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Determinants of Personal Resilience in the Workplace: Nurse Prescribing in an African Work Context

Abstract

This article explores the determinants of personal resilience using the case of nurse prescribing in the North West Region of Cameroon. Nurse prescribing has long been identified as a practical solution to the severe shortage of well-trained doctors and high incidence of diseases in developing countries. However, the working conditions of nurses are risky and vulnerable due to major constraints, such as inadequate training, poor reward systems, limited access to medical facilities/equipment and high workloads. Building on the resilience concept and using narrative analysis of in-depth interviews with nurses and nursing managers in public, private and faith-based hospitals, the article develops a framework depicting three interrelated determinants of personal resilience, namely organisational plans and procedures, personal work context and personal perception of an individual employee. The determinants are discussed further and implications for HRD theory and practice is critically examined.

Key Words: Personal resilience, Human resource development, Nurse prescribing, Work context

Introduction

This article explores the determinants of a personal resilience using the case of nurse prescribing in an African hospital work context. Nurse prescribing, a practice in which nurses

diagnose and prescribe (Latter 2008) is widely accepted as a solution to the severe shortage of doctors in developing countries despite nurses not having an equivalent training as doctors to do so (Stark, Nair, and Omi 1999; Miles, Seitio, and McGilvery 2006; Shumbusho et al. 2009). In addition to the challenges of taking on professional roles that are traditional allotted to doctors, nurse prescribing in developing countries take place in a risky and vulnerable work environment due to poor working conditions, staff shortages, limited training, professional/ethical dilemmas and high workload (Kinfu et al. 2009; Miles, Seitio, and McGilvery 2006). Without proper coping mechanism, such vulnerabilities can manifest into low levels of motivation, ineffectiveness and consequently negative health outcomes for patients (Scholes 2008). This leads to the following question that is explored in this article: What factors explain the capacity of nurses to cope with nurse prescribing in risky and vulnerable work contexts such as those in African countries?

To answer the above question the article draws on the literature linking resilience and human resource development (HRD) to undertake a narrative analysis (Riessman 1993) of nurse prescribing in the North West Region of Cameroon. A qualitative approach is useful for generating 'new ideas and information' about resilience in such under-researched populations (Bonanno 2012, 755). The analysis is based on in-depth face-to-face semi-structured interviews (Crouse, Doyle, and Young 2011), with nurses and nursing managers drawn from public, private and faith-based health facilities. By analysing the 'what' and 'why' in the personal account (Hok et al. 2007, 1643) of nurses and nursing managers, we contribute to the HRD literature by developing a framework depicting the determinants of personal resilience that can inform HRD interventions to build the personal resilience of employees.

The concept of personal resilience has been used by researchers to identify key features of an individual that enables successful adaptation to changing, vulnerable and risky working environment (CIPD 2011; Zraly and Nyirazinyoye, 2010; Rajkumar, Premkumar, and

Tharyan 2008; Denz-Penhey and Murdoch 2008). However, there is a dearth of in-depth research-informed framework on the determinants of resilience. Identifying the determinants and incorporating them into a framework that can inform an organisation's HRD practice (Kroth and Keeler, 2009) is crucial to ensuring the prioritisation of employee motivation and retention (Alkire and Avey 2013; Carnevale and Smith 2013) in the levels of adjustments that can be made to enable them to deal with work pressures (such as stress) and improve job satisfaction (Carnevale and Smith 2013; Lounsbury et al. 2008).

This article also contributes to HRD research on work contexts as useful settings for studying personal resilience (Roth and Vivona 2010) by uncovering the important determinants of resilience in a hospital work context. Previous research on the determinants of personal resilience in developing countries has focused on the aftermath of disasters, such as the Asian tsunami (Rajkumar, Premkumar, and Tharyan 2008) and Rwanda genocide (Zraly and Nyirazinyoye 2010). Roth and Vivona (2010) call for research that is context specific and focuses on actual problems that employees face as well as aligning these with HRD practice. Although resilience has been widely applied to improve nurse prescribing in developed countries (Gillespie, Chaboyer, and Wallis 2007), there is a dearth of research on Africa where nurse prescribing is very widespread (Groves 2012). Analysing the determinants of resilience in a hospital adds to our understanding, not only of work contexts that are witnessing an expanding role for professionals (Miles, Seitio, and McGilvery 2006; Scholes 2008) but also the HRD interventions that can enhance the personal resiliency of employees working in such contexts. A critical review of the work context for nurse prescribing in African hospitals and the resilience literature is used to provide a conceptual framework for our study. This is followed by a description of research methods, study results, discussion and conclusions respectively.

Literature Review

Nurse prescribing in resource-constrained work contexts

Nurse prescribing is a concept used to describe the designation of independent prescribing rights to nurses as a way of increasing access to treatment for patients and better utilisation of the skills of professional healthcare staff (Latter 2008). It is seen as particularly significant in addressing the increasing demand for healthcare and shortage of doctors (Ross and Kettles 2012). The expanding role of nurses beyond providing comfort and ensuring a clean and healthy healthcare environment for patients is globally recognised. Nurses are no longer restricted to the role of administering doctors' diagnoses and prescriptions (Latter 2008). They are permitted to diagnose and prescribe. This practice, called nurse prescribing, aims to provide a quicker and more accessible healthcare to patients thereby maximising human resources to provide improved access to treatment for patients. It is seen as a complementary measure in primary health care settings that suffer from shortages of doctors (McCann and Baker 2002).

