are all appropriate in these extraordinary circumstances. Because assessment and interventions were well documented they demonstrated nurses' sound knowledge, confidence, boldness and concern for patient's welfare.

Thus planning is based on data collected during assessment and identified problem in nursing diagnosis. It is also based on forecasted outcome in goal setting. That is to say, interventions must address an existing problem (or anticipated problem) and aim at achieving a desired goal. When planning a nurse must critically differentiate independent, dependent and interdependent nurses' actions and expected patient related outcomes [40].

Interventions once written down in a care plan are known as nursing orders. These are lines of actions ordered by the nurse to be implemented by nurses in their order of priority, to help the patient attain set objectives. In the model developed by Irvine et al. [40], interventions are classified as independent (nursing orders executed by the nurse), dependent (medical orders executed by the nurse) and interdependent (orders made by and executed in collaboration with other members of the healthcare team).

Justification: Justification is evidence-based-practice. Evidence of practice arises from three sources – best research outcomes, clinical knowledge and experience, and patient values and expectations [53]. Evidence is also based on pathological, economic, social, psychological and/or spiritual understanding on the patient as an individual and a social being with a family that responds to a health condition. It must be logical, empirical and reasonable. Nurses are required to develop skills in using these sources to appropriate justification for nursing interventions.

Kenya-NP training emphasizes knowledge in four critical spheres of

health to enable the nurse gain understanding on health challenges and impacts on individuals and their families. One is on pathophysiology facilitating understanding on human body responses to health phenomena. The second is psychosocial and the third is on socio-economic responses to health phenomena. The last one is on spiritual needs of the patient, referring to the relations individuals have with what they consider as superior beings and what life, health and illness and death really mean to them. This learning enables the nurses to identify appropriate interventions with proper justifications that are evidence-based.

Thus justification is having reasonable understanding of health problems and necessary interventions leading to reasonable course of action that is acceptable of a prudent nurse. Evidence also aids and justifies prioritization of interventions. Nurses are therefore encouraged to read widely, especially on latest research information. Nurses involved in mainstreaming NP were noticed reading widely. Surprisingly, use of smart phones in electronic search for information in clinical practice became popular among NP trained nurses. In Boxes 2 and 3 the nurses in two different hospitals used their clinical knowledge to make judgment and justify their unique actions.

Prioritization: Interventions are recorded in the care plan and performed in order of priority. Thus some of the interventions must be carried out before others since they will influence or augment the ones to be done thereafter; i.e., implementing less priory actions before high priority actions may be detrimental to the patient and may negate high priority actions. However, even when the later action is of higher priority, some interventions must be implemented in a sequential order. For example, inserting naso-gastric (NG) tube must come before NG tube feeding; insertion of an intravenous line must precede intravenous fluid administration; and proper positioning of a patient must come before administering oxygen or feeding. Boxes 2 and 3 are perfect examples of sequential interventions that are above other essential clinical consideration other than dire lifesaving interventions.

Prioritization involves determining and arranging interventions in order of importance or necessity. In determining interventions of most importance, the nurse uses critical thinking skills to select problems that are most life-threatening as highest priority. The problems can be physiological, psychological or sociological. Problems that threaten health or coping are ranked below life threating ones while those that do not have a major effect on the person's life or health are given low priority. The criterion for determining which one is more of life threatening than the rest. Prioritization can be done by applying Maslow's hierarchy of needs model or considering the effects of not addressing the problem immediately on the patient's health. The nurse needs to know that priorities may suddenly change as the patient's health condition is dynamic.

Implementing nursing interventions

It is at this point that the nurse demonstrates caring skills, knowledge and attitude. As Turkel et al. [14] put it; involvement of the nurse in implementation is more than just "doing to and for the patient". It encompasses "being with the patient", which includes partnering with the patient and/or significant others in meeting the patient's health needs. While medical model focuses on skillfulness in doing procedures, caring model encompasses relationship between the patient and the nurse, the humanness of actions.

While implementing interventions a nurse also demonstrates sufficient knowledge on the patient's body functions, health problems and their effects on the patient as a person with a social life that includes his family, work, business and friends. This ability not only helps the nurse address various health and social problems affecting the patient but also brings a positive humanistic image of the nurse and nursing. The manner in which the nurse responds to issues demonstrates either application of intellect and intelligence or simply performing repetitive tasks. Nursing innervations is the face of nursing practice.

Popularly, nurses perform tasks/procedure for and on behalf of patients; or assist patients to do so. Sound knowledge and skillfulness on these tasks and procedures is critical. But most important is how the nurses relate these tasks and procedures to the patients' health needs applying nursing theoretical frameworks that guide such actions. These are the fundamental facts behind such actions that make the doing become professional and bring respect and visibility to the profession among other healthcare professionals.

Evaluation

Evaluation is an assessment process with different goals. The first goal is to establish success or failure of interventions [54]. This endeavor has two reference points. One is assessment data gathered in Step one and the other is the set goals in step three. If these two steps were not carried out accurately evaluation would fail in achieving its purpose. Inaccurate or incomplete assessment data in Step 1 are not useful in evaluation step because both data may not be comparable to show improvement or failure. Similarly, if objectives (Step 3) were not patient oriented evaluation will miss to establish patient oriented outcomes achieved through interventions.

The second purpose of evaluation is to identify reasons for change, adjustment or continuity of care [54]. In this context evaluation is a re-assessment process that reveals presence or absence of new problems; i.e., the gap between health status of the patient and desired status. New problems are used to set new goals and start another cycle of NP. Thus evaluation is the beginning of the cyclic nature of NP. Though this narrative is linear new healthcare need may be identified in the on-going evaluation process before final (summative) evaluation. For example, if a nursing specific critical path was accurately drawn, it facilitates continuous evaluation and slightest deviation is detectable at the earliest possible time calling for re-planning.

An evaluation process must individualize the patient and look at the whole person. It must include the patient and his relatives. It is a continuation of partnership already established. Interpersonal relationship between the nurse and the patient and between the nurse and the relatives is critical in achieving desired evaluation outcomes just as it is in providing holistic care and achieving desired nursing specific outcome. Progress in the patient's health is the desire of everyone involved in care and treatment of the patient. The entire healthcare team should be involved and each members of the team is included as and when necessary, especially on evaluating outcomes drawn from dependent and interdependent interventions.

Evaluation must use same tools and methodology used in assessment, diagnosis and care planning. Thus using Virginia Henderson's need theory for assessment means the same theory must be used during evaluation. The authors agree with Turkel et al. [14] that "evaluate as a dimension of the traditional nursing process is often done by the nurse to the patient and can be one-sided based on the nurse's frame of reference without input from the patient". This often occurs due to inadequate or inappropriate training or mere attitude. Evaluation that is not patient-centered is likely to miss out important data necessary to determine continuity, adjustment or change. A nurse competent in NP ought to

be in the right frame of mind when evaluating, provided other personal factors are constant or not brought into play by the nurse.

