



Review

# Strategic leadership approach on effective palliative care of multiple myeloma (MM) in a developing country: A narrative review

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## Abbreviations:

AJOL (African Journal Online);  
CDSR (Cochrane Database Systematic Review);  
CINAHL (Cumulative Index of Nursing and Allied Health Literature);  
MM (Multiple myeloma).  
USEPA (United States Environmental Protection Agents)

## INTRODUCTION

Nigeria is Africa's most populous black nation with annual growth rate of 3% and estimated population size of about 200 million people. It is presumed that multiple myeloma

Broadly speaking, the level of palliative care of life-threatening illnesses is grossly inadequate in developing countries including Nigeria. This could be responsible for their poor ascertainment, late diagnoses and low survival outcomes in the regions. This study was aimed at highlighting the strategic leadership approaches required to achieve effective palliative care of MM in Nigeria. It was an evidence-based integrative review of 31 references related to palliative care, MM, leadership concepts and frameworks for effective management of the disease. Three keywords (Palliative care, MM and leadership model) were used as search strategy to identify the problems, interventions, and outcome evaluation of the research question. The AJOL, Pub Med, Google scholar, CINAHL and CDSR were the database reviewed. A multi-sectored approach involving integrated health protection tools (i.e., screening, surveillance), health promotion (awareness, policy-making) in addition to strategic leadership model are required to establish effective palliative care for MM in a developing country such as Nigeria. The four pillars of effective care in this case are education (health information), health policy, drug availability, and implementation strategies. Concluding, leadership failure is responsible for poor survival outcomes of MM patients in Nigeria. To mitigate this challenge, there is a need to restructure the leadership framework in health institutions to embrace a palliative form of care. This requires education, policy-making, collaboration, and appropriate therapeutic interventions. The government, community, healthcare provider, donor agency and patient are critical stakeholders for successful implementation and attainment of effective level of palliative care in Nigeria and sub-Saharan Africa.

**Key words:** MM, palliative care, health policy, medical effectiveness, Nigeria

(MM) accounts for about 1021 out of 102,100 of newly diagnosed cancers annually in Nigeria based on her global statistics with respect to other cancers (Ferlay et al., 2010).

The target population of this malignant disease include the middle- and elderly-aged groups that make up about 12.5% of the total population of Nigeria (Federal Republic of Nigeria Niger Delta Regional Development Master Plan, 2017).

Multiple myeloma poses a diagnostic dilemma to healthcare providers in the country, especially the orthopaedic team and the internist due to the complications (e.g. skeletal-related events (SREs) and end-organ failures) associated with the disease. These complications are attributable to late diagnosis and inadequate therapeutic interventions in this part of the world (Nwabuko et al., 2017). These challenges could be summed up as fall-outs from ineffective or inadequate palliative care of people living with multiple myeloma in Nigeria (Salawu and Durosimi, 2005; Fasola et al., 2008; Madu et al., 2014).

The ineffective palliative care in Nigeria is attributable to poorly developed healthcare system. Despite over 23,640 health care institutions scattered over the six geopolitical zones that make up Nigeria, the nation is grossly underserved in health care services as evidenced by 0.8 bed per a thousand population, 1 medical doctors per two thousand five hundred population, 1.5 nurses per a thousand population, poor medical intelligence and surveillance systems (Welcome, 2011; Chukwunenye, 2019). There are only fifteen healthcare centers that have fully established palliative care units with very few experts in a country with over 4.6 million palliative care burdens (Oyebola, 2017).

