

# Effects of Project Management Techniques on Primary Health Care Delivery

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**Abstract-** *This study examines the Effects of Project Management Techniques on Primary Health Care Delivery. A review of literatures on primary health care delivery showed that most public health professionals receive little or no formal training in project management. This has led to improper usage of project management methods for planning, scheduling and controlling. To assess the situation 200 questionnaires were administered to patients at primary health centers in the five divisions of Lagos State using systematic random sampling technique. Also 20 questionnaires were administered to middle and top management staff of the Primary Health Care centers in the five divisions using stratified random sampling technique, and judgment sampling technique. The data collected was analyzed using descriptive statistics and multiple regression analysis. The findings revealed that greater percentage of the variance that occurred in the dependent variables could be explained by the project management techniques indicators identified by this study. It was therefore recommended among others that Lagos State government should organize regular training programmes on project management techniques for workers in the primary health care sector.*

**Keywords-** *Primary Health Care; Project Management; Health Care.*

## 1. INTRODUCTION

Health is the state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity (World Health Organisation(WHO),2006). The definition seeks to include social and economic sectors within the scope of attaining health and reaffirms health as a human right.

In the past 100 years humans have witnessed an improvement in the quality of life and longevity as a result of advances in sciences. However, human still suffer because of inaccessibility to appropriate healthcare or because healthcare is delivered in a manner that is confusing and inefficient. The gap between the science and delivery of healthcare is large.

Managing the challenge of cost, poor or inconsistent quality and inaccessibility to health care is exacerbated by forces of globalization, consumerism, changing demographics and life style, diseases that are more expensive to treat and proliferation of medical technology and treatment. Other factors hindering the successful delivery of health care are financial constraints, varying societal expectations and norms, misaligned incentives, short term thinking and absence of advanced information system needed to provide invaluable analytics and insight. Resolving these issues will require proactive, collaborative and systemic responses.

Health care depends on a highly trained, balanced and motivated workforce; current and accurate information; and technologies that enable health professionals to use information in the right place, in the right way and at the

right time. People, knowledge and the means for their application are the foundation upon which an efficient, high quality health system rests.

The World Health Organisation has identified the following five key elements to achieving success in the delivery of healthcare:-

1. Reducing exclusion and social disparities in health (universal coverage reforms)
2. Organizing health services around people's needs and expectations (service delivery reforms)
3. Integrating health with all sectors (public health reform)
4. Pursuing collaborative models of policy dialogue (leadership reforms)
5. Increasing stakeholder participation

A service system is a configuration of technology and organizational networks designed to deliver services that satisfy the needs, wants or aspirations of customers. A health care system is an organization set up to deliver health care. Health professionals (doctors, laboratory scientists, midwives, nurses, pharmacists, mental health workers, physiotherapists, etc) and the Red Cross Society are trained personnel for health services delivery. They are the very core of a functional health system

In its World Health Report, The World Health Organization (2006) states that the workforce is central to advancing health because workers are in the unique position of identifying opportunities for innovation and functions as gatekeepers and navigators for the effective, or wasteful application of all other resources such as drugs, vaccines, and supplies.

## **Health care in The Millennium Development Goals (MDGs)**

According to World Bank (1991) development encompasses better education, higher standards of health and nutrition, less poverty, cleaner environment, more equality of opportunity, greater individual freedom and a richer cultural life. In was in response to the challenge to see global development that the United Nations Organization (UNO) came up with what is referred to as Millennium Development Goals, which is used as a yardstick for measuring the developmental progress of any nation. These goals are:- eradication of extreme poverty and hunger, achieving universal primary education, promoting gender equality and empowerment of women, reduction of child mortality, improving maternal health, combating HIV/AIDS, malaria and other diseases; developing a global partnership for development. Out of these eight (8) agenda/goals for development, healthcare consists of three. Therefore for Nigeria to meet the Millennium Development Goals it must take seriously the issue of healthcare delivery.

## **2. HEALTH CARE IN NIGERIA**

The Nigeria health system has been in shambles for many years now. It is so bad that the country ranks among countries with the worst cases of infant mortality in the world with some statistics:-

- 41% of children in Nigeria are stunted (UNICEF, 2009)
- Maternal mortality rate in Nigeria is 630 per 100,000 live births (UNICEF 2010)
- Under 5 mortality rate is 124/1000 (UNICEF,2012)

Health care condition in the country is generally poor with increasing rate of cancer and other diseases. The major challenges are lack of resources and skilled personnel which are essential elements of quality health care.

The efforts of the Nigerian government towards providing efficient and affordable health care to its citizens have not been producing the right results. Some of the problems are lack of access to quality health care facilities, poor funding of health facilities, uneven distribution of resources among the urban and rural areas of the countries.