Documentation

The Kenyan situation is not unique to Kenya as Titu et al. [55] highlights that predicament in improving quality of care is contributed by poor clinical records in low to medium income countries across the globe. This is marked by a lack of standardized documentation guidelines; a lack of adherence to any form of existing documented guidelines; documentation inadequacies such as inconsistencies, inaccuracies and incompleteness; a lack of information-dependent decision-making culture; and efforts in quality improvement and clinical care auditing that lack longitudinal data [55].

Masaba [4] affirms that only South Africa accepts nursing documentation as a distinct step in NP. It is however being argued to the contrary that because documentation cuts across all the other five steps it does not deserve its own position as a definitive step. Conversely, Bulson and Bulson [22] rightly argue that all steps of NP are interrelated, interdependent and interlinked with each other. Kenya-NP agrees that evaluation per se is in every step beginning with assessment. Herdman and Kamitsuru [39] affirm this assertion that in practice every step is independently evaluated as NP goes on. By these arguments, if evaluation has always stood as a distinct step in NP despite its presence in every NP step so is "documentation".

Importance of documentation cannot be over emphasized. Despite plenty of literature on it importance, to date documentation is yet to be universally accepted as a distinct step in NP. However, emerging literature is beginning to emphasize on this need. According to Ammenwerth et al. [49], "Nursing documentation accompanies the nursing process and is an important part of clinical documentation". Cuzzell [56] states that nursing documentation "is an aspect of nursing that will always remain constant" despite technological advancement in healthcare and health information system. According to Healy et al. [57], in spite of all the potential barriers "nursing documentation remains the most important means of justifying care provided to patients" and it "provides a record of the patients' response to that care". Brooks [58] asserts that "documentation has evolved into a nursing practice strategy to monitor and influence health care outcomes". Brooks also emphasizes that "documentation is a fundamental nursing responsibility with professional, legal, and financial ramifications".

A man was admitted in a male medical ward with *severe epigastric pains* that had lasted ten hours before admission, following a drinking spree. At casualty department the doctor on-duty diagnosed *acute abdomen* and prescribed diclofenac, antibiotics and ordered for abdominal ultra sound. However, the patient's condition continued deteriorating into shock and he died six hours later in the ward despite treatment. Relatives expressed dissatisfaction with quality of care given and accused staff of negligence, alleging that the drug administered was contraindicated and that the patient died of severe dehydration. A private pathologist was hired who conducted independent post-mortem and reported *hemorrhagic pancreas probably due to overdose of diclofenac*.

Forensic audit on patient's care records showed that the nurse on duty, *who had been trained in Nursing Process*, performed comprehensive assessment on admission and declined to administer diclofenac injection but consulted the ward doctor who changed the prescription to an appropriate analgesic that was then administered. Over two liters of intravenous fluids had been administered. All investigations required were done and the physician had reviewed the patient correctly and in time. All nursing actions were well documented. No foul plays.

The family lawyer concluded that negligence claims were unfounded and no legal proceedings were instituted. *Proper actions and documentation saved the hospital and staff from potential litigations.*

Box 3: Nursing Documentation Averts Litigation.

According to Medina et al. [47] recognition of nurses' work is hampered by a lack of documentation on things nurses do. Ofi and Sawunmi [59] assert that "Nursing documentation is a fundamental nursing responsibility, an accepted norm, but often a neglected part of nursing activities". This neglect is wider and deeper in real practice. While studying barriers in nursing documentations, Brooks [58] note that much of what nurses come to know about their patients, especially behavioral responses to disease and treatment, along with issues considered personate to nurses about their patients are hardly documented yet verbally discussed with colleagues.

Nursing policies and practices are silent on nursing documentation challenges just as nursing research remains lukewarm about it, especially on how it should be conducted. Some nurse educators, administrators and researchers may disagree. But, the "silence" here is on how to making it "happens" in everyday nursing practice, how to "integrate" it into professional culture and how to "engrain" it as a professional responsibility in nursing, and on making nurses accountable for its lack.

Healy et al. [57] asserts that ''failure to document care can be interpreted as failure to deliver care" and that documentation is part of accountability in care giving. The impression created by these words is that documentation is only a means to accounting for care given. Thus failing to document is failing to account for care given. Thus focus is more on care given and less on documentation. What Kenya-NP is advocating is that failing to "document" is a serious omission in itself.

The other issue on documentation raised by Brooks [58] is loss of nursing identity as a discipline in documented care. Brooks reports that "nurses' notes maintained a predominately medical focus" and that "pertinent nursing issues so easily discussed were probably not documented because the charting format did not provide the appropriate cues from which to draw this information". Two problems are identified by Brooks are: one is a lack of standardized nursing language in which to communicate nursing issues. This problem however, may have been resolved only partly today through universally accepted nursing language in ND, NIC and NOC. As to whether what is already available is adequate or not makes another story for nurse researchers.

The second is a lack of self-confidence. Brooks's reports that nurses seem unsure of values documented information have. They avoid documenting some issues to evade controversies that might arise, and for which they lack the confidence to articulate. Ryan [11] and Ahtisham and Sommer [36] offer some solution by institutionalizing nursing theory in nursing practice and amending computer-based documentation designs to incorporate nursing theoretical language. This recreates missing confidence and self-respect among nurses.

Thus emphasis should be on high quality documentation that reflects on holistic care, "support patient centered nursing care, cooperation among health professional teams, quality management, evaluation of nursing care processes and outcomes, and fulfillment of legal requirements" [49]. Cuzzell [56] and Tranter [60] identify consistency, clarity, flow, and legal parameters as vital criteria of high quality documentation. Yet effective practice of this is realizable only if documentation stands alone as a district step in NP, with specific universal standards and guidelines against which performance in documentation is gaged.

Tranter [60] recommend use of SAO (Situation, Action and Outcome) as main domains in assessing quality of nursing documentation. Thus a nursing documentation must systematically

and accurately describe the situation. This could be change in patient's condition; action/procedure conducted; and patient's response. For nursing documentation to be complete it must capture the entire spectrum of patient care in length, breadth and depth. This usually traverses shifts, days and sometimes units. It also involves several nurses working in different shifts, days and sometimes units to capture complete longitudinal spectrum [60]. Standardized format is necessary for consistency, completeness and accuracy.

With NANDA-I, NIC and NOC providing standardized nursing language for documentation, major challenges remain in two areas. One, some steps of NP still lack standardized nursing guidelines though use of a nursing model may temporarily help resolve this problem within a nursing system; two, nurses' awareness and use of nursing language and models remains low even in areas where standardization has been done internationally [39]. All nurses should learn and use common nursing language uniformly. Making nursing documentation distinct for accountability is critical to addressing existing challenges. This is best achievable with documentation as the sixth step in NP. Kenya-NP has demonstrated this possibility [23].

It is noted that consumption of nursing documentation goes beyond nurses and beyond health sector (Box 3). This is the essence of seeking WHO classification for NP [38]. For nursing care, accurate and consistent documentation serves effective communication among nursing to ensure continuity, consistency and accuracy of care. For nurses security documentation is critical in personal and institutional protection against unfair litigations.