The World Health Organization defines palliative care as a holistic approach that improves the quality of life of patients and their families facing problems associated with life-threatening illness through prevention and relief of their sufferings by means of early identification, assessment and treatment of pain and other problems, including physical, psychosocial and spiritual (Sepulveda et al., 2002). "Life-threatening" in this context connotes end of life disease, incurable disease and/or diseases which threaten the survival of an individual. A holistic approach in palliative care takes into cognizance of physical, socioeconomic, psychological and spiritual problems of the patients and their families or caregivers. Most non-communicable diseases such as cardiovascular diseases (e.g. acute myocardial infarction, coronary artery diseases), sickle cell diseases, cancers (e.g. Multiple myeloma, breast cancer), diabetes mellitus require palliative interventions in order to improve the quality of life of the sufferers. Similarly, chronically infected patients such as those suffering from HIV/AIDS and tuberculosis could benefit from palliative care (Nwabuko and Nnoli, 2013).

In modern palliative care, the focus is on prevention, symptom management, holistic care, personalized (attending to the patient) and family inclusive cares. This differs from standard oncology care which focuses predominantly on direct cancer management and patient-limited care (Hannon et al., 2016).

The strategic leadership approach in palliative care tends to use the leadership theories, styles, models, drivers and

operations to facilitate personal, institutional and community behaviour-change in order to attain effective level of care of people living with multiple myeloma in Nigeria (Hannon et al., 2015; Nwabuko et al., 2018; Zimmermann et al., 2019). The proposed change in this context is to translate the level of care from ineffective or inadequate level of palliative care to an effective level of care using effective leadership frameworks and models.

### **The risk assessment in palliative care**

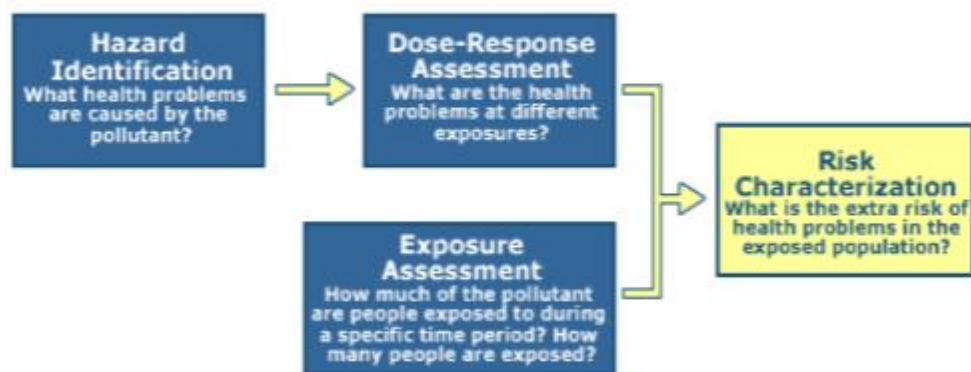
Risk assessment (RA) entails constant identification, measurement and management of health risks of any given population. RA is a 4-step approach which involves: hazard identification (what health problems are caused by the pollutants?); dose-response measurement (what are the health problems at different exposures?); exposure assessment (how much of the pollutants are people exposed to during a specific time period? How many people are exposed?) and the risk characterization (what is the extra risk of health problems in the exposed population?) (Figure 1) (Suckling et al., 2003; USEPA, 2014).

RA is the first strategic leadership approach in the care of people living with MM. MM risk assessment test in Nigeria is invariably poor and this is directly or indirectly associated with the poor prognostic outcomes of the disease in the country.

Effective palliative care starts from improving the risk assessment through early identification of the potential hazards. The "potential hazards" in this context connote all the predisposing factors or "potentially etiologic factors" of multiple myeloma such as: the hypothesized precursors of MM (e.g. monoclonal gammopathy of undetermined significance MGUS, smouldering multiple myeloma SMM), increasing age, male gender, black race, genetic influence, obesity and unhealthy diet consumption. Other potential hazards include immunosuppressive conditions, bone marrow or organ transplantation; environmental exposures (e.g. pesticides, asbestos, herbicides, laxatives, hair dyes, ionizing radiations, petrochemical products, aromatic hydrocarbons and occupational hazards); infections caused by viral agents (e.g., HIV/AIDS, Kaposi sarcoma herpes virus KSHV, hepatitis C virus HCV, Epstein-Barr virus EBV, mutated cytomegalovirus) just to mention a few (Brown et al., 2001; Blair et al., 2005; Alexander et al., 2007; Landgren et al., 2009; Becker, 2011).