Nurse prescribing in primary health care settings is of interest to HRD professionals who are required to support an extension and expanding role for nurses. Although HRD is seen as a specific function within national health systems (e.g. Ministry of Health, National Health Services, Nursing and Midwifery Councils, or Nurse Practitioner Colleges (Ross and Kettles 2012; Gallagher et al. 2006) its guidelines affect the effectiveness of nurse prescribing in specific hospitals. HRD provides highly specialised nursing education, extensive clinical experience beyond basic nursing training and a well-resourced healthcare infrastructure as seen in advanced economies such as USA, Sweden, Australia, New Zealand, Canada and the UK, (Ross and Kettles 2012; Gallagher et al. 2006; Groves 2012). This expertise required for

nurse prescribing in advanced economies is largely inadequate in developing countries such as those in Africa (Kinfu et al. 2009) where nurse prescribing is seen as an unavoidable solution to high disease incidence and shortage of medical doctors (Shumbusho et al. 2009). Apart from specialist training, many other resource-related factors also constrain nurse prescribing – long standing resources and infrastructure constraints, changing demographic and epidemiology of diseases, lack of legal protection due to inconsistent legislation and clinical guidelines for nurse prescribing (Groves 2012; Miles, Seitio, and McGilvery 2006).

Professionals responsible for HRD need research that will help them better understand how to motivate and retain employees (Alkire and Avey 2013; Carnevale and Smith 2013) in adverse and risky work contexts (CIPD 2011). Nurse prescribing in African countries is risky because of the potential negative consequences, such as faulty diagnosis/prescriptions that are damaging to patients and/or patients feeling discouraged to consult nurses given their knowledge that prescribing is the role of medical doctors (Shumbusho et al. 2009). This makes nurse prescribing a suitable work context for analysing how nurses respond to such work context challenges and how their responses can be aligned with HRD practice (e.g. Roth and Vivona 2010). This is the context in which we provide in-depth research into the risks and vulnerabilities associated with nurse prescribing and the coping strategies adopted by nurses to deal with them.

Determinants of personal resilience: a review of the key literature

Alkire and Avey (2013) examined the international HRD literature, and argue that resilience influences an individual's willingness to pursue employment in an emerging market economy. They present resilience as particularly relevant in work context where an employee is beset by problems and adversity requiring him/her to adapt to be able to attain sustained

success. A resilient individual is willing to not only take risks, but to be able to persevere in the face of such risks and this shapes their retention behaviours in a job. The concept of resilience has been shown to be an important resource that can be used by nurses to deal with major constraints and to adapt to adversity in their working environment (Ross and Kettles 2012). Dealing with constraints includes negotiating competency, professionalism and risks, which is crucial to the effectiveness of nurses (Cant, Watts, and Ruston 2011) and the HRD professionals who manage them. A resilient individual has the ‘ability to improvise’ (Coutu 2002, 48), and exploit ‘beneficial opportunities’ by digging deep to ‘utilise indigenous resources’ (O’Brien and Hope 2010, 2), adapting to risky and complex situations and thereby enabling the achievement of organisational goals (Donovan 2013).

Our focus is on personal resilience, defined as ‘a way of being and acting’ in the workplace that makes a ‘person strongly connected to life through relationships’ (Denz-Penhey and Murdoch 2008, 394). The HRD literature suggests that both individual and organisational factors interact to influence personal resiliency. Individual factors include personality/individual/psychological characteristics, the experiences that an individual has with their environment and the relationship between these, what can be called person–environment influences (CIPD 2011; Luthans, Vogelgesang and Lester 2006). Here personal resiliency includes how an individual uses competence, self-control (Gillespie, Chaboyer, and Wallis 2007), situation and work space awareness (Endsley, Bolet, and Jones 2003) and communication mechanisms with colleague to enhance performance (Russell and Russell 2006). Lounsbury et al. (2008) identify optimism and work drive as features of personality trait that account for career satisfaction. Here resilience takes the form of adjustments made by an individual employee in the face of job stress and pressure (CIPD 2011). Carnevale and Smith (2013) argue that despite demonstrated applied skills acquired through occupational and professional training, constant changes in the work environment and work-life balance

implies that an individual needs to develop self-esteem or the power of positive thinking to persist and sustain a given employment.

At the organisational level, HRD plans and procedures affect employee resilience. An organisation's reward system has been shown to affect the mental and physical health of nurses, with high wages and performance incentives seen as motivating employees to provide high quality service under pressure and vice versa (Donovan 2013; Shumbusho et al. 2009). Knowledge of employee's resilience can enable senior managers to better support them (Boin and van Eeten 2013). An HRD strategy that encourages a caring relationship between managers and employees has also been shown to enhance employee resilience in the work place (Kroth and Keeler 2009; Windle and Bennett 2012). Even in the presence of these organisational factors, the personal perception of an employee remains crucial because working relationships within an organisation are affected by how individual employees perceive, interpret and use defined organisational procedures in relating to their work contexts, what can be referred to as relational competence (Coutu 2002). According to Russell and Russell (2006) 'people who are resilient tend to face change more proactively and seek to make the change work for them on their own terms' (103).

In summary, the three ideal determinants of personal resilience discussed above, namely organisational plans and procedures, personal work context and the personal perceptions of an employee are empirically analysed in this article using the work context of nurse prescribing in the North West Region of Cameroon.

Research Method

Research Setting

Our empirical setting is based in Cameroon. The national nursing qualifications, defined by the Ministry of Public Health, range from Nursing Assistant to Doctorate levels; however, very few nurses go beyond a Bachelor Degree. The nursing curriculum is dominated by classroom teaching (theory) with limited periods of clinical placements, in some cases (Groves 2012). There is neither a definitive policy on nursing nor a license requirement for nursing practice beyond registration in the National Order of Nurses, Midwives and Health Technicians and to be hired by a health care provider (British Council 2007, Groves 2012). The law restricts nurses to treating very minor medical conditions whilst referring serious conditions to doctors (NAPNMHT 2005). The liberalisation policies of the 1990s led to the proliferation of private nursing training, leading to concerns over the variability of the quality of training, the lack of standardization (British Council 2007), the limited regulation and consequent negative impacts on patient care. Such concerns are in addition to high disease incidence, insufficient medical facilities/equipment, poor remuneration and high workload facing nurses (Groves 2012). Yet, nurse prescribing is the main source of health care provision in rural areas (Ryan 1998), including faith-based and private commercial hospitals that are seen as having better healthcare facilities and support for nurses (Groves 2012).