Summary: Kenya-Nursing Process

A lot has been accomplished on NP since 1973 and after 1981 when South Africa was advocating for a five-step Nursing Process that included documentation [4]. Today NANDA-I approves a six-step NP with outcome setting and planning as two separate steps [39]. However, from "Mainstreaming Kenya-Nursing Process" standpoint Kenya advocates a six-step Nursing Process with documentation as the sixth step (over 3 decades after South Africa) and goal (outcome) setting as a sub-step of planning, where planning comprises four sub-steps.. Kenya is also advocating that risk diagnosis consists of three parts; and that Orem's Systems Theory, to a reasonable extent only, helps resolve nursing personnel shortage [23]. Thus according to the Kenya-NP the NP steps are assessment, diagnosis, planning, intervention, evaluation and documentation. Documentation is the most unique feature of Kenya-NP Documentation language uses ND, NIC and NOC taxonomies to which learning is a process within NP. However, use computers in medical documentation in Kenya, to which nursing ascribe, is on the rise.

Nursing Models

Nursing models

One aspect of Mainstreaming Kenya-Nursing Process is integrating NP with appropriate nursing models/theories. In theory this is not a new thing as several nurse theorists have long propagated so [7]. In practice it is an innovation as there is very little literature on its practice [7,41] and none was found by the authors discussing such implementation at a national scale. Further, nursing theories are considered as "abstract" and inapplicable [41]. Thus in this article NP is a scientific framework operationalizing contemporary nursing theories, concepts, principles, and activities [12,13]; and it is also a systematized nursing care delivery scheme that meaningfully frames out logical measurable healthcare actions by a nurse that can be related to health progress of a patient in a scientific way.

Appropriate nursing theory strengthens nursing practice by providing nurses with structured knowledge and language to explain professional decisions and actions [61]. According to Watson [61], it is generally accepted that 'if a profession does not have its own language it does not exist' and that without its own theoretical framework nurses merely work as technicians and not professionals.

It is the authors' opinion that, in practice, some nursing theories may apply to only one NP step while others may fit in two or more steps across the spectra. Two or more theories may apply differently but synergistically within a clinical setting, depending on experience of nurses in applying both theories within NP context, and needs for such theories. Further, some theories may be appropriate in one clinical setting than another. This assertion may however become clearer as mainstreaming NP widens and get rooted within nursing systems and with more operation researches. One must therefore examine carefully which theory fits well within his/her circumstance of practice. Guiding factors include level and experience of nurses involved including their staff mix and organization priorities [11]. The theories selected must fit into local population's health needs and be well understood by nurses.

According to Ryan [11], it takes a lot of commitment, labour/training, time and resources to institutionalize a nursing theory. When this is being done alongside NP as in this case, then implementers must be cautious to control any level of confusion that might arise, especially when both concepts are new to the nurses. It is therefore safer to select what nurses are most familiar with (as Kenya-NP did) and plans must be in place to induct new nurses entering the nursing systems midstream, to enable them fit well reducing any chance of relapsing.

Masaba [4] indicates that South Africa, at least then, used the Virginia Henderson Need Theory with emphasis on holistic and comprehensive care delivery. Medina et al. [47], addressing the need to strengthen nurses' documentation, upgraded Medea ("a mobile system that stores patient's data from handheld devices…") using Virginia Henderson's Need Theory within a NP format. Amparo [7], referring to Davis et al. reports that UK nurses largely use the Daily Living Model.

Kenya (2010 to 2013) tried Orem's self-care model then switched to Virginia Henderson's Need Theory for reasons already advanced. However, Kenya retained Orem's Nursing Systems theory (Box 4) in organizing service delivery and as a way of resolving staffing and staff-mix challenges, because of its congruency with Virginia Henderson's need theory (Boxes 4). In this context, Kenya operated two principal theories simultaneously, each for a specific purpose.

Although it is an opinion of the authors that NP can operationalize any nursing theory, documented evidence seem to imply that Virginia Henderson's Need Theory is more popular with beginners in NP. However, what is most critical is that majority of the nurses are fully familiar with the nursing theory being advanced because success comes from the nurses, not the trainers or leaders.

Turkel et al. [14] emphasizes application of unitary-transformative paradigm". However, it is unclear whether this approach has ever been practically tested with NP. According to Watson and Smith [15], the unitary-transformative paradigm shares a lot in common with Caring Science. The unitary-transformative paradigm as advocated by Turkel et al. [14] is a theoretical operation concept guiding critical thinking and decision making with emphasis on holism and partnership in assessment, planning, care giving and evaluation. It therefore widens the scope of assessment, planning, implementation (care giving) and evaluation giving more meaning than traditionally practiced in a medical model setting.

Shortage of nurses is documented as a major impediment in implementing Nursing Process (9). In mainstreaming Kenya-Nursing Process this was resolved by applying *Orem's Theory of Nursing Systems* concerned with how patients care is met by categorizing patients into three categories based on acuity. Category "A" is for patients requiring *full compensatory* or *substitutive care;* "B" is for patients requiring *partial compensatory* or *supplementary care,* and "C" is for patients requiring *supportive and educative* or *complementary care*.

Ward manager assesses patients in the ward *categorizing* and *clustering* them in the three category groups. Patients in category "A" belong to *Orem's wholly compensatory* group whose health statuses are unstable with highly dynamic nursing care needs. They are assigned most qualified and experienced nurses. They receive best nurse/patient ratio and most nursing time available per patient. Patients in category "B" are capable of performing some *self-care activities* with assistance by a nurse, thus they receive *partial compensatory care*. They are assigned fewer nurses than category "A" and have lower nurse/patient ratio and less nursing time per patient than in "A". Category "C" patients require the least nursing time per patient. Their nursing care plans are least dynamic, some almost becoming daily routine. However, much of the care here is interactive.

Box 4: Application of Orem's theory of nursing systems to manage nurses' shortage.

In this context therefore, Kenya-NP applies the concept of caring in a bigger picture of Mainstream Kenya-Nursing Process. The unitary transformative paradigm when operationalized together with Roger's Science of Unitary Human Being and Watson's Transpersonal Caring Science [15], forms the master model under the banner of Caring Model that should replace medical orientation that nurses and others have. This thinking is guided by the fact that nursing is a caring profession and this caring paradigm must be distinct from the medical paradigm, which in the opinion of the authors is less caring.

Nightingale's environmental model

Nightingale's Environmental Model, here referred to as Caring Model because of Nightingale's nursing qualities and activities in literature befits caring characteristics discussed in the paragraphs below. Caring Model is advocated in Kenya-NP to provide an alternative to medical model in which nursing practice has been structured for a long time [14,62]. It is a combination of both patient care model and holistic model. It requires nurses to make and administer their own nursing orders as they also administer medical orders, mainly drug prescriptions [44]. Nursing orders are made and executed by nurses after conducting assessment; developing nursing diagnosis and identifying care needs (Box 5).

Caring Model promotes nurses' independent role functions alongside dependent and interdependent role functions as advocated by Irvine et al. [40]. Caring defines nursing [65] and is equated to excellent nursing practice [16]. According to Turkel et al. [14], "caring in nursing brings things into being. Caring makes procedures, tasks and even regulatory requirements humane and rational". According to Watson [62] caring is core to philosophy of nursing and it transcends "medical diagnosis, disease, setting, limited and changing knowledge and technology of specialized foci".