Unfortunately, the dose-response and exposure assessments of these predisposing factors have not been addressed in our environment. We are, therefore, left with the challenging question such as, "what dose of pesticide/herbicide could predispose someone to MM?", "How long will a population be exposed to this threshold/lethal dose to develop MM?" In other words, "what are the observed and expected outcomes of exposure to the "potentially aetiological agents of MM?" These research questions are hard nuts to crack in the nearest future and it is believed that an effective palliative care framework put in place could be able to break these hard

## The 4 Step Risk Assessment Process



**Figure 1:** The 4 step risk assessment process (USEPA, 2014).

nuts.

Addressing the 4-step approach of risk assessments is fundamental in prevention, diagnosis, control and management of MM in a low-middle-income country (LMIC) such as Nigeria. This requires a multi-sector collaboration, which is otherwise termed integrated health protection response. There are three key components of integrated risk protection response namely the situation analysis, risk modelling and stakeholder position. The situation analysis has to do with the statutory procedures underway to mitigate the potential hazards of MM. These procedures include local investigations (e.g., surveillance, auditing, screening, safety measures), being undertaken and possible environmental policies and litigations that could be met to any environmental injustice. The risk modelling has to do with risk analysis, exposure analysis, risk assessment and risk communication. The stakeholders position involve engaging the community, patients, local authority departments, councillors, members of the parliaments, environmental agencies, national health services and safety departments (Figure 2) (Ghebrehewet 2016).

There are some basic risk assessment and management questions that must be answered while conducting integrated health protection response against MM. The questions include: what can we do to solve this problem? What can you do to solve this? Whom do we inform them? How and when do we tell them? (Figure 2) (Ghebrehewet, 2016). The above mentioned strategies fall under the 4-step public health risk assessment process for MM.

Based on risk characterization, previous studies have shown that people exposed to environmental and occupational hazards such as agriculture, food processing and chemical industries have increased relative risk (RR 1.8) of developing multiple myeloma. The risk of getting myeloma is even higher for people exposed to petrochemical products (RR 3.7), asbestos and laxatives

(RR 3.5) respectively (Terpos et al., 2005). According to American cancer society prospective mortality study, prolonged use of dye for more than 20 years is a risk factor of acquiring multiple myeloma and other variants of non-Hodgkins lymphoma (American Cancer Society, 2005; Alexander et al., 2007).

### The core competences of a palliative care leader

In order to carry out palliative care leadership role effectively, prospective health care providers must attain levels of leadership competences. These could be achieved through training, re-training and education of the healthcare providers using a mixed qualitative-quantitative approach to become leadership models. The core competences of leadership model include patient-centeredness, selfless service, emotional intelligence, teamwork, integrity and critical thinking (Hargett et al., 2017). Optimal levels of diagnostic and therapeutic interventions; environmental, workplace and human capacity development, regulatory health policies are guaranteed when effective palliative care of multiple myeloma in Nigeria is implemented. However, the later cannot be achieved without attaining the core competences of leadership. These competences provide the bases of learners assessment and program evaluation, hence they are the most important attributes for effective leadership. This is typically demonstrated by the Duke Healthcare leadership model (Figure 3)

The successful implementation of this proposed changed event will create a new behaviour in the targeted audience. It will increase the awareness of MM, strengthen its screening policy in the health institutions as will be evidenced by increase case ascertainment and the reduction of the disease burden in Nigeria. This will ultimately improve the quality of life, average life-expectancy and decrease the morbidity and mortality rates