Cameroon therefore possesses the type of vulnerable and risky work context for nurse prescribing described earlier and make it suitable for analysing personal resilience in the work place. Practically, we decided to focus on the North West Region because it reflects a typical resource-constrained work context for nurse prescribing. This region is dominated by

subsistence activities (e.g. agriculture and crafts) and has some of the poorest neighbourhoods in the country. Following Ergler et al. (2011), we used purposive sampling to select healthcare settings taking into account rural-urban differentials, diverse healthcare organisations (Table 1) and access to a representative set of study participants. To help select study participants, we contacted the regional and divisional delegations for public health responsible for the implementing public health policies in the region. From these delegations, we obtained a list of legally registered public, private and faith-based hospitals, healthcare facilities in urban and rural areas. Ethical clearances were sought from each delegation and selected healthcare facilities to be able to access and conduct in-depth interviews with nurses. We use 'nurse' to represent the full range of terms such as matron, ward sister and charge nurse (Fongwa 2002) that are still being used locally to describe the roles performed by nurses and nursing managers.

Data and data collection

A qualitative approach was adopted for this study as it has been shown to be effective in exploring the experiences of practitioners (Crouse, Doyle, and Young 2011). Fieldwork for this research was conducted during 2010-2011. Participants for this study were recruited using a two-step snowballing approach (Cant, Watts, and Ruston 2011). First, we created a list of health facilities and corresponding initial informants (doctors and nurses) within the study region, using informal contacts at the regional delegation for public health. The initial informants were knowledgeable about the local healthcare system and helped us avoid the lengthy process of gaining access to individual interviewees by identifying key persons that were relevant to understanding the role of nurses and access interviewees. This purposive

sampling is particularly relevant where there is no central database identifying informant (Cant, Watts, and Ruston 2011). Second, we matched selected participants to their respective organisation and job roles, created a list of informants from public, private and faith-based health facilities and allocated code names for the purpose of anonymity (Table 1).

[Insert Table 1 around here]

A total of twenty-seven face-to-face interviews were conducted with nurses and nursing managers, all of which lasted between 60 and 90 minutes. Following Murphy and Dingwall (2003, 93) the interviews were based on semi-structured questions to allow informants themselves 'to define the experience and practice that are the focus of the research'. This includes the risks and vulnerabilities in the work context, how organisational plans and procedures, personal context and personal perception were used by the participants to make decisions about nurse prescribing. With written consent from interviewees, all interviews were tape-recorded, transcribed verbatim and anonymised. To confirm and validate the data informal interviews we conducted with doctors (chief medical officers and medical practitioners) and patients and recorded as field notes. For the same reason, we collected and reviewed any documents (technical reports, hospital evaluations and HR policies/guidelines). These field notes and documents lie between observational data and individual data and ensure data corroboration (Murphy and Dingwall 2003; Riessman 1993). By confirming and corroborating the data, we were able to use only direct quotations from nurses and nursing managers, our primary participants, with very few from doctors.

Method of data analysis

Narrative analysis is our preferred analytical tool. Narrative analysis as applied to interview accounts begins with a deliberate effort to ask people to recount stories and personal

narratives which are then transcribed into interview transcripts (Ngoasong 2010). Content analysis of texts or a close reading of interview transcripts is then undertaken to understand and reconstruct accounts of connections between events, and between events and contexts, with detailed quotations from interview transcripts (Riessman 1993). For this reason, the interviews were transcribed verbatim while ignoring ‘minute linguistic details’ (e.g. false starts) that have minimal impact on the research (Ngoasong 2010, 103). An example of a false start include where interviewee begins but never finishes a thought (e.g. ‘when the patient come in -- I thought -- I was thinking) until another question is asked.

Given that narrative analysis does not require fragmenting texts into codes (Riessman 1993), the transcribed data was used to create a thematic structure based on the research questions and literature review and focusing on *what* (Hok et al. 2007) the nurses said about their experiences. The transcripts were analysed by both authors separately and then agreed together. Specific sections to be used as direct quotations to highlight specific vulnerabilities/risks and corresponding ‘individual coping strategies’ (Rajkumar, Premkumar, and Tharyan 2008, 848) were isolated.

Findings

Organisational plans and procedures

Given the diverse category of health facilities, we began our analysis of the narratives by confirming the practice of nurse prescribing in public, private and faith-based hospitals. As the quotations on Table 2 indicate, nurse prescribing takes place across all the categories of health facilities. There was a general consensus among interviewees in support of previous

reports (British Council 2007) that there is no law or legal framework within the government on nurse prescribing. Specific health care facilities create their own directives and guidelines, as seen in the use of ‘algorithm’, ‘protocol’, ‘guide’, and ‘job description’ in the nurses’ narratives (Table 2), which were also confirmed in informal interviews with Regional Delegation for Public Health authorities. From a HRD perspective, these directives and guidelines represent organisational plans and procedures (Coutu 2002), which if well implemented can encourage a caring relationship between managers and employees (Kroth and Keeler 2009) capable of enhancing the personal resilience of employees.