When Florence Nightingale voluntarily arrived in Scutari Military Hospital in 1854, she did not work on *medical orders* to reform the *goings-on* within the hospital's caring units to improve quality of care and welfare of injured soldiers, thereby improving their health status. Out of her own concern, compassion and commitment, she assessed environmental situation, quality of care, identified nursing care needs (*problems*) and addressed them holistically at individual and collective levels from her own plans of action made out of her own judgments and decisions. As a result death rate fell from over 40% to below 2%. Antibiotics did not exist then. The doctors who were there before her did not, in the first place, understand why death rate was so high, what they could do to reduce it, and even why she was there. They objected and delayed her entry into the hospital until political authorities in London intervened (63, 64).

Box 5: Nursing Independent Caring Action.

According to Nursing Strategy (unpublished) developed by the Department of Nursing [3]:

"The uniqueness of nursing is that the individual being cared for must feel it and accept it. It is the 'feeling' that makes caring real and separates nursing from other health professions. Functionally, caring means connectedness or involvement and being concerned with client's health problems for the purpose of resolving then and improving health condition. Caring ingredients include compassion, conscience, competence, confidence, commitment and therapeutic interaction. Mayeroff [66] defines caring as comprising knowing, alternating rhythm, courage, hope, humility, trust and patience. Roach [67] identifies ingredients of caring as compassion, conscience, competence, confidence and commitment; and 'concerned' is added. Watson [68] defines caring in terms of humanitarianism and human science; and Watson [62] defines caring-healing model in terms of relational, existential and spiritual with "deeper meaning to life" and inner healing process".

Nightingale [1,2] defines caring in religious terms and as a religious value. Caring as a concept is about values, beliefs and philosophy held by nurses on treatment, illness, healing/recovery wellness, health, life and humanity. It is the foundation of nurse's ethical concepts. Therefore "Caring" cannot be prescribed. It is inherent in nursing practices and in the individuals who nurse. Caring paradigm requires independence of nurses that paradoxically transcends and operationalizes dependence and interdependence role functions advocated by Irvine et al. [40] for its effectiveness as demonstrated in Boxes 2-6 herein. Such is the operation atmosphere health organisations should provide nurses and nursing for effectiveness.

Virginia Henderson's need theory

Virginia Henderson defines nursing as:

"The unique function of the nurse is to assist the individual, sick or well, in the performance of those activities contributing to health or its recovery (or to peaceful death) that he would perform unaided if he had the necessary strength, will or knowledge. And to do this in such a way as to help him gain independence as rapidly as possible" [40].

Thus according to Virginia Henderson, the goal of nursing is to assist the patient/individual (sick or well) regain his/her independence. The assistance is categorized in three levels: substitutive (doing for the person), supplementary (helping the person), complementary (working with the person) that are congruent to Orem's Nursing System Theory as discussed in sub-section 6.1, and in Box 4 above, using 14 elements of nursing care needs (see Box 5a below).

This table categorizes Henderson's fourteen elements into four categories as provided by Karimi (32). The numbers against each element denotes its position in Henderson's list.

Physiological: *1)*Oxygen (Breathe normally); 2) Nutrition (Eat and drink adequately); 3) Elimination (Eliminate body wastes); 4) Move and maintain desirable postures; 5) Sleep and rest; 6) Select suitable clothes-dress and undress; 7) Maintain body temperature within normal range by adjusting clothing and modifying environment; 8) Keep the body clean and well groomed and protect the integument; 9) Avoid dangers in the environment and avoid injuring others;

Psychological: 10) Communicate with others in expressing emotions, needs, fears, or opinions; and 14) Learn, discover, or satisfy the curiosity that leads to normal development and health and use the available health facilities.

Spiritual and moral: 11) Worship according to one's faith

Sociological: 12) Work in such a way that there is a sense of accomplishment; and 13) Play or participate in various forms of recreation.

Box 5a: Virginia Henderson's 14 elements of Nursing Care

According to Karimi [32], nursing has five areas of care concerns namely physical, psychological, sociological, cultural, and spiritual. Ahtisham and Sommer [40], with reference to published literature, classifies Henderson's 14 elements of nursing care into four categories of physiological, psychological, Spiritual and moral, and sociological. However, there is none for cultural category (Box 5a).

Using Virginia Henderson's need theory the following weak areas were identified within the Kenya Nursing System:

a. While there are plenty of nursing literature on transcultural nursing, Kenya's nursing system has less teaching on (and no nurse trained in) Transcultural Nursing; bearing in mind that Kenya is a multicultural country with at least 41 ethnic communities that significantly differ in their cultural beliefs and practices.

b. While spirituality is a nursing care need within Virginia Henderson need theory, Kenya's nursing system has less teaching on (and lacks nurses with skills in) spirituality in nursing. Kenya's healthcare system does not strongly include spirituality as a health issue, bearing in mind that Kenya is a multi-spiritual country with almost all major global spiritual faiths existing alongside traditional religious believers and atheists.

c. While in basic nursing education there is sociology and psychology, practical application of these basic skills in patient care within NP framework is a challengingly limited.

Outcomes, Challenges and Concerns

Some specific outcomes

Box 6 below is supported by Boxes 2 and 3 above, which also demonstrates improved working relations between nurses and doctors.

Kenya-NP registered remarkable systemic gains in mainstreaming NP. Box 7 below demonstrates improved students learning practices in clinical areas as a means of future sustainability in maintaining NP culture among graduating and practicing nurses.

Box 8 demonstrates improved relations among nurses themselves culminating to improved teamwork.

Box 9 indicates improved understanding between nurse educators and practicing nurses in clinical areas. In the author's opinion there exists a practical gap between nurses practicing in clinical areas and nurse educators. This gap has little medium through which information can effectively flow from either side. A medium needs to be developed and communication between both sides improved through working together. Box 9 only provides some tips.

Challenges

The effectiveness of NP in improving quality of care is dependent upon a number of factors. First, its acceptance by practicing nurses is critical. In the Kenya there was negligible resistance among nurses; overwhelming majority were long seeking distinct professional identity and liberty; hence stronger cooperation, support and higher demand for training in NP than the project could provide.

Second, healthcare operation systems must be conducive enough to allow this to happen. For example, NP operates well in an atmosphere where nurses' "independent role functions" [40] thrives. Box 5 is evident on this. This independent role function works well in a caring model environment where nurses have the liberty to make fundamental decisions and take autonomous clinical actions. It is difficult to operationalize NP in a healthcare system where medical

Nurses trained in Nursing Process demonstrate higher knowledge and assertiveness in patient care. They read more, consult more and have scientific rationale for actions they take. In hospitals where Nursing Process is practiced these attributes have permeated to their colleagues, though not formally trained in Nursing Process.

As some doctors began using nurses clinical records they also started comparing their findings with those of the nurses. The two sets of professionals then see themselves complimenting and not competing with one another. Working relations became compatriotic and not superior-subordinate like. Doctors sought nurses' opinion before making important clinical decisions on patient management. As in Box 3 above, nurses in such setups do not administer medications because a doctor has prescribed but because the medication makes sense. A doctor also changes medication not because the nurse demands so but because the nurse's reasoning makes sense. Thus there are checks and balance assuring quality of care and patient safety.