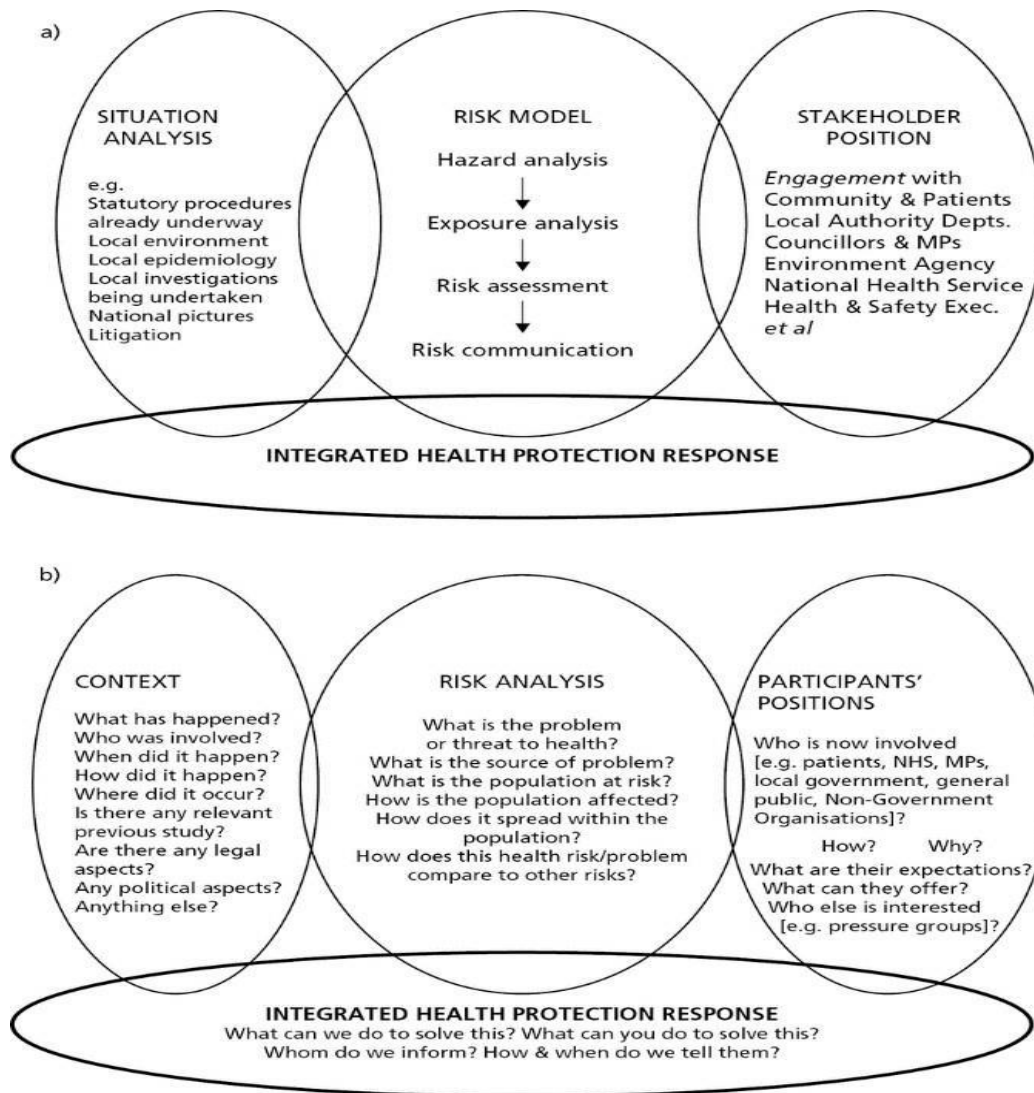


Figure 2: Integrated public health risk assessment model (Ghebrehewet, 2016)

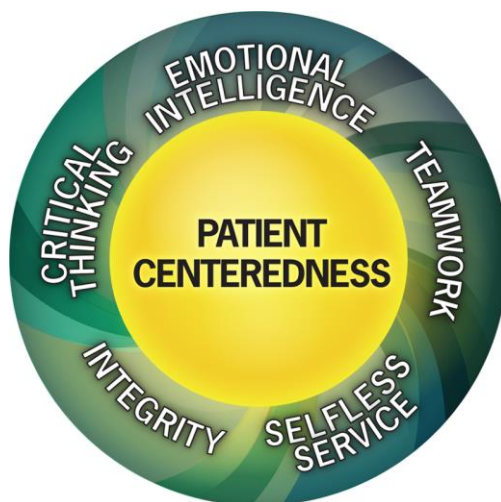


Figure 3: The Duke Healthcare leadership Mode

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**Table 1:** An illustration of a MM campaign theory using HBM; HBM. Health Believe Model; QOL, Quality of Life. Adapted with permission (Glanz et al., 2015; Nwabuko et al 2018)

Serial No	Perception	Target Intervention
1	Perceived susceptibility	Educating targeted group about multiple myeloma using the clinical presentations such as chronic back or bone pain (> 1 month), anaemia, pathological fracture, osteoporosis, renal failure and weight loss.
2.	Perceived severity	The complications of multiple myeloma such as transfusion-dependent anaemia, chronic renal failure requiring dialysis or kidney transplant, pathological fracture requiring orthopaedic intervention, osteoporosis, the burden of treatment of the disease and death.
3.	Perceived Benefits	Early screening will give rise to: i)Early detection (diagnosis) and disease prevention ii)Early therapy iii)Complication prevention iv)Improved QOL and overall survival interval v).Improved life expectancy of target group
4.	Perceived Barrier	a).Institutionalizing periodic screening test for myeloma of the target group in all health centres in Nigeria. (Policy). b).Use of social marketing theory as a strategy of health promotion for multiple myeloma screening in Nigeria. c). Use of public relations as a strategy to appeal to the targeted group.

attributable to complications of late diagnosis of multiple myeloma in the region. It is strongly recommended that other cancer specialties leverage this framework to improve on cancer surveillance, database and prevention in Nigeria (Nwabuko et al., 2018).

The public health approach to actualize this goal is through awareness campaign, education of healthcare providers and the target population; institutionalization of periodic screening test policy for multiple myeloma in all the health institutions in Nigeria, and through global collaborations.

This campaign is aimed to increase the knowledge base of multiple myeloma in the target population and healthcare providers through education using health believe model (HBM) of behavioural theory. The Health Believe Model uses four perceptions in the evaluation of target interventions. These are perceived susceptibility, perceived severity, perceived benefit and perceived barrier (See Table 1) (Glanz et al., 2015; Nwabuko et al., 2018).

The perceived susceptibility/definition and severity are the perceptions used exclusively in the evaluation of the target interventions among the healthcare providers and the target population. It is surprising that many physicians do not know the clinical presentation of multiple myeloma, hence leading to misdiagnosis or the diagnostic dilemma commonly associated with the disease in this part of the world. A successful adaptation of this perception by the target group will lead to improved case ascertainment, early diagnosis and reduced complications.

The next important approach in actualizing the change event is by institutionalizing multiple myeloma screening policy in all health centres in Nigeria. Most of the health institutions in Nigeria have suffered several set back over the years in making diagnosis of multiple myeloma due to lack of appropriate equipment to make the diagnosis. This will equally lead to poor case ascertainment, misdiagnosis morbidity and mortality of the disease, hence the need for periodic screening for multiple myeloma (about 3-6

monthly) on the targeted audience using appropriate point of care instruments. It becomes necessary that a diagnostic regulatory policy for multiple myeloma is paramount in order to curb these complications.

A proper campaign to create adequate awareness for Nigeria is expected to run for a period of three years in order to bring about the desired changes.

It is expected to start from tertiary health centres in first fiscal year (FY), the secondary and primary health centres in the second and third fiscal years respectively (Nwabuko et al., 2018). Alternatively, it could start from the three levels of healthcare spontaneously through effective modes of communication.

The objectives of this campaign are:

1. To reduce the time of diagnosis of multiple myeloma from 2 years to < 6 months (early detection or diagnosis of multiple myeloma) Nigeria.
2. To institutionalize multiple myeloma screening policy in all health institutions in Nigeria starting with the tertiary health centres in FY1, the secondary and primary health care centres in the FY2 and FY3 respectively.
3. To develop a Multiple Myeloma registry in all health institutions for diagnosis (case ascertainment) and surveillance of multiple myeloma locally and nationally (Surveillance Epidemiologic End-Result, SEER biostatistics for MM in the sub-Saharan). This will make tracking and research on the disease easy.
4. To reduce multiple myeloma-related morbidity and mortality by half of current values. It is expected that there will be a reduction in prevalence of severe anaemia from current 50% to 25% among people living with multiple myeloma in Nigeria.
5. To improve the five years post-diagnosis survival from 7.6% to 40% (Nwabuko et al., 2017).

### Leadership styles and strategic options

Leadership literally means the ability to influence an organized group towards accomplishing its goals using strategic theories, models, drivers and operations (Bryman, 1986). A healthcare leader is a social change agent with special skills to influence the care of individual patients, the performance and direction of healthcare organization. These special skills which make leadership qualities outstanding are the competencies of effective leadership. The six core competencies of effective leadership include patient centeredness, selflessness, emotional intelligence, teamwork, integrity and critical thinking. The six leadership competency statements therefore are: 1. "Acting with Personal Integrity" (APE), 2. "Communicating Effectively" (CE), 3. "Acting with Professional Ethical Value" (APEV), 4. "Pursuing Excellence" (PE), 5. "Building and Maintaining Relationship" (BMR), and 6. "Thinking Critically" (TC) (Hargett et al., 2017).

There are many identified styles of leadership (Luthans and Peterson 2002). However, the other common types are the transformational, transactional, autocratic, bureaucratic, democratic, task-oriented, laissez-faire, and

relationship-oriented leadership. The style of leadership plays important role in determining the quality of care. The quality of care is significant in productivity in healthcare setting. The implication of this is that the quality of care plays a strategic role in achieving the desired health outcome (i.e., to effect the desired change) (Institute of Medicine, 2001).

The transformational style of leadership involves creating motivation and relationship among staff members. The structure of this style of leadership include ideal behaviours (walking the talk), inspirational motivation (creating vision), intellectual stimulation and common attributes; that is, showing strong character in working for the good (Burns, 1998). These category of leaders have the ability to inspire confidence, staff respect and communicate loyalty through communally shared vision that ultimately lead to increased productivity, job satisfaction raised morale of the employee (Frandsen, 2014). In transactional leadership, the leader acts as a manager of change. He makes exchange with his employee that lead to improvement in production (Burns, 1998). The autocratic leadership style is such where the leader makes the bulk of the decisions without taking into account the opinions of the staff. It is the style of leadership considered in emergency situations or where the level of knowledge of the staff is low. This style of leadership gives rise to low working morale, high turnover and absenteeism. It does not build trust among the staff and the manager.

In task-oriented leadership style, the work activities are planned, the roles within a team or group are well spelt out. The objectives as well as the continuing monitoring and performance are set as well. It is somewhat similar to bureaucratic style of leadership. In democratic style of leadership, the leader capitalises on the skills and talents of the staffs letting them share their views in decision-making, rather than expecting them to confirm.

In the proposed change event, the proposed style of leaderships are transformational, democratic, task-oriented and occasional bureaucratic. The preferred option is due to the complexity of the innovation to be diffused to the target audience. There will be interplay of different style of leadership at different interval. For instance, in educating the target audience, transformational style of leadership may be the preferred option while in conducting periodic screening test for multiple myeloma, task-oriented and bureaucratic may be the preferred options.

The most effective and appropriate style of leadership strategy to support the change agent is the transformational style of leadership. Based on the above definition, these category of leaders have the ability to inspire confidence, staff respect and communicate loyalty through communally shared vision that ultimately lead to increased productivity, job satisfaction raised morale of the employee (Frandsen, 2014). Transformational leaders walk the talk and are vision-minded. It is required to conduct the following obligations

1. Community involvement and mobilization: by recruiting operational and supportive staff in the six

geopolitical zones of Nigeria who will be able to get to their target audience in their zones. This is by liaising with community heads, CSO and CBOs. Streets campaign by supportive and operative groups, CSOs, CBOs, celebrities, NGOs, and governmental agencies. Radio and television interviews will be favorable forums to create awareness.

2. Training of the staffs on their expectations including how to give health talks on the clinical presentations of MM to the targeted audience, basic skills on how to screen for MM in a patient, and documentation (i.e., MM cancer registries).

3. Technology transfer of the innovation including screening of adopted targeted audience which commences after mobilization and training.

4. The community-based public health research (CBPR) members will collaborate with the haematology and public health research departments of each health institution for update on data collection using the local MM cancer registries.

5. The number of institutions where MM screening policies are established with evidence of cancer registries will be assessed. Similarly, the number of target audience that come for screening test, the number of diagnosis of MM made and the stage of disease will be recorded on weekly, monthly, quarterly, and annual bases.

### The proposed outcomes

Public health campaign implementation is all about performance management. It has to do with monitoring and evaluation of improvement or change in the behaviour of the target audience. The top priorities of this campaign are to reduce the period of onset of diagnosis of multiple myeloma (i.e., increase early diagnosis) from 2 years to less than six months in Nigeria. To imbibe MM screening culture among the targeted audience, as evidenced by an increase in the number of target audience presenting for the routine periodic MM screening test in Nigeria. This will be achieved through surveillance (MM registry in every hospital). It will also increase the numerical strengths of health institutions in performing MM screening tests. This campaign must be SMARTER; that is, Specific (MM), Measurable (a goal obtainable campaign within 3 years expected time of completion), Achievable with all stakeholders, Realistic, Time-bound (3 years), and Ethical (no intention to do any harm or violate human rights). In order to evaluate this implementation, the RE-AIM concept will be utilized. RE-AIM means Reach, Effective, Adoption, Implementation, and Maintenance. This means there is a need to reach out to the target population who want to participate in this intervention; measure the impact (effectiveness) of the intervention on important outcomes of the target audience; track the number of target audience willing to implement the intervention; and those who have completely changed (i.e., implemented the intervention). The last approach is a long-term evaluation of the level of sustenance of the new behaviour (Galio et al., 2013).

### Conclusion

Effective palliative care of MM will require strategic leadership approach in implementation of the health promoting and protective policies on its care. Late diagnosis of Multiple myeloma is one of the biggest challenges in its management in sub-Saharan Africa. Leadership failure is the leading factor for poor survival outcome of MM in Nigeria. It is responsible for poor knowledge of the disease course of MM by healthcare providers.

MM poses diagnostic dilemma, as it is usually misdiagnosed as orthopaedic disease because of the skeletal-related complications in the region. There is a need to rule out multiple myeloma in any history of chronic waist or back pain in any middle-aged or geriatric patient. Unfortunately, we lack modern facilities for the assessment of MM in Nigeria and most countries of sub-Saharan Africa.

### Recommendations

The public health campaign on awareness and screening for MM in Nigeria will promote periodic screening tests for MM in the targeted audience. This will scale up early detection and prevention in the region. The successful execution of this health promoting policy will depend on political commitment and suitable communication tools which will increase the potentials for proper interaction, engagement, participation and customization of the targeted audience. The outcomes of these interventions are achievable through effective implementation and evaluation strategies. These innovations have the capacity to improve the quality of life and average life-expectancy of people living with MM in the region.

There is, therefore, a need for strong collaborations to provide the resources and supports to drive the treatment of MM using state of the art facilities and novel therapeutic regimens. We strongly recommend other cancer specialties to leverage on this framework to improve on cancer surveillance, care and prevention in both the sub-Saharan African region and the world at large.

### Competing interests

The authors declare no competing interest.

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