

Research article

## Policy mapping for establishing a national emergency health policy for Nigeria

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**Keywords:** Nigeria, Injuries, Emergency, Health, Policy

### Abstract

**Background:** The number of potential life years lost due to accidents and injuries though poorly studied has resulted in tremendous economic and social loss to Nigeria. Numerous socio-cultural, economic and political factors including the current epidemic of ethnic and religious conflicts act in concert in predisposing to and enabling the ongoing catastrophe of accident and injuries in Nigeria.

**Methods:** Using the "policymaker", Microsoft-Windows® based software, the information generated on accidents and injuries and emergency health care in Nigeria from literature review, content analysis of relevant documents, expert interviewing and consensus opinion, a model National Emergency Health Policy was designed and analyzed. A major point of analysis for the policy is the current political feasibility of the policy including its opportunities and obstacles in the country.

**Results:** A model National Emergency Health Policy with policy goals, objectives, programs and evaluation benchmarks was generated. Critical analyses of potential policy problems, associated multiple players, diverging interests and implementation guidelines were developed.

**Conclusions:** "Political health modeling" a term proposed here would be invaluable to policy makers and scholars in developing countries in assessing the political feasibility of policy managing. Political modeling applied to the development of a NEHP in Nigeria would empower policy makers and the policy making process and would ensure a sustainable emergency health policy in Nigeria.

### Background

Accidents and injuries are a major public health problem worldwide. In industrialized countries, intentional and unintentional (accidental) injuries have become the third most important cause of overall mortality and the main cause of death among the 1–40 year old age group. There is evidence moreover, that the incidence of injuries is growing. Everyday around the world, almost 16,000 peo-

ple die from injuries. Several-thousand more with non-fatal injuries end with permanent disabilities. Worldwide, road-traffic accidents (RTA) and self-inflicted injuries are the leading injury-related cause of death and burden of diseases in males and females respectively [1].

The incidence of fatal RTA is highest in developing countries. Similarly, the prevalence of accident and injury relat-

ed disability calculated using the disability adjusted life expectancy (DALE) is highest in sub-Saharan Africa and lowest in countries with established market economies [2]. The pressure of accident and injuries on the health systems is evident on the fact that one in ten hospitalizations is accident and injury related [1].

Nigeria is the most populous and ethnically diverse country in Africa with over two hundred and fifty ethnic groups and a population of about one hundred and twenty four million people [3]. It has one of the highest road traffic accident rates in the world [4]. Accidents and injuries are the major cause of death in adults under fifty years in the country [5]. The number of potential life years lost due to acute medical emergencies especially accidents and injury though poorly studied has resulted in tremendous economic and social loss to the country. A study of road traffic accidents (RTA) trend in the country between 1960 and 1989 revealed a sharp increase in the occurrence and mortality rate. Between 1960 and 1969, about 18,000 deaths occurred. This has increased significantly to 92,000 deaths between 1980 and 1989 [6]. There is similarity in incidence of accident and injuries and its related morbidity and mortality in several parts of sub-Saharan Africa. The incidence of unintentional and intentional injuries is however increasing rapidly in the Nigeria. Despite insufficient data, it is apparent from media reports and hospital records that several thousand additional cases of injuries were recorded in the country within the past two years and half years due to numerous ethnic and civil conflicts in the country. This has equally resulted in mass internal displacement of people and frequent unplanned journeys under tense conditions. It is almost universally accepted among Nigerians that accidents and Injuries are major and neglected causes of preventable mortality and morbidity in the country.

#### **Key determinants of accidents and injuries in Nigeria**

Factors that contribute to the high mortality, morbidity and disability rates related to emergency medical conditions, accidents and injuries and disasters in Nigeria include,

**1. Social:** Inadequate individual and community knowledge and training in accident and injury prevention. School curricula at primary, secondary and tertiary care levels contain little or no aspects of accidents and injury prevention. The illiteracy level at the rural level is quite high making it difficult for individuals at this level to appreciate most of mass media campaigns or regulations, which are in English.