In some hospitals Nursing Process programs improved clinical learning for all care givers. During Nursing Process case presentations a doctor would present on the medical care while the nurse would present on the nursing care offered to the patient and multidisciplinary participants listen attentively. This enhances professional interaction between several professional groups and promotes teamwork. Nurses developed sense of being valued and respected, and grew in self-confidence.

Box 6: Improved nurses/doctors' working relations and patients' safety.

Kenya-NP training emphasizes *individualized holistic care* and advocates *patient allocation* instead of *task allocation*. The ward manager assesses all patients in the ward and cluster them in categories "A, B and C" depending on the patient's acuity (Box 3). Each group of nurses has a team leader, based on experience and seniority. *Student nurses* are also assigned patients alongside nurses where each nurse is assigned some students, depending on the number of students available; thus forming a team within a team.

The team leader has two roles – ensuring quality care to patients using Nursing Process and quality learning by student nurses in her team. The second role ensures closer link between students and nurses, and improved students' involvement in patient care. Thus students participate in planning and giving individualized holistic care to patients assigned to their teams. This gives them opportunity to learn more and develop better skills as they work under closer supportive supervision.

At hospital administration level, Nursing Services Manager appoints a senior nurse to coordinate student activities within the hospital, acting as the link between students and hospital management and between hospital management and training school(s). This arrangement results in effective supervision of students, closer collaboration between student nurses and qualified nurses, and closer ties between school and hospital. Hospitals appreciate students as additional workforce and school appreciates hospital roles in facilitating learning for students.

Box 7: Improved student learning practices in clinical areas.

One problem that was identified during supervisory visits prior to mainstreaming Nursing Process was less collaboration and less communication among nurses. One of the reasons to this was that nurses were being assigned tasks. Thus their primary concern became completing assigned tasks. Most of these tasks were those prescribed by doctors such as medication, dressing and others like bed bathing or assisted baths.

After training in Nursing Process this phenomenon changed. Nurses began doing more for patients and sharing information among themselves on patients and care. This was made possible by training design. First, during training participants are placed in working groups where each group is allocated a patient whom they work with and provide individualized holistic care to using Nursing Process, throughout the length of training. They remain in same groups during the eight weeks practical experience and make case presentations together, thus forging closer relations, and learning and appreciating teamwork.

Second, NP has facilitated common language of communication among nurses making it easier to pass information to each other. Third, patient allocation method adopted by hospitals practicing Nursing Process not only improved nurse/patient relations but also contributed to improving nurse-to-nurse information sharing. All these efforts helped in bringing the nurses together. Nurses began to see themselves as colleagues with common interests and as members of a team. Teamwork is essential for quality improvement. Thus when nurses work together in team-spirit, quality of care improves and patients benefit.

Box 8: Improved relations among nurses themselves.

Before mainstreaming Nursing Process the regulatory body, the Nursing Council of Kenya, had long issued a nursing training manual of clinical procedures based on the Nursing Process approach, ensuring that nurses apply Nursing Process in performing procedures. Second, nurse educators working with nurses at policy level agreed to include Nursing Process as a major determinant in nursing promotions. Third, the use of Harris et al.'s [74] knowledge dissemination framework ensures that knowledge creators (nurse educators/researchers) and users (nurse policy makers and clinical practitioners) work together as change agents to ensure implementation.

In Kenya's case nurse educators worked with nurse policy makers and came up with a customized curriculum that was implemented with the support of nurse managers. Kenya had a unique experience while mainstreaming Nursing Process this way. By actively bringing the teaching side to the practical side for this purpose it was realized that each side misses what the other side has. As such our lead trainer on this effort of mainstreaming Nursing Process has since incorporated new ideas from clinical side in her teaching of college students on Nursing Process in a classroom setting. Her examples are now real and implementable. This is also because the two weeks training curriculum on Kenya-NP has less academic jargons but is focused on practicality of NP.

Box 9: Nursing process improves linkage between training and practice.

model is highly dominant. According to Turkel et al. [14] both nursing and medicine operate on different value systems that often cause value conflicts.

Third, mainstreaming NP requires total transformation in nursing operating systems. It is difficult to operate NP in an environment dominated by functional nursing because the latter fragments nursing practices into tasks and procedures, negating the concepts and principles of holistic care, patient partnership and family involvement [4,14]. Appropriate nursing models that work congruently to NP include total patient care, team nursing and primary nursing.

In Kenyan, implementing primary nursing is not feasible as it requires only (and adequate) professional nurses to operationalize; whereas Kenya has acute shortage of nurses at crisis level of whom not all are professional nurses [69]. Thus true primary nursing remains unattainable. As such Kenya chose to implement total patient care as the principal and team nursing as the secondary nursing operation system; especially where students are involved in learning and care giving (Box 4). In the latter case the team leader must be a registered nurse.

Fourth, effectiveness of NP on improving health status of the larger public requires strong linkage between care delivery sectors/units within a health system. For example, there is need for effective linkage in inter- and intra-hospital care to effectively support situations where one patient may receive care in two different hospitals or two different units within the same hospital (Box 2); and between hospital-based care settings and community-based care settings, where a patient is referred from one setting to another. Thus concepts of continuity of care and discharge planning become practicable as NP facilitates easy communication between nurses in two different settings.

Fifth, nurse-leader's role in Mainstreaming Nursing Process is essential and is realized in different ways. First, the leader is a change agent setting direction, pace and value for change. Second, the leader is an advocate propagating needs for change and type of change. Mainstreaming Nursing Process is a massive change concept that requires sound leadership. Third, the leader is a facilitator ensuring that participants have access to adequate resources. Lastly, the leader links nursing and other departments within health sector for collaboration. The leader is the custodian of nursing standards and image. Thus he/she is the symbol of NP implementation.

Sixth, nurse educator's role in facilitating continuity and sustainability of NP competency among practicing nurses is paramount. Nurse-educators do not only need to be knowledgeable but also skillful is NP. A study is fast required to ascertain true situation in this area among nurse educators. At present it is assumed that there is more knowledge than skills in NP among nurse educators in Kenya based on experience in this project.

The challenge the Department of Nursing faced when initiating this project was that there are many nurse educators with wide knowledge on NP but lacked practical skills and self/professional confidence to face implementation realities as they are. It was therefore difficult to get an educator ready to take the challenge of teaching practical NP to clinical nurses as designed in the Kenya-NP model until this co-author volunteered to take the challenge, with the support of her seniors at the college. This is however not unique to Kenyan nursing system. Ahtisham and Sommer [41] report that in Pakistan "nursing students are forced to assess the application of theory into clinical without an experienced faculty". In South Africa, Davhana-Maselesele et al. [29] report that "due to lack of time and classroom teaching responsibility" it was preceptors that "were mostly involved in accompaniment" of students in clinical areas "whilst tutors were not involved at all times"

Concerns

There are two strategic concerns in mainstreaming NP. First, there is a paucity of NP action research literature at national scale, and that most literature available are on small scale research projects that apply to single NP steps like nursing diagnosis, nursing intervention, nursing outcome or documentation [7]. In themselves these undertakings are critical, reasonable and necessary. However, they miss out colossal systemic operationalization challenges faced by nurse managers and nursing care practitioners in Mainstreaming Nursing Process within a nursing system that can only come out to light clearly in large scale action researches.

