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## Essential Drugs Revolving Fund Scheme in Nigeria; from the Edge of a Precipice towards Sustainability

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### **Authors' contributions**

This work was carried out in collaboration among both authors. Author BOO designed the study, drafted the manuscript, did the literature search, wrote the protocol and reviewed the manuscript. Author CNN helped in literature search and wrote part of the manuscript. Both authors read and approved the final manuscript.

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### **ABSTRACT**

Efficient and effective preventive and curative health care relies predominantly on the availability of essential drugs. Essential drug supply in most African countries is characterized by "the cycle of terror", which lead to decapitalization and lack of sustainability of essential drugs revolving fund (DRF) system. This study described the DRF situation in Nigeria and ways to promote better management and utilization of the scheme. Electronic search of published studies and documents obtained from Google scholar, and PubMed was carried out using the key words singly and in combination. The eligibility criteria was used for selection. Studies published in English language and conducted in Nigeria, and those with defined inclusion criteria and ethical approvals were used. The study suggested that poor economic, political, structural, management and human factors, contribute greatly to DRF decapitalization in most government hospitals in Nigeria.

*Keywords: Devaluation; funding; essential drugs; revolving fund; hospitals; public health; Nigeria.*

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## 1. INTRODUCTION

Access to essential drugs is important for an efficient health care delivery. The provision of safe, effective, and affordable drugs to the whole population at the right quantity is a priority in health and drug policy [1]. The concept of drug revolving fund was introduced through the Bamako Initiative to be one of the ways of solving the challenges and difficulties in having availability of medicines [2]. Drug Revolving Fund, DRF, is a system whereby the revenue generated from the sale of drugs to patients is used to purchase new drugs and ensure availability, effective and efficient system. The aim is to provide safe and quality drugs at affordable prices and is usually part of the wider user charge scheme [3]. Nigeria has been one of the most active supporters of Bamako Initiative, viewing the initiative as a strategic opportunity to support local councils in promoting health care delivery at the grass root [4]. DRF was adopted in 1988 with financial and technical support from donor and support agencies like the World Health Organization (WHO), United Nations Children's Fund, and the United Kingdom Departments for International Development (DFID) [5]. The DRF mechanism within Bamako initiative was adopted as the initial approach for sustainable financing of drug supply at the local level. The case for the use of a generic essential drug list in Bamako initiative was hinged on the fact that generic drugs are cheaper