**2. Economic:** Inequitable distribution of resources and medical facilities between the rural and urban area. While most accidents and injuries occur on highways traversing

rural areas, the existing limited health care facilities are only located at major cities thus increasing the time to care and worsening the outcome of severe injuries.

**3. Political:** Several political determinants act in concert in the predisposition and perpetuation of accident and injuries in Nigeria

a) Lack of adequate legislation, regulations and proper enforcement on speed limits, seat belts, crash helmets and domestic and civil violence.

b) Lack of a comprehensive medical emergency response system for the evacuation, resuscitation and rehabilitation of victims.

c) Inadequate resources and planning for accident and injury surveillance systems.

d) Inadequate monitoring and enforcement of environmental and occupational health and safety regulations

e) Inadequate intersectoral collaboration between the various administrative arms of the government including the Ministries of Health, Works and Housing, Defense and the Nigeria Police Force as well as the state and local governments.

f) The incessant ethnic and religious crisis in the country that has been inadequately management by the government.

#### **Policy and intervention strategies**

The Nigerian National Health Policy was adopted for implementation in 1988 with the goal of achieving a level of health that will enable all Nigerians to achieve socially and economically productive lives [7]. The National Health Policy and its subsequent modifications however did not have provision for the establishment of a national emergency medical and disaster management systems, despite the clear and urgent need for such in the country. This project advances a working document that could serve as a template for the development of a National Emergency Health Policy and Programs for the Federal Republic of Nigeria. It is the product of an applied political analysis (policy mapping) that provides a rapid assessment probe to the political dimensions of health policy making in Nigeria. It approaches the problems of accident and injuries and the emergency medical systems in Nigeria from an epidemiological, economic and systematic political perspectives aiming to ensure the development of a politically feasible policy and efficient and sustainable programs on accidents and injuries in Nigeria.

## Methods

This paper on political modeling of a comprehensive national emergency health policy in Nigeria was designed utilizing the 'policymaker'; a Windows based software program for computer assisted policy analysis. The software is used to analyze policy problems and its associated multiple players with diverging interests. It incorporates political mapping techniques to analyze the political actors in a policy environment, assess the power and the position of key political actors. It also incorporates techniques of political risk analysis in order to provide a quantitative analysis of whether the policy is politically feasible. Additionally, the software uses methods of organizational analysis and rule-based decision systems in order to suggest strategies that can enhance a policy's feasibility [8].

Using the 'policymaker', the information generated on accidents and injuries and emergency health care in Nigeria from literature review, content analysis of relevant documents, expert interviewing and consensus opinion, the content of the proposed National Emergency Health Policy including its goals and mechanisms were established. Key policy players in Nigeria were identified including their probable position, power, interest and coalitions. A major point of analysis was the current political feasibility of the policy including its opportunities and obstacles in the country. Strategies were also designed on how to improve the policy's feasibility.

## Results

### **Proposed policy**

The proposed policy is the National Emergency Health Policy (NEHP). This is designed to be incorporated into the existing national health policy adopted in 1988. Its program should be administered in collaboration with other components of the national health systems and all other local, national and international agencies, public and private to ensure the effective delivery of an effective, efficient, sustainable emergency medical and disaster response services to all Nigerians.

### **Policy goal**

The reduction of disabilities, morbidity, and premature deaths associated with acute medical conditions, accidents and injuries and disasters in Nigeria.

### **Process objectives with concurrent evaluation benchmarks**

1. To provide Nigerians with adequate knowledge and skills required for the prevention of accidents and injuries and the importance of seeking prompt medical attention for potentially serious conditions. Evaluation would be based on determining the proportional improvement in knowledge attitude and skills related to accident and inju-

ries prevention and basic care. Pre and posttest surveys with comparison/control groups would establish this.

2. To strengthen the capacity of medical personnel and facilities to respond to emergency medical and disaster situations at all levels in the country. Evaluation would be based on determining improvements in Federal, State and Local funding as well as international donor agencies to pre-hospital and emergency room and primary care centers involved in first and subsequent responses. Additionally, the knowledge, skills for the care of patient and managing facilities would be determined.

3. To establish minimum injury surveillance systems and the setting up of intersectoral mechanisms for launching safe community programs.

4. To ensure adequate enforcement and monitoring of Federal environmental and occupational health and safety regulations. Unscheduled and scheduled visits would be instituted at various work sites for quality determination. The frequency, process and outcomes of these visits would require clear documentation and oversight.

### **Outcome Objectives**

1. To reduce delays in patient evacuation, transport and institution of care for all emergency medical situations in the country by fifty percent in five years.

2. To reduce the morbidity and disability rate related to accidents and injuries and emergency medical conditions by fifty percent in five years.

3. To reduce the number of potential life years lost due to injuries and emergency medical conditions by fifty percent in five years.

### **Programs**

1. The establishment of a comprehensive national emergency medical system for response, transport, evacuation and treatment of acute medical conditions and injuries.

2. The establishment of a national accident and injury prevention program through hospitals, work place, institutions, schools, mosques and churches and local communities.

3. The establishment of a Federal Disaster Management Agency that will study the pattern causes possible preventive interventions, and best response to all forms of disasters in the country.

**Stakeholder analysis***Possible Initial Supporters*

1. Presidency, Ministries of Health, Education, Defense and Transport.
2. Nigerian Medical Association (NMA), Medical and Dental Council of Nigeria (MDCN) and the National Road Safety Corps (NRSC).
3. The World Health Organization (WHO), World Bank, United States Agency for International Development (USAID).

*Probable/conditional Opponents*

1. Ministries of Finance, Communication and Works and Housing.
2. National Association of Resident Doctors (NARD), National Postgraduate Medical College (NPGMC) and the Nigerian Police.

**Opportunities**

The proposed NEHP has several opportunities of passing and subsequent implementation in the country. These include,

1. The presence of a democratic regime (with strong international support) in the country and the "declared" commitment of the government to improving the health status and living conditions of all Nigerians.
2. The desire of the government to strengthen its public support at all levels in the country through instituting policies and programs that will ameliorate the hard ship face by millions of Nigerians.
3. The current attention of the World Health Organization, World Bank and the United States Agency for International Development toward the epidemiological, social and economic burden of disease associated with non-communicable diseases including accidents and injuries.
4. The desire among Nigerians at all levels for getting appropriate, affordable and immediate emergency medical and relief services.
5. The willingness of the Nigerian Medical Association, NRSC and Fire fighting units to form an expert working committees on emergency medical services and injury prevention.

**Obstacles****Financial**

The ministry of finance might offer major resistance to this policy because of both its short term and long-term enormous financial requirements. This could be considerable if the finance ministry is looked upon as the sole or major source of funding for the policy and its programs. The ministries of communication and works and housing will equally be concerned over the financial obligations that would be placed on them by the policy.

**Administrative**

The ministry of health would be constrained in recruiting additional manpower to fulfill the services of the various components of the policy. The size of the country and the huge population would necessitate a large-scale recruitment of community health workers, paramedics and ambulance drivers. Physicians and nurses will also require additional training in acute medical and surgical care and injury response and prevention.

**Organizational**

1. There might be a conflict of interest between the Nigerian police and the NRSC in terms of jurisdiction and control and pre-hospital management of accidents and injury patients. Additionally the police force might be concerned over losing funding of its traffic and highway control units to the NRSC.
2. The National Association of Resident Doctors while supporting the policy contents and aspirations might challenge any policy that would demand additional working hours and increase in work load leading to a high burn out rate especially of junior doctors without a corresponding increase in incentives and benefits.
3. The National Postgraduate Medical College of Nigeria might challenge the institution of any form of policy on graduate clinical training of physicians that does not offer them a major decision making power for curriculum design, implementation and examination. Their argument would be based on the possible lost of quality control on such training and their possible loss of future funding from the ministry of health on physician training.

**Actions to overcome obstacles****Financial**

1. Designing methods of cost recovery community financing through appropriate user fees and revolving fund at all levels.

2. Devising cost sharing methods between the federal, state, and local governments.
3. Seeking for private sector involvement and funding.
4. Collaborating with the WHO, World Bank and USAID for technical and financial support.

### Organizational

1. Convincing the ministry of health, teaching hospitals and other health centers of the importance of protecting labor rights of physicians and other health workers. There might also be the need for improving the working conditions of health workers and providing more incentives.
2. Granting the NPGMC additional funding and major control over the proposed graduate training in collaboration with the medical and dental council of Nigeria and military teaching academies.
3. Creating a memorandum of understanding between the Nigerian police and the NRSC through appropriate dialogue that will ensure division of labor as well as joint responsibilities over accident and injury victims.
4. Addressing the financial concerns of the Nigerian police.

### Policy implementation

#### *Strategic considerations and monitoring*

The successful establishment of the NEHP, and its subsequent implementation will depend on several factors. These include,

1. Political commitment. The commitment of the government of the federation is a most fundamental requirement for the establishment of the policy. This is required at federal, state, and local governments' level. Adequate political will and mobilization on the side of the government is needed to provide for the other requirements of the policy.
2. Economic Support by the government and people of the federation and also the private sector of the economy and from bilateral and multilateral institutions. This will ensure the provision of the required financial and material resources.
3. Winning over professional groups that will provide the scientific, technical and managerial functions of the policy, from design to evaluation.

4. Public information and education at a grass root level to ensure adequate community mobilization, support and sustainability of the policy.

5. Adequate intersectoral collaboration and coordination between the public and the private sector, and the government of the federation and private non-for profit organization, bilateral and multilateral institutions. [9]

### Resource requirement

1. Human resources including physicians, nurses, community health officers, paramedics, ambulance drivers, engineers, epidemiologists, health policy analysts and health economists among others.
2. Logistics and supplies required for pre-hospital care including ambulances and radio-communication equipments.
3. Collaboration and support of the armed forces, Nigerian Police Force, National Road Safety Corps, Ministries, Communication, Finance and Health and all hospitals and primary care centers in the country.
4. Adequate hospital facilities for Basic Life support, Advanced Trauma and Life Support and continuing trauma and medical support.

### Conclusions

The National Emergency Health Policy should be designed for implementation at gradual phases. The implementation at a National level should be preceded by a very careful pilot project at critical areas of the country with the highest incidence of accident and injuries, mixed populations and other peculiarities. The policy and its programs must have in-built structural, process and outcome monitoring and evaluation indicators at every stage.

There must also be in-built financial, accounting and managerial monitoring systems. The policy must continuously be based on appropriate, acceptable, available, accessible and acceptable methods. It should also be dynamic and responsive to changes and advancement in science and technology. These measures in collaboration with cost sharing measure, community support, political commitment, public-private partnership and international donor support would ensure the sustainability of the policy and its corresponding programs and projects.

'Political health modeling' a concept proposed here would be invaluable to policy makers especially in developing countries in assessing the political feasibility of a policy, managing the process of policy design and increasing its acceptance and creating strategies that improve the prospects of implementation. [10] Political modeling as ap-

plied to the development of the NEHP in Nigeria would empower policy makers and the policy making process in Nigeria. The success of the policy based on its goal and objectives would depend on its ability to empower individuals, families and communities through the provision of knowledge, attainment of competence and subsequent behavior modifications towards accident and injury prevention. The implementation of such a comprehensive policy while improving the health status of all Nigerians would facilitate the overall socioeconomic development of the country.

### Competing interests

None declared.

### Authors' contribution

The sole author undertook the design, analysis, editing and final approval of the manuscript.

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