Second, many writers on this subject have widely written on "why" NP fails to work well rather than "how" it can be made to work effectively. The "how" can only be addressed more effectively through action research. This project, designed on action research model, demonstrate how NP can be made to function more effectively on a wider scale, especially how to go around some known hindrances. It agrees that the following five strategies recommended by Amparo [7] are critical in the success of implementing NP: "Education and training"; "appropriate and meaningful nursing documentation"; nurse's accountability for independent role function; understanding organisation culture and involvement of authorities; and appropriate ward/clinical area conditions and nursing work re-organisation.

Way Forward

First and foremost, this project is still far away from fully institutionalizing its goals of improving quality of nursing services; establishing accountability in nursing practice; bridging the gap between nursing education and practice; improving nursing visibility in healthcare delivery; and contributing to knowledge building in nursing. It has so far only demonstrated that these goals are realistic and attainable and has laid down the foundation for further actions. Focus should now be on attaining permanent NP signature on nursing practice in Kenya. This can only be said to exist when the practice of NP becomes a norm and a culture in nursing practice in at least 80% of healthcare institutions. Thus it remains work in progress.

Second, for effective implementation and sustainability of implementing NP, approaches in nurses' basic training have to change

in context, if nursing is to effectively evolve from medical to caring paradigm. Caring model based on patient care, holism, caring science and unitary-transformative paradigms [15] should provide guiding frameworks on training and curriculum reviews. While medical paradigm sees health as a state of body, Watson [70] propagates holism and caring science that sees health as a state of unity and harmony within and between mind, body and soul/spirit, giving nursing a much broader view of health than medicine does. This does not however negate specialization in nursing but helps nurse-specialists look at patients and nursing beyond a confined specialised context.

Transformation from medical model to caring model must be done carefully and professionally, not emotionally, to promote compatriotism and complementarity in healthcare. It should not be perceived or treated as a fight for liberation but as a strategy in improving quality and quantity of health services for human good. It should not appear as a rebellion against medicine or medical model but as an appreciation to complementarity between the two models. Its primary focus should not be based on satisfying the wish of nurses individually or collectively but the health needs of the people.

The transformation must also be supported by the practice of appropriate nursing model or models based on the actual professional need of nurses based on a mixture of their technical skills, levels of professional training and general knowledge on those models. Change agents must avoid being driven by their own intellectual quests but rather by the nurses' aggregated totality of intellectual capacity, knowledge and experience in implementing the selected nursing model effectively.

Third, nursing education in Kenya should consider embracing spirituality and transcultural nursing, and strengthen sociology and psychology related topics to have equal attention as medical related subjects in nurses training curriculum and make practically applicable to nurses within NP framework. It is the view of the author that nursing is a practical science bridging the gap between social and health (medical) sciences; and it should be taught and practiced in that context.

Fourth, having already demonstrated that NP works at a wider scale, the Kenya-NP considers each NP step as independent researchable parameter that adds value to effective implementation of NP. While plenty of work has been done in some areas, there are still fewer evidence of sound practices in other steps like assessment, planning (especially goal setting) and evaluation.

Finally, noting that Kenya health system is now undergoing massive transformation and paradigm shift during the post-2013 era of devolution in health sector, nursing is not left behind. Usually nursing is the biggest casualty of omission in such massive health reforms in SSA. Also given that devolution has brought in new challenges to policy makers and top level health managers at both national and county governments it is recommended that:

i. Current national policy makers and county policy implementers and health managers should be engaged on orientation and sensitization on Mainstreaming Kenya-Nursing Process as a means to resolving both national and county specific healthcare challenges.

ii. National and county nurse leaders who are not yet trained in NP should be inducted to enable them embrace and champion/advocate for NP implementation within their respective jurisdictions.

iii. Nurses who have been certified competent and are still in service at facility levels should be facilitated to train others on the job.

iv. As already suggested [23], Nursing Council of Kenya and nurses' training schools should adopt the Kenya-NP model for teaching and/or training nurses in both classroom and clinical area including assessing quality of nursing care in clinical settings.

v. All faculty staff in nursing training schools/colleges should be inducted on the Kenya-NP for effective application in teaching and conducting further nursing research on the subject.

vi. Latest (current) NANDA-I, NOC and NIC lists should be included among the recommended list of reading materials for student nurses by the NCK.

vii. Because nursing skills in student nurses in Kenya are largely developed by nursing personnel in clinical areas, linkage and collaboration between lecturers and clinical nurses is critical. NCK should therefore fully implement its policy that was approved some years back requiring lecturers to clock practical hours per week in clinical areas, just as practicing nurses are required to clock theoretical learning hours in seminars and workshops to retain their practicing license and continue practicing. A teaching license should therefore be introduced on the basis.

viii. Lastly, NCK should review and redefine the scope of nursing practice in Kenya within the context and contents of Kenya-NP and repackage other aspect of nursing practice outside this Kenya-NP framework in congruency with it. Thereafter studies can be conducted on its implementation to provide knew knowledge and experiences.

Conclusion

An analogy is drawn on Kenya-NP from this project as follows.

Kenya-Nursing Process is a vessel conveying nursing care to patients. Nurses are the pilots steering the vessel and delivering the commodity called nursing care. The vessel's capacity is defined by Nursing Process steps. Its shape and reliability are determined by either medical model or caring model. Medical model gives it an old incongruent awkward shape to which appropriate nursing care does not fit without being degraded. Delivered this way, recipients of this commodity are dissatisfied and rejects on delivery.

Caring model gives the vessel a new shape that is appealing, spacious enough and accommodates nursing care in good shape and quality with no damages. Quality is acceptable and meets needs of recipients where reliability is improved, depending on degree of caring model application. In full application nursing is autonomous, individualized to each patient, and focused on specific patient-oriented objectives; nurses are courageous, patient, competent, compassionate, concerned, confident and commitment.

Manufacturer of the vessel must therefore adopt the new shape that also floats well in the turbulent waters, safer, and attractive to buyers because it serves their purpose. In addition, this new shape has more room for contemporary nursing models like Henderson's, Orem's, Roy's, etc. These models are required as additives to nursing care because they give it desired flavors and add value to it. Pilots have the liberty of choosing the right flavor according to taste. If delivered this way customer are more satisfied with the commodity.

Making NP work in real caring life of a nurse is not simple,

especially in low resourced developing countries. It requires a lot of commitment and time, perhaps a working life or two of a nurse (or longer) to institutionalize. Transforming from medical model culture and caring model culture is tougher. The resistance from dominant medical model proponents is quite strong, given a long time scale in its dominance. Pockets of resistance will be encountered even when things look smooth sailing; mostly lying in wait for an opportune moment to arise so as to strike. The concurrent merger of MoMS and MoPHS and devolution of healthcare in 2013 (Box 1), that were immediately followed by massive natural attrition of experienced nurses from the public sector within the first two years of devolution, is one such moment.

Challenges to implementing NP are raised on (a) shortage of resources – i.e., manpower, supplies, inadequate time and high patient turnover [7,71]; (b) negative attitude – i.e., time consuming and being foreign [9,72]; and (c) inadequate knowledge and incompetence – i.e., lack of cognitive and psychomotor skills, and structure and language are complicated, cumbersome and unrealistic [8,73]. This project now adds systemic challenges such as (d) management and policy issues – i.e., lack of nurses' autonomy and lack of support from authorities; and (e) organisation culture – i.e., negative influence from medical model; to the already existing list of impediments to NP.

This project also demonstrates that, with sound leadership and commitment, these challenges are surmountable. Given diversity in those challenges this project was cushioned by other strategic activities mentioned under introduction section. Cooperation and support from policy makers and management is attainable when it is demonstrated that NP addresses local healthcare and nursing predicaments for public good (Box 5a). Yura and Walsh [37] recommended the need to work with authorities; Haris et al. [74] emphasized it; and both Ryan [12] practically demonstrates it.

A localized model of NP delineates the idea of being foreign [23]. As for lack of time and being time consuming, Benner [16,17] is clear that novice and advanced beginners require a lot of time while experts spend very little time in executing a skill. Thus if skills in implementing NP can be nurtured to competency level and beyond, issues on time and work overload would be partly resolved while complaints on language are likely to be eliminated with mastery on nursing language at competency levels.

Manpower shortage is a health system problem that should be addressed by nurse leaders at managerial and policy levels and by enforcing Orem's health system theory at operation level. The principle threat to implementing NP, in our view, is inadequate knowledge and incompetence, which can be addressed effectively through mainstreaming, effective continuing education program [75] and application of Benner's stages of clinical competence [16-18].

While initiation and implementation of NP is largely a nursing affair, success in mainstreaming NP is an entire health system's achievement. Therefore it must strike on core health problems of importance to regional and national health authorities and demonstrate that nurses have solutions to lingering health predicaments. Therefore, a sustainable functioning NP is one with the following five qualities;

i. Nurse Managers/leaders, educators and researchers demonstrate vision, mission, commitment, and strategic focus to mainstreaming NP.

ii. Operationalizing NP is emerging as an organisation culture within nursing.

iii. The practice of NP is within or moving towards caring model, away from medical model but works with medical model complementarily.

iv. It is where NP is well integrated with at least one appropriately functioning nursing theory/model and that the theory/model demonstrates guidance to nurses' independent frame of knowledge, decision-making, judgment, work organisation and individual nurses' actions.

v. It is where practicing nurses spontaneously demonstrate at least competency level in all the six steps of NP in everyday nursing care activities.

Nursing Process implementation usually faces many challenges and is most importantly not working well in as many clinical settings because nurses implementing it are largely operating with skills below competency level. A long term Totality of Skills and Knowledge building based on a fundamental nursing theory is therefore critical in every nursing system wishing to implement NP. As this paper contributes towards knowledge building in NP the authors hope that it will stimulate more studies locally and globally on this line of thinking.

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References

1. Nightingale F (1872) Probationer-Nurses in the 'Nightingale Fund' School at the St. Thomas' Hospital and the nurses who were formerly trained there. In: Barbara MD, Louise CS, Deva-Marie B, Alex A. Florence Nightingale Today: Healing Leadership Global Action, American Nurses Association, Silver Spring, Maryland, pp: 2004-2211.

2. Nightingale F (1873) Probationer-Nurses in the 'Nightingale Fund' School at the St. Thomas' Hospital and the nurses who were formerly trained there. In: Barbara MD, Louise CS, Deva-Marie B, Alex A. Florence Nightingale Today: Healing Leadership Global Action, American Nurses Association, Silver Spring, Maryland, pp: 212-224.

3. Department of Nursing (2009) Nursing sub-sector strategic plan 2008-2013: Nurses can make a difference in revising trends, Nairobi: Afya House – Ministry of Health, Kenya.

4. Masaba TB (1981) The dynamics of nursing process. Curationis 4: 28-32.

5. Dochterman JM, Bulechek G, Head B, Ahrens D, Androwich I, et al. (2001) Determining cost of nursing interventions: A beginning. Nursing Economics 19: 146-160.

6. Ministry of Medical Services (2010) Health sector reform supervisory visit 2009/2010, Ministerial Monitoring Unit report, Afya house, Nairobi.

7. Amparo ZS (2004) Implementing the nursing process in a teaching hospital ward: An action research Study. University of Glasgow Nursing & Midwifery School.

8. Afero-LeFevre R (2010) Apply nursing process: A tool for critical thinking. Philadelphia: Lippincott. Willliams & Wilkins.

9. Mahmoud MH, Bayoumy HM (2014) Barriers and facilitators for execution of Nursing process from nurses perspective. International Journal of Advanced Research 2: 300-315.

10. Bertalanffy LV (1968) General system theory: Foundations, development, applications. George Braziller, New York.

11. Ryan LA (2005) The journey to integrate Watson's caring theory with clinical practice. International Journal for Human Caring 9: 26-30.

12. Wiscombe S (2001) Nursing process, Wallace Community College.

13. Habermann M, Uys LR (2005) The nursing process a global concept. China: Elsevier Churchill Livingstone.

14. Turkel MC, Ray MA, Kornblatt L (2012) Instead of reconceptualizing the nursing process let's re-name it. Nurs Sci Q 25: 194-198.

15. Watson J, Smith MC (2002) Caring science and the science of unitary human beings: A trans-theoretical discourse for nursing knowledge development. Journal of Advanced Nursing 37: 452-461.

16. Benner P (1984) From novice to expert, excellence and power in clinical nursing practice. Menlo Park, CA: Addison-Wesley Publishing Company.

17. Benner P (2001) From novice to expert: Excellence and power in clinical nursing practice. 2nd edn. Upper Saddle River, NJ: Prentice Hall Press.

18. NSW Health (2011) Benner's stages of clinical competence, NaMO - WOW Project tool .

19. Rakuom C (2010) Nursing human resources in Kenya: Case study, International Centre for Human Resources in Nursing.

20. Public Service Commission (2014) Scheme of service for nursing personnel, Government Printers, Nairobi.

21. Laws of Kenya (2010) The Constitution of Kenya, National Council for Law Reporting, Nairobi.

22. Bulson JA, Bulson T (2011) Clinical: Nursing process and critical thinking linked to disaster preparedness. Journal of Emergency Nursing 37: 477-483.

23. Wagoro MCA, Rakuom CP (2015) Mainstreaming Kenya-nursing process in clinical settings: The case of Kenya. International Journal of Africa Nursing Sciences 3: 31-39.

24. Ndirangu S (1982) A history of nursing in Kenya, Kenya Literature Bureau.

25. Nursing Council of Kenya (2009) Manual of clinical procedures, 3rd edn. Nairobi.

26. Davhana-Maselesele M, Tjallinks JE, Norval MS (2001) Theory-practice integration in selected clinical situations. Curationis.

27. Nursing Council of Kenya (2014) Training and Accreditation standards, Nairobi.

28. Liou S, Cheng C (2014) Developing and validating the Clinical Competence Questionnaire: A self-assessment instrument for upcoming baccalaureate nursing graduates. Journal of Nursing Education and Practice 4.

29. Riley PL, Vindigni SM, Arudo J, Waudo AN, Kamenju A, et al. Developing a nursing database system in Kenya, Health Research and Educational Trust.

30. Vanzetta M, Dal Molin A, Vellone E, Alvaro R, Arrigoni C (2016) Social media and nurse education: An integrative review of the literature. Ann Ig 28: 187-201.

31. Kakushi LE, Évora YD (2016) Social networking in nursing education: Integrative literature review. Rev Lat Am Enfermagem 24: e2709.

32. Karimi H (2011) Applying nursing process education in workshop framework. Procedia-Social and Behavioral Sciences, 29:561-566.

33. de la Cuesta C (1983) The nursing process: From development to implementation. J Adv Nurs 8: 365-371.

34. Fawcett J (2005) Contemporary nursing knowledge: Analysis and evaluation of nursing models and theories. Philadelphia: Davis FA.

35. Parker ME, Smith MC (2010) Nursing theories and nursing practice. Philladelphia: Davis FA.

36. Varcoe C (1996) Disparagement of the nursing process: The new dogma? J Adv Nurs 23: 120-125.

37. Yura H, Walsh M (1967) The nursing process. Norwalk, CT: Appleton-Century-Crofts.

38. Barra DCC, Dal Sasso GTM (2012) The nursing process according to the international classification for nursing practice: An integrative review. Texto e Contexto Enfermagem 21: 440-447.

39. Herdman TH, Kamitsuru S (2014) NANDA International Nursing Diagnoses: Definitions and classification, 2015–2017. Oxford: Wiley Blackwell.

40. Irvine D, Sidani S, Hall LM (1998) Linking outcomes to nurse's roles in health care. Nurs Econ 16: 58-64.

41. Ahtisham Y, Sommer J (2015) Integrating nursing theory and process into practice; Virginia's Henderson Need Theory. International Journal of Caring Sciences 8: 443-45.

42. McHolm FA, Geib KM (1998) Application of the Neuman systems model to teaching health assessment and nursing process. International Journal of Nursing Terminologies and Classifications 9: 23-33.

43. Krozy RE, McCarthy NC (1999) Development of bilingual tools to assess functional health patterns. Nurs Diagn 10: 21-29.

44. Crossetti MGO, Vieira DF, Rodegheri M, d'Avila ML, Proenca MC (2003) A computerized nursing process support system in Brazil. International Journal of Nursing Terminologies and Classifications 14: 58-58.

45. Robin JE, Donnelly GW (2006) A model to describe the relationship between knowledge, skill and judgment in nursing practice. Nursing Forum 41: 150-157.

46. Delaney C, Keela AH, Meridean M, Janet KS (2000) Reliability of nursing diagnoses documented in a computerized nursing information system. Nursing Diagnosis 11: 121-134.

47. Medina J, Ruiz-Lazano MD, Delgado M, Vila A (2012) A fuzzy temporal rule-based system for handling nursing process on mobile devices. Expert System with Applications 39: 10479-10488.

48. Carpenito LJ (2016) Nursing diagnosis: Application to clinical practice. 15th edn. Philadelphia. Wolters Kluwer.

49. Ammenwerth E, Ulrike K, Ansgar K, Cornelia M, Ronald E, et al. (2001) Nursing process documentation systems in clinical routine-prerequisites and experiences, International Journal of Medical Informatics 64: 187-200.

50. Yildirim B, Özkahraman S (2011) Critical thinking in nursing process and education. International Journal of Humanities and Social Science 1: 257-262.

51. De Bleser L, Depreitere R, De Waele K, Vanhaecht K, Vlayen J, et al. (2006) Defining pathways. J Nurs Manag 14: 553-563.

52. Bjorklund P (2004) Invisibility, moral knowledge and nursing work in the writings of Joan Liaschenko and Patricia Rodney. Nurs Ethics 11: 110-121.

53. Academy of Medical-Surgical Nurses (2010) Evidence-based practice.

54. Quan K (2007) The nursing process.

55. Tuti T, Bitok M, Malla L, Paton C, Muinga N, et al. (2016) Improving documentation of clinical care within a clinical information network: An essential initial step in efforts to understand and Improve care in Kenyan hospitals. BMJ Glob Health.

56. Cuzzell J (1999) Nursing documentation: A nursing process approach (3rd edn). Dermatology nursing.

57. Healy K, Hegarty J, Keating G, Landers F, Leopold S, et al. (2008) The change experience: How we updated our perioperative nursing documentation. J Perioper Pract 18: 163-167.

58. Brooks JT (1998) An analysis of nursing documentation as a reflection of actual nurse work. Medsurg Nurs 7: 189-196.

59. Ofi B, Sowunmi O (2012) Nursing documentation: Experience of the use of the nursing process model in selected hospitals in Ibadan, Oyo State, Nigeria. International Journal of Nursing Practice 18: 354-362.

60. Tranter S, Sonya, B, Dunford M, Graham J, Holland B, et al. (2009) A hospital wide nursing documentation project. Australian Nursing Journal 17P: 34-36.

61. Meleis AI (1997) Theoretical nursing: Development and progress (3rd edn). Philadelphia: Lippincott.

62. Watson J (2007) Watson's theory of human caring and subjective living experiences: Carative factors/caritas processes as a disciplinary guide to the professional nursing practice. Texto Contexto Enferm, Florianópolis 16: 129-135.

63. McEwen M, Wills EM (2011) Theoretical basis for nursing. Philadelphia. Lippincott Williams & Wilkins.

64. Medeiros ABA, Enders BC, Lira ALB (2015) The Florence nightingale's environmental theory: A Critical Analysis. Esc Anna Nery 19: 518-524.

65. Lachman VD (2012) Applying the ethics of care to your nursing practice. Medsurg Nurs 21: 112-114.

66. Mayeroff M (1972) On caring, Harper Collins Publishers, ISBN-10 0060802421.

67. Roach MS (1987) The human act of caring: A blueprint for the health professions, Canadian Hospital Association, ISBN 0919100643, 9780919100640.

68. Watson J (l979) Nursing: The philosophy and science of caring. Boston: Little, Brown Boulder, CO: University Press of Colorado.

69. WHO (2006) World Health Report 2006: Working together for health. World Health Organization, Geneva

70. Watson MJ (1988) New dimensions of human caring theory. Nurs Sci Q1: 175-181.

71. Porter PA, Perry AG (2007) Basic Nursing. 6th edn. St. Louis: Mosby.

72. Bowman GS, Thompson DR, Sutton TW (1983) Nurses' attitudes towards the nursing process. J Adv Nurs 8: 125-129.

73. Akbari M, Shamsi A (2011) A survey on nursing process barriers from the nurses view of intensive care unit. Iranian Journal of Critical care Nursing 4: 181-186.

74. Haris JR, Cheadle A, Hannon PA, Forehand M, Lichiello P, et al. (2012) A framework for disseminating evidence-based health promotion practices. Preventing Chronic Diseases.

75. Anstey S, Powell T, Coles B, Hale R, Gould D (2016) Education and training to enhance end-of-life care for nursing home staff: A systematic literature review. BMJ Support & Palliative Care.

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