This is where the issue of illegality (Miles, Seitio, and McGilvery 2006) and the need to negotiate competency, professionalism and risk comes in (Cant, Watts, and Ruston 2011), with private and faith-based hospitals seen as having relatively better human resourced and self-regulated procedures compared to public hospitals. This suggests that nurses also have to use their own initiatives to define the boundaries of their nurse prescribing practices. This is evident when comparing narratives of nurses/doctors about their perception of nurse prescribing across the three categories of health facilities. As the quotations in Table 2 illustrates, organisational plans/procedures are open to interpretations, with private and faith-based hospitals seen as having clearer guidelines and protocols to guide decision-making when compared with public hospitals. The narratives of all the nurses reflect the risks and vulnerabilities and the personal workplace strategies (Crouse, Doyle, and Young 2011) adopted to cope.

[Insert Table 2 around here]

Personal work contexts and Personal perception

Analysis of the narratives of nurses along the lines of personal work context and perceptions review reveal striking features about the resilience of nurses in the context of

nurse prescribing. A key individual factor is situational and workplace awareness, which concerns nurses' awareness of decision-making processes (Endsley, Bolet, and Jones 2003) when confronted with a patient requiring prescribing and/or diagnosing. Nurses are required to adhere to defined protocols, procedures and clinical guidelines within their hospital. All the nurses studied are aware that adherence to clinical guidelines is the core of nursing practice. They also recognise that nurse prescribing can lead to the wrong diagnosis which is bad for patient outcomes, for their professional practice as nurses and for their healthcare organisation. These views are captured vividly in the following two quotations.

We have guidelines in our out-patient department. If a case comes which is not an emergency, we send you to the orientation room. The nurses there take your signs and symptoms and then send you the doctor. For a serious/critical case, such as asthma, the orientation nurse sends the patient to a casualty nurse who administers first aid before sending the patient to the doctor (Nurse 08, Regional Hospital).

I have had cases with false diagnosis. A woman came complaining of sharp lower abdominal pain and frequent stools. Instead of examining the pain I queried gastro-enteritis. In a follow-up visit I sent her to the MO [Medical Officer] for review. The MO performed a vaginal examination and found that the pain was caused by fibroids. For patients, there is a disadvantage of being consulted by a nurse (Nurse 10, Y Hospital)

The organisational factors captured in the above quotations are meant to guide nurses to make decisions about the circumstances under which nurse prescribing is allowed and when to consult and/or liaise with doctors. Even those nurses that have received some

training in prescribing/diagnosing explained that inadequate infrastructure and logistic support make it impractical to always adhere to organisation-specific guidelines, especially in rural and semi-urban areas. The following two accounts illustrate how nurses adapt to challenging work context by analysing their personal work context as a basis for decision-making.

With bad roads we cannot move patients very rapidly when we refer them to doctors in bigger [Regional] hospitals. We don't have an ambulance. The theatre here is just a make shift theatre with limited equipment. (Nursing Manager 03, District Hospital).

There are very few doctors, so the nurses have to fill in the shoes of the doctor. You can imagine we have health centres where you drive for four hours on bad roads and walk another three hours to reach the health centre. A physician [doctor] has never been there. It is the nurses taking care of these communities. (Nursing Manager 04, IHCC-RV).

In the sense of (Coutu 2002), recognising the above challenges and the risks they pose enable nurses to begin to make sense of the realities of their working conditions and to put the associated challenges into perspective in deciding whether or not to diagnose/prescribe, especially in the absence of legislation on nurse prescribing. This is also related how cognitive style enhance resilience (Carnevale and Smith 2013) in work context in which employees lack specialist medical training. The nurses explained how they combine their perception of organisational factors to rationalise their willingness to diagnose/prescribe. The narratives are consistent with individual factors such as education, practical on-the-job

training (Sergeant and Laws-Chapman 2012) and organisational procedures that give preference to nurses of a certain category to undertake nurse prescribing while promoting doctor-nurse knowledge transfer/sharing. This is similar to caring relational competence (Kroth and Keeler 2009) in that it is built through inter-personal working relationships between senior and junior nurses and doctors and nurses.

I diagnose independently because the other nurse is still new and still learning. Sometimes we sit together and when she prescribes, she must show me to see whether it is correct or not. She has to refer the patient to me for confirmation of her prescription, but sometimes when I am not there during weekends, she will diagnose and prescribe but will advise the patient to come back and see me [on specified dates]. (Nurse Manager 02, IHCC-RT)

'If you look at the nursing curriculum when I did my nurse training, we were not taught diagnosing and prescribing. But I have had to learn through in-service training [from doctors and colleagues], personal experiences. An American organization came here and trained us for two weeks on basic diagnosing and prescribing. That was not something we learned in school. (Nursing Manager 03, District Hospital)

Sometimes the doctor will call me and say this is typical of this kind of condition. When a patient manifests this condition, this is how you can manage them. I mean I have gained a lot during my working here and I think that one still has to be learning. Learning is a continuous process. (Nursing Manager 05, Y Hospital).

In relation to maintaining self-motivation (Lounsbury et al. 2008) of nurse prescribing, the nurses identified socio-cultural factors relating to their upbringing and the consequent effects on them choosing nursing as a career, being able to cope with the challenges of working as a nurse, as well as the effects on their clinical practices. The narratives here were in line with the following quotations highlighting factors such as religious beliefs, community values, family tradition and the socio-economic and cultural context of patients:

What motivates me is that I love my job. When I fell sick as a child my mother took me to the hospital. A certain nurse touched me calling out my name asking how I was feeling and she took me to the convent and gave me a banana and an orange. I did not eat anything but I slept on the chair outside the corridor of the hospital. When I got up my fever had gone. When I got better, I told my mother that when I grow up I will be a doctor so that I will be touching people and they will get well. That is the source of my aspiration. I am not too concerned with the workload. I am happy when I work and people appreciate. People even pray for you. I hope with God on my side I will do it till when I go on retirement and not fail people (Nursing Manager 02, IHCC-RT).

The reference to praying to God in the above narrative reflects the relational competence that is vital across all the health facilities studied. References to God are traditionally associated with faith-based hospitals, whose narratives include a requirement to pray to God such that 'faith and prayers' enhance quality of care (Ngoasong 2009, 950). According to a nurse in the faith-based hospital, 'whenever a nurse hands over, we do the ward round to see all the patients, and then we do morning devotion [prayers] with patients' (Nurse 04, Y Hospital). Another source of relational competence is the socio-economic

background of patients. In rural and semi-urban regions that we visited we heard stories from both patients and nurses who come from poor socio-economic backgrounds and this affects the perception that nurses have about the treatment they provide to such patients. Such circumstances motivate some nurses to go beyond nurse prescribing to teach patients ‘how to prepare a balanced diet for their families’ (Nursing Manager 02, IHCC-RT) as complementary to whatever treatment they get.

The above narratives about relational competence are related to the emotional resilience (Lounsbury et al. 2008) in terms of the nurse-patient interactions and nurse-community relationships. This was corroborated by informal interviews with patients, suggesting that patients are less anxious when consulting to nurses who relate to the socio-economic problems of the local community. According to one interviewee, ‘*you as the nurse are satisfied psychologically*’ and gain confidence in coping with nurse prescribing (Nurse 16, IHCC-RV). However, as the following quotations suggest, nurses’ understanding of patients’ socio-economic needs can sometimes override the hospital-specific procedures and guidelines in the nurses’ decision to diagnose and prescribe.

Most patients are very comfortable with me because I have come to know them for a long time. Some even refer to me as ‘doctor’. They will quote cases that you have treated and ask why you are referring them to another person [doctor] that they do not even know. I try to convince them to see the doctor for their own sake. (Nursing Manager 02, IHCC-RT).

There are times when you refer the patient to the hospital [to see a doctor] they will sit here crying that they do not have the money [to pay for travel and treatment] and they look at you to help. I sometimes prescribe knowing that if I refer the patients to a hospital they will not go. (Nursing Manager 04, IHCC-RV)

In the situations described above, nurse prescribing is informed by the nurses' perception about the patients' socio-economic background, as the nurses suggest clinical and organisational procedures do not account for such situations. The nurses explained that even when they feel sick and/or physically stressed at work they are much more concerned about the consequences of not being able to serve patients. However, all the nurses did agree that the poor reward systems (Donovan 2013) in which they work is a major issue affecting their capacity to effectively carry out nurse prescribing. They gave examples of the effects of hospital-specific rewards beyond wages/salaries along the lines of 'bonuses compensate for low pay' (Nurse 17, X Hospital), 'positive feedback from managers increases my morale' (Nurse 11, Y Hospital), and 'being awarded more meritorious services increased my self-esteem' (Nurse 08, Regional Hospital). The following accounts are examples of structural and procedural challenges facing hospitals that question the nature of nurse prescribing:

If the doctor is not on seat or has a heavy workload, some colleagues consult the patient, prescribe the medication and send the patient home without the doctor's approval. There are some doctors who are not happy about this and it may be too late to act. (Nurse 8, Regional Hospital).

Some doctors are threatened by educated and very experienced nurses ... some disrespect/under-look lower-grade nurses. Doctors are also still seen as semi-gods, superior. Nurses still do not feel confident to question doctors. Yet they have one goal. A doctor will say something like, 'you these nurses you want to take over our jobs'. It will lead to conflict because they see the nurse as a threat. (Nursing Manager 16, District Hospital)

While the above behaviours appear unethical, they suggest that defined reporting relationships between nurses, nursing managers and doctors aimed at strengthening caring relationships (Kroth and Keeler 2009; Windle and Bennett 2012) may not work if individuals do not take advantages of them to improve inter-personal relationships in nurse prescribing. This is where the need for a well-defined human resource development intervention (Alkire and Avey 2013) becomes crucial to help maximise the application of resiliency strategies by nurses to improve patients' outcome and the general functioning of the healthcare system as a whole. The next section discusses the results and develops a framework on which such interventions can be realised.

Discussion

This section discusses our findings and summarises implications for human resource development (HRD) research and practice. The concept of personal resilience suggest that in the presence of certain events, risks and/or challenges, vulnerable individuals take certain actions which enable them to cope, adapt and survive thereby avoiding failures (Coutu 2002; CIPD 2011). Applying the concept of resilience to the narrative experiences (Hok et al. 2007) of nurses and nursing managers, we uncover the self-developed routines (Russell and Russell 2006) that enable nurses in health facilities in the North West Region of Cameroon to be resilient. Evidence of resilience is seen in their ability to remain self-motivated and adaptive to the challenges associated with nurse prescribing. The nurses have developed self-developed routines such as acceptance of the reality of their personal work contexts and the use of own interpretation of hospital-specific procedures, inter-personal working relationships, and attachment to patients' socio-economic conditions to respond to the

demands of nurse prescribing. The routines represent what O'Brien and Hope (2010, 2) call 'beneficial opportunities' that can be exploited by an employee to be resilient.

Our findings reveal that nurse prescribing is a suitable work context, not only for understanding the personal resilience of employees but also for uncovering the implications for HRD practice (Roth and Vivona 2010). Nurse prescribing has long been identified in government policies as a complementary solution to the challenges caused by the high incidence of disease burden and severe shortage of well-trained doctors (Miles, Seitio, and McGilvery 2006). However, the working conditions of nurses remain fraught with major constraints that require nurses to be resilient to be able to cope and sustain nurse prescribing. Although HRD researchers acknowledge the importance of developing personal resilience in the work place (Luthans, Vogelgesang and Lester 2006; Russell and Russell 2006; CIPD 2011) there is a dearth of in-depth research to understand personal resilience in specific work contexts (Roth and Vivona 2010). Based on our findings we contribute to HRD research by developing a framework depicting the determinants of personal resilience (Figure 1) as the basis for HRD interventions. The framework includes the three ideal determinants of resilience developed in the literature review, namely personal perception, personal work context, and organisational plans and procedures. Specific sub-determinants that individual employees consider to be crucial in enabling resilient emerged from our analysis and these are presented in terms of their linkages to the three ideal determinants.

[Insert Figure 1 around here]

The implication of Figure 1 for HRD theory is that it extends existing frameworks by recognising personal perception as a major determinant of individual resilience. Existing research has focused on a combination of individual and environmental factors, internal and external to the organisation that affect the resilience of an individual (CIPD, 2011; Denz-

Penhey and Murdoch 2008). These are related to personal work context and organisational plans/procedures in figure 1. By analysing the personal experiences (Denz-Penhey and Murdoch 2008) of nurses our results suggests that the perception employees have about certain environmental factors represent a distinctive determinant of resilience. By perceiving patients from very poor socio-economic background as having little or no options, some nurses bypass organisational procedures and undertake nurse prescribing. From a HRD perspective, by-passing or ignoring procedures/protocols is unethical and does not provide appropriate basis for developing resilient employees (Alkire and Avey, 2013). According to Coutu (2002) 'resilience is neither ethically good nor bad; it is merely the skill or the capacity to be robust under conditions of enormous stress and change' (52). Figure 1 therefore argues that individual and environmental factors should be analysed alongside an employee's personal perception of the environmental factors that affect his/her work.

Our findings also have important policy implications for developing the resilience of nurses working in risky and vulnerable healthcare settings in developing countries (Stark, Nair, and Omi 1999; Miles, Seitio, and McGilvery 2006). Our results show how HRD processes, such as nursing education/training, nurse prescribing guidelines and specific tasks are implemented in an ad-hoc and inconsistent manner. The determinants of personal resilience in Figure 1 can inform HRD interventions both at the level of the national health system and specific healthcare organisation. The Ministry of Public Health, the national institution responsible for health system functioning can develop a case for legislation aligned to hospital-specific plans and procedures. Such an intervention can provide a more supportive work context for nurses as well as shape their personal perceptions, both of which are determinants of the resilience of nurses.

Figure 1 can also be used to develop organisation-specific HRD interventions to build the resilience of nurses. Our findings suggest that employees in hospitals with conducive

personal work context (e.g. private and faith-based hospitals) were more resilient and motivated to adhere to organisational procedures/guidelines compared to those with poorer working conditions (e.g. public hospitals in rural and semi-urban areas). This suggest that a caring managerial strategy to enhance manager-employee relationships and inter-personal working (Kroth and Keeler 2009; Windle and Bennett 2012) and improved organisational plans and procedures can enhance the personal resiliency of the nurses.

Research in advanced economies suggest that targeted resiliency training can contribute to develop the resilience of nurses to work place stress and vulnerabilities (Carnevale and Smith, 2013) and enable them to pursue legitimate and professional standards of nurse prescribing (Ross and Kettles 2012; Gillespie, Chaboyer, and Wallis 2007). This can be achieved by incorporating the determinants of personal resilience in the national nursing curriculum, continuing professional development and specialised resiliency workshops (CIPD 2011) and certified by The National Order of Nurses, Midwives and Health Technicians. Our study participants revealed that such training opportunities are largely missing in their current training programmes. As suggested in Zraly and Nyirazinyoye (2010) specific hospitals can create a designated department (or staff) responsible for providing ad-hoc resilience training and support to employees to handle vulnerable situations and stressful problems as they arise.

Conclusions

The article contributes to HRD research by exploring a framework depicting the determinants of personal resilience in work-contexts that are highly under-resourced and characterised by an expanding role for professionals. The framework provides the basis for HRD interventions to enhance personal resiliency, including resilience training/workshops

aimed at improving teamwork and adaptation to work place challenges (Sergeant and Laws-Chapman 2012). In the case of nurse prescribing in resource-constrained work contexts, personal resiliency training (CIPD 2011) must be complemented by specialised medical training (Gillespie, Chaboyer, and Wallis 2007) and infrastructure/managerial strategies. Without these, the health facilities we studied, especially those in the public sector, will continue to struggle to implement stringent measures to deal with unethical practices associated with nurse prescribing. Our study does not argue that resilience is a panacea to the resource-constraints that make the work context of nurse prescribing risky and vulnerable (see Scholes [2008] for more on this). There is no doubt that addressing constraints such as low pay for nurses, high workload and insufficient medical facilities are crucial in reducing some of the vulnerabilities and risks that they face. However, in the presence of these constraints, which is evident in many African countries (Groves 2012; Miles, Seitio, and McGilvery 2006) our findings suggest that resilience can play a key role in staff motivation and retention in such work contexts.

More research is needed to validate our determinants of resilience framework (Figure 1), for example by repeating our study in other parts of Cameroon as well as other African and developing country contexts. The three broad determinants of resilience (perception, personal work context and organisational plans/procedures) represent themes that can be divided into codes (using the sub-determinants). Qualitative analysis based on these codes and themes can determine the resilience of nurses in other settings and specific HRD interventions can be explored. Future research can also apply narrative analysis or related qualitative methods (Zraly and Nyirazinyoye 2010) to other stakeholders, such as a more detailed study of medical doctors and patients to complement the current findings. Research is also needed on organisational resilience (Boin and van Eeten 2013; CIPD 2011) to

understand the hospital-specific challenges in implementing professional standards of nurse prescribing in resource-constrained settings.

References

- Alkire, T. D. and J. B. Avey 2013. "Psychological capital and the intent to pursue employment with developed and emerging market multinational corporations." *Human Resource Development International*, 16(1): 40-55.
- Boin, A. and M. J. G. van Eeten 2013. "The Resilient Organization: A critical appraisal." *Public Management Review*, 15(3): 429-445.
- Bonanno, G. A. 2012. "Uses and abuses of the resilience construct: Loss, trauma, and health-related adversities". *Social Science and Medicine*. 74(5):753-756.
- British Council 2007. *Final Report of the seminar on nurse and nurse educator capacity building in Cameroon*. University of Buea: British Council. 18-19 September 2007.
- Cant, S., P. Watts, and A. Ruston 2011. "Negotiating competency, professionalism and risk: The integration of complementary and alternative medicine by nurses and midwives in NHS hospitals." *Social Science & Medicine*, 72(4): 529-536.
- Carnevale, A. P. and N. Smith 2013. "Workplace basics: the skills employees need and employers want," *Human Resource Development International*, 16(5): 491-501.
- CIPD 2011. *Developing resilience: An evidence-based guide for practitioners*. London: Chartered Institute of Personnel and Development. Accessed 10 October 2015, http://www.cipd.co.uk/binaries/developing-resilience_2011-evidence-based.pdf
- Coutu, D. 2002. "How resilience works." *Harvard Business Review*, 80(5): 46-52.

- Crouse, P., W. Doyle, and J. D. Young 2011. "Workplace learning strategies, barriers, facilitators and outcomes: a qualitative study among human resource management practitioners." *Human Resource Development International*. 14(1): 39-55.
- Denz-Penhey, H. and C. Murdoch 2008. "Personal resiliency: serious diagnosis and prognosis with unexpected quality outcomes." *Qualitative Health Research*, 18(3): 391-404.
- Donovan, J. F. 2013. "Personal Resilience: A Gateway to Organizational Health and Progress." *Frontiers of Health Services Management*, 30(2): 36-42.
- Endsley, M. R., B. Bolet, and D. J. Jones 2003. *Designing for situation awareness: An approach to user-centred design*. London: Taylor & Francis.
- Ergler, C.R., P. Sakdapolrak, H. Bohle, and R. A. Kearns 2011. "Entitlements to health care: Why is there a preference for private facilities among poorer residents of Chennai, India?" *Social Science & Medicine*, 72(3), 327-337.
- Fongwa, M. N. 2002. "International health care perspectives: The Cameroon example." *Journal of Transcultural Nursing*, 13(4): 325-330.
- Gallagher, J., C. O'Gara, M. Sessay, and J. Luty 2006. "Nurse prescribing in addiction services: client benefits." *Nursing Standard*, 20(48): 42-44.
- Gillespie, B. M., W. Chaboyer, and M. Wallis 2007. "Development of a theoretically derived model of resilience through concept analysis." *Contemporary Nurse*, 25(1-2): 124-135.
- Groves, W. N. 2012. *Diagnosing and prescribing by nurses in different health care settings: perceptions and experiences of key stakeholders in Cameroon*. PhD Thesis, Kingston University. London. UK.
- Hok, J., C. Wachtler, T. Falkenberg, and C. Tishelman 2007. "Using narrative analysis to understand the combined use of complementary therapies and bio-medically oriented health care," *Social Science & Medicine*, 65(8): 1642-1653.

- Kinfu, Y., M.R.D Poz, H. Mercer, and D. B. Evans 2009. "The health worker shortage in Africa: are enough physicians and nurses being trained?" *Bulletin of the World Health Organization*, 87(3), 225-230.
- Kroth, M. and C. Keeler 2009. "Caring as a Managerial Strategy." *Human Resource Development Review*, 8(4): 506-531.
- Latter, S. 2008. "Safety and quality in independent prescribing: an evidence review." *Nurse Prescribing*, 6(2), 59-66.
- Lounsbury, J. W., R. P. Steel, L. W. Gibson, and A. W. Drost 2008. "Personality traits and career satisfaction of human resource professionals," *Human Resource Development International* 11(4): 351-366.
- Luthans, F., Vogelgesang, G. R. & Lester, P. B. 2006. Developing the Psychological Capital of Resiliency. *Human Resource Development Review*, 5(1): 25-44.
- McCann, T. and H. Baker 2002. "Community mental health nurses and authority to prescribe medications-the way forward?" *Journal of Psychiatric and Mental Health Nursing*, 29(2): 348-354.
- Miles, K., O. Seitio, and M. McGilvery 2006. "Nurse Prescribing in low-resource settings: Professional Considerations." *International Nursing Review*, 53(4): 290-296.
- Murphy, E. and R. Dingwall 2003. *Qualitative Methods and Health Policy Research*. New York: Aldine de Gruyter.
- NAPNMHT 2005. Order No.29/A/MSP/DSP/SFPS OF 17 October 1977 which was revised and it later became Bill No.532/PJL/AN 1990, National Association of the professions of Nurse, Midwife and Health Technicians, Cameroon.
- Ngoasong, M. Z. 2010. *The Role of Global Health Partnerships in Shaping Policy on Access to Medication in Cameroon: Theory, Models and Policy Practices*. PhD Thesis, University of Nottingham.

- Ngoasong, M. Z. 2009. "The Emergence of Global Health Partnerships as Facilitators of Access to Medication in Africa: a narrative policy analysis." *Social Science & Medicine*, 68(5), 949-956.
- O'Brien, G. and A. Hope 2010. "Localism and energy: negotiating approaches to embedding resilience in energy systems." *Energy Policy*, 38(12): 7750-7758.
- Rajkumar, A. P., T. S. Premkumar, and P. Tharyan 2008. "Coping with the Asian tsunami: Perspectives from Tamil Nadu, India on the determinants of resilience in the face of adversity." *Social Science & Medicine*, 67(5): 844-853.
- Riessman, C. K. 1993. *Narrative Analysis*, Newbury Park, California: Sage.
- Ross, J. D. and A. M. Kettles 2012. "Mental health nurse independent prescribing: what are nurse prescribers' views of the barriers to implementation?" *Journal of Psychiatric and Mental Health Nursing*, 19(10): 916-932.
- Roth, G. L. and B. Vivona 2010. "Mirth and Murder: Crime Scene Investigation as a Work Context for Examining Humor Applications." *Human Resource Development Review*, 9(4): 314-332.
- Russell, J. L and L. Russell 2006. *Change Basics*. ASTD Press (Chapter 7: on Developing Employee Resilience, p. 101-115).
- Ryan, G. W. 1998. "What do sequential patterns suggest about the medical decision-making process? Modelling home case management of acute illnesses in a rural Cameroonian village." *Social Science & Medicine*, 46(2): 209-225.
- Scholes, J. 2008. "Coping with professional identity crisis: is building resilience the answer?" *International Journal of Nursing Studies*, 45(7): 975-978.
- Sergeant, J. and C. Laws-Chapman 2012. "Creating a positive workplace culture." *Nursing Management*, 18(9): 14-19.

- Shumbusho, F., J. Van Griensven, D. Lawrence, M. A. Weaver, et al. 2009. "Task shifting for scale-up of HIV Care: Evaluation of Nurse-Centred Antiretroviral Treatment at Rural Health Centres in Rwanda." *PloS Medicine*, 6(10): 1-12.
- Stark, R., N.V.K Nair, and S. Omi 1999. "Nurse practitioners in developing countries: Some ethical considerations." *Nursing Ethics*, 6(4): 273-277.
- Windle, G. and Bennett, K. M. 2012. Caring Relationships: How to Promote Resilience in Challenging Times. In Michael Ungar (ed.) *The Social Ecology of Resilience: A Handbook of Theory and Practice*, Springer. (Chapter 18, p. 219-231).
- Zraly, M. and L. Nyirazinyoye 2010. "Don't let the suffering make you fade away: An ethnographic study of resilience among survivors of genocide-rape in southern Rwanda." *Social Science & Medicine*, 70(10): 1656-1664.

Table 1. Characteristics of interviewed key informants

Sector	Health Facility	Roles of Interviewees*
Public Sector	Regional Hospital (Urban)	<ul style="list-style-type: none"> • Chief Medical Officer (1) • Medical Practitioner ((2) • Nursing Manager (1) • Nurse (4)
	District Hospital (Semi-Urban)	<ul style="list-style-type: none"> • Chief Medical Officer (1) • Medical Practitioner (1) • Nursing Manager (1) • Nurse (2)
	Integrated Health Care Centre (Rural-Town) – IHCC-RT	<ul style="list-style-type: none"> • Nursing Manager (1) • Nurse (1)
	Integrated Health Care Centre (Rural Village) – IHCC-RV	<ul style="list-style-type: none"> • Nursing Manager/Nurse (1)
Faith-based Sector	X Hospital (Semi-Urban)	<ul style="list-style-type: none"> • Medical Practitioner ((1) • Nursing Manager (1) • Nurse (4)
Private Sector	Y Clinic, (Urban)	<ul style="list-style-type: none"> • Medical Practitioner (1) • Nursing Manager (1) • Nurse (4)

**Numbers of interviewees for each role are in brackets; Nursing Managers were interviewed in their dual roles as practicing nurses and managers.*

Table 2. Widespread practice of nurse prescribing

	...about public health facilities	...about private health facilities	...about faith-based health facilities
Public Sector narrative	<p>‘We have an algorithm and protocols, but we can also use our initiative’ (Nurse Manager 03, District Hospital)</p> <p>‘My supervisor [Nurse Manager] told me that “if those guys [Doctors] are not around you can extend your boundaries”. So I don’t think there is a formal job description’ (Nurse 08, Regional Hospital)</p>	<p>‘If you misbehave in private hospitals, you can be suspended or dismissed. In public hospitals nurses can do what they like and get away with it. The quality is generally poor in public hospitals’ (Nurse 16, Regional Hospital).</p> <p>‘Drs are absent because they have private clinics. Some ask patients to do lab test at their private clinics and bring the results to them at their public hospital where they work’ (Nurse 18, Regional Hospital).</p>	<p>‘The mission [Faith-based] hospitals are well organized. They implement guidelines prepared by doctors for nurses to follow. We have similar guidelines but we struggle to implement’ (Dr 02, Regional Hospital)</p> <p>‘In mission hospitals, it is well controlled. Nurses are trained to carry out diagnosis and even to carry out minor surgery’ (Dr. 01, Regional Hospital)</p>
Private Sector	<p>‘There is a break down in the system. Nurses have become doctors in</p>	<p>‘We have a job description, but there are circumstances that we have to deviate. If</p>	

narrative	the minds of most patients. The nurse cannot say ‘I am not doing it’. We need to re-define everything’ (Dr 03, Y Hospital).	there is a case that baffles you, you go ahead to the other person who is your senior or boss.’ (Nurse 10, Y Hospital).	
Faith-based Sector narrative	‘There are job descriptions for nurses that are not implemented because of lack of staff. A state registered nurse ends up working as a doctor’ (Nursing Manager 01, X Hospital)		‘We have protocols. Our Nurse Assistants do not diagnose and prescribe. It’s usually the degree nurse and the state registered nurse who prescribe/diagnose’ (Dr 04, X Hospital).

Figure 1. Determinants of personal resilience