Health care provision is a concurrent responsibility of the three tiers of government in the country (Rais,1991).

It is the role of the Federal Government to coordinate the affairs of the University teaching hospitals and federal medical centres (tertiary health care) while the state government manages the various general hospitals (secondary health centres) and the local government focus on dispensaries (primary health centres) which are regulated by the federal government.

Tertiary health care services are provided by specialist hospitals or regional centers equipped with diagnostic and treatment facilities not generally available at local hospitals

Secondary Care health services are provided by medical specialists in their offices or clinics or at local community hospitals for a patient referred by a primary care provider who first diagnosed or treated the patients. Referrals are made for those patients who require the expertise or procedures performed by specialist.

### **Primary Health Care (PHC)**

Primary Health Care (PHC) is the cornerstone of health development in Nigeria. The ultimate goal of primary health care is better health for all. Primary health care is an essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and the country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination (WHO 1978). PHC is an approach to health beyond the traditional health care system that focuses on health equity producing social policy (Starfield, 2011)

One of the hindrances to the development of health especially in Nigeria has to do with insufficient number of medical personnel as well as their uneven distribution (Abdulraheem et al 2012). According to Iyun (1988), the facilities at PHC are deteriorated with staff on low salaries and poor working condition which has resulted in exodus of health professionals.

### **Goals & principle of Primary Health Care**

#### **Equitable Distribution of Health Care**

Primary care and other services to meet the main health problems in a community must be provided equally to all individuals irrespective of their gender, age, caste, colour, urban/rural location and social class.

#### **Community Participation**

In order to make the fullest use of local, national and other available resources

#### **Health workforce participation**

Comprehensive health care relies on adequate numbers and distribution of trained physicians, nurses, allied health professionals, community health workers and others working as a health team and supported at the local and referral levels

#### **Use of Appropriate Technology**

Medical technology should be provided that is accessible, affordable, feasible and culturally acceptable to the community (e.g the use of refrigerator for vaccine cold storage).

#### **Multi Sectional Approach**

Recognition that health cannot be improved by intervention within just the health sector, other sectors are equally important in promoting the health and self-reliance of communities. These sectors include agriculture, education, communication, housing, public works, rural development, industry, community organization.

#### **Statement of the problem**

Two major problems that has contributed to the poor state of healthcare in Nigeria is the shortage of doctors, nurses, etc and lack of proper management of available resources.

### **Lagos State Healthcare Delivery System**

Lagos State Health Sector reform was introduced in 2002 and signed into law in 2004. The objectives of the reform was to establish a health system which will encompass public and private providers of health, provide the populace with the best possible health service that available resources can afford, set out rights and duties of health care providers, workers, establishments , and users and finally to provide uniformity with respect to health delivery across the state.

### **HealthCare and Project Management**

According to (Aragon, 2011) Public Health and health service planning, training, implementations, evaluations and corrective actions can be implemented as a series of projects. All projects are constrained by time, cost, available resources, scope and quality goals. Likewise a health program may be implemented as a series of interconnected projects. Health care projects face the same pitfall that every project faces which are: unclear goals, poor communication with stakeholder, poor plans and schedules, poor risk planning and mitigation, uncontrolled scope, lack of support from management, stakeholder management, change management (Wiefeling 2007)

A health project is defined as a temporary "intensive effort" to set up and put into operation a new or revised service (or program) that will, it is believed result in the reduction of specific health and health related problems. This "intensive effort" takes the form of a coordinated set of activities with well-defined objectives and target dates of their achievements. Once the project objectives have been achieved, the project disbands leaving the programmer to operate on its own (WHO 1974)

## **3. STATEMENT OF THE PROBLEM**

A review of literatures on primary health care delivery showed that most public health professionals receive little or no formal training in project management. This has led to improper usage of project management methods for planning, scheduling and controlling. It is this gap in research that this paper intends to fill.

### **Objective of Paper**

The broad objective of this paper is to determine the effects of project management technique on primary health care delivery. . The other objectives are:-

1. To determine whether doctor-patient communication would lead to patient satisfaction
2. To determine whether use of queuing model would lead to patient satisfaction

## **4. LITERATURE REVIEW**

### **Project Management**

A project is a sequence of unique, complex, and connected activities that have one goal or purpose and that must be

completed by specific time within budget and according to specification (Wysocki, 2009)

The Project Management Body of Knowledge (Fifth Edition) defines Project management as the application of knowledge, skills, tools and techniques to project activities to meet project requirements.

A project has certain characteristic which are as follows:

- Projects are unique
- It is temporary in nature, that is, it has a definite beginning and ending date
- Projects are completed when the project goals are achieved
- A successful project is one that meets or exceeds stakeholders expectation

Project Management are methods and techniques based on accepted management principles for planning, estimating and controlling work activities to reach a desired result on time within budget and according to specification.

According to Cusworth& Franks (1995) Project Management Techniques is a systematic, and analytic method used by managers, to assist in decision making, improve effectiveness, efficiency and in particular the conduct of the key management activity of planning and control.

Project management provides techniques that enable the project team to deliver projects successfully under the constraints of time, scope and cost.

### **4.1 Benefit of Project Management**

There are a number of benefits that project management confers on a project;

1. **Better efficiency in delivering service**-Project management gives a "road map" that is easily followed and leads to project completion
2. **Increased customer satisfaction**-When projects are completed on time and within cost, clients walk away happy. Project management provides the tools needed for good customer relationship
3. **Enhanced effectiveness in delivering services**-project management strategies can be used on several projects therefore enhancing effectiveness
4. **Improved growth & development within project team**-Achieving project deliverables inspires team members to look for ways to perform better
5. **Opportunities to expand services**-Achieving project success leads to more opportunities for success
6. **Better flexibility**-One of the greatest benefits of project management is that it allows for flexibility which implies that there is opportunity for change if it is found out that there is a better way of achieving results
7. **Increased Risk Assessment**-Project management provides opportunity for risk identification even before you start working on the project. Therefore making it possible to device ways for mitigating them



8. **Improved quality**-Better efficiency and planning ultimately lead to better quality
9. **Achievement of project goals**-Using project management techniques project goals can be achieved within budget and required time

#### 4.2 Project Management Knowledge areas

Processes in project management can be grouped together in nine ways referred as the project management knowledge areas, namely:-

- **Integration**-Project integration management involves developing project charter, developing preliminary scope statement, developing project management plan, directing and managing project execution, monitoring and controlling project work, integrated change control, closing of project
- **Scope**-This involves scope planning, defining, creating work breakdown structure (WBS), verification and control
- **Time**-This involves activity definition, sequencing, resource estimation, duration estimation, schedule development and control
- **Cost**-This involves cost estimating, budgeting and control
- **Quality**-This includes quality planning, quality assurance and control
- **Human Resources**-This entails human resource planning, acquiring project team, developing project team and managing project team
- **Communication**-This involves communication planning, information distribution, performance reporting, and stakeholders management
- **Risk**-This involves risk management planning, risk identification, qualitative risk analysis, quantitative risk analysis, risk response planning, risk monitoring and control
- **Procurement**-This involves planning purchases and acquisition, planning contracting, requesting for sellers responses, selecting sellers, contract administration and closure (Adepitan 2008)
- **Stakeholders**-This involves identifying the people, groups or organizations that could impact or be impacted by the project

#### 4.3 Queuing in Health Centres

The issue of patients who wait endlessly for service delivery in primary health care centre is a phenomenon that is of concern both to the patients and health care managers. There is therefore a need to optimize the balance between the cost of making patients wait for service and the cost of providing additional service.

According to Maitra and Chikhani (1992) patients satisfaction is directly correlated with waiting time to see a doctor. Also Fernandes, Daya, Barry & Palmer (1994) suggest that because of prolonged waiting times, substantial number of patients left the outpatient department.

A primary health care centre is a system of interacting department which may be coordinated through the flow of patients, specimens, employees, materials and pharmaceuticals.

The discipline of queuing theory can be applied to health care (Hall R; Besson.D; Murali. P; Dessalky, M. (2006))

Health care is similar to other forms of queuing in the following respects:-

1. Health services requires coordination of multiple resources such as physicians, medication, and equipment
2. Services are provided in multiple steps through a network of services
3. The demand for service is in part predictable and in part random
4. Delays can be reduced through careful forecasting, scheduling, process improvement and information management

Reducing healthcare delays is similar to the efficient coordination of work in a factory. However, healthcare has the following unique features:-

1. In most cases services can only be provided when patient is physically present
2. Waiting can adversely affect outcome of service-including survival, recovery time, suffering
3. Service disruptions may occur due to the arrival of critical patients that need urgent attention
4. Patients condition may change while waiting causing it to require more or different care
5. Significant care may need to be provided for patients waiting

Patients may experience delay while waiting for information, diagnosis, procedures, surgeries, therapies, rehabilitation, and discharge processes. It may also occur while patients are waiting for ancillary services.

The aim of using a queuing model is to achieve the following:

1. Minimize waits for patients
2. To enable high synchronization of patients and health care resources
3. Identifying and resolving patient flow bottlenecks.

#### 4.4 Doctor-Patient Communication

Doctor-patient communication encompasses the verbal and nonverbal interactions that form the basis for the doctor-patient relationship. Improvement in doctor-patient communication can result in better patient care and help patients adapt to illness and treatment (Lee, Back, Block and Stewart 2002). In addition, knowledge of communication strategies may decrease stress on doctors because delivering bad news, dealing with patients' emotions, and sharing decision making, particularly around issues of informed consent or when medical information is extremely complex, have been recognized by doctors as communication challenges.

Doctor-Patient communication is an integral part of clinical practice. When done well, such communication

produces a therapeutic effect for the patient, as has been validated in controlled studies.

According to Travaline J.M (2005) the manner in which a Doctor communicates information was as important as the information being communicated. Patients, who understand their Doctors are more likely to acknowledge health problems, understand their treatment options, modify their behavior accordingly and follow medication procedures. In fact, research has shown that effective doctor-patient communication can improve a patient's health as quantifiably as many drugs-perhaps providing explanation for the placebo effect seen in clinical trials.

These communication skills involves the ability to listen, explain, question, counsel and motivate.

Stewart (1995) posits that the degree of care given by doctors in doctor-patient communication has been shown to improve patients' outcomes.

#### 4.5 Patient Satisfaction

Patient satisfaction has long been considered an important component when measuring health outcomes and quality of care. A satisfied patient is more likely to develop a deeper and longer lasting relationship with their medical

provider, leading to improved compliance, continuity of care and ultimately better health outcomes (Margolis S.A; Al-Marzouqi,S; Revel, T; Reed, R.L(2003). According to Marshall and Hays (1995) there are six (6) aspects patients satisfaction can be measured which are: technical quality, interpersonal matter, communication, financial aspect of care, time spent with physician and accessibility of care

### 5. RESEARCH METHODS

For this research work, survey design was adopted. One hundred and fifty (200) questionnaires were administered to patients (customers) of primary health care centres within the Lagos environ. These customers were randomly selected at five (5) different health centres within the five divisions of Lagos State. These divisions include Epe, Ikorodu, Lagos Island, Lagos Mainland and Badagry. Also 20 questionnaires were administered to middle and top management staff of the Primary Health Care centers in the five divisions using stratified random sampling technique, and judgment sampling technique.

The data collected were analyzed using descriptive statistics and regression analysis.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	Sig. F Change
1	.995 <sup>a</sup>	.991	.988	11.379	.991	327.208	.000

a. Predictors: (Constant), QUEUING MODEL

Table 1. Model summary Queuing Model and patient satisfaction

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	Sig. F Change
1	.981 <sup>a</sup>	.962	.950	23.145	.962	76.818	.003

a. Predictors: (Constant), DOCTOR-PATIENT COMMUNICATION

Table2. Model summary Doctor-patient communication and patient satisfaction

### 6. FINDINGS

From the Model Summary 1 above, the coefficient of determination ( $R^2$ ) gave a value of 0.988. This value reveals that 98.8% of the changes or variation that occurred in the patient satisfaction could be traced to the adoption of Queuing model. Also, the value of 0.950 representing the coefficient of determination in Model Summary 2 indicates 95.0% of the changes or variation that occurred in patient satisfaction could be attributed to Doctor-Patient communication

### 7. DISCUSSION

Nigerian health sector is very critical to the Nigerian economy. The wellbeing of the population determines its productive capability. A virile populace is more productive and less costly. The performance of this social

sector is therefore of vital importance to both government and its citizens.

Implementation of Project Management Techniques in this sector will enhance its performance which will have multiplier effects on other sectors.

Our findings in this study show that there is positive correlation between queuing model and patient satisfaction. This agrees with Hall, Besson, Murali and Dessalky (2006) that queuing model can be applied in health facilities to reduce waiting times and increase patient satisfaction. In the same vein, there is positive correlation between doctor-patient communication and patient satisfaction. This is in line with position by Marshall and Hays (1995) which list communication as one of the six aspects of measuring patient satisfaction.

## 8. CONCLUSION & RECOMMENDATION

Based on our research findings Queuing Model and Doctor-patient communication is being practiced in Primary Health Care institutions in Lagos. The reason for patients' complaints may be due to lack of adequate manpower and other health facilities and diagnostic tools. The reason for shortages of medical personnel can be attributed to the "brain drain" phenomenon and the preference of practitioners to engage in private practice. This does not augur well for the citizens and the country as a whole. Consequently, this study wishes to make the following recommendations:-

1. Training of medical personnel especially low and middle level management to improve their communications skills.
2. There is also the need to provide medical personnel with training in project management techniques.
3. There is need for government to seek ways of engaging more medical personnel in its services by offering remunerations comparable to the private sector.
4. That government should make health care a priority by providing the required funding to improve health care facilities.
5. There is also need for government to invest in modern diagnostic tools and the manpower to operate them
6. There must be concerted effort by both Federal and State governments to reverse the "brain drain" phenomenon by ensuring that medical doctors are well remunerated and catered for as done in other parts of the world. This will make travelling abroad less attractive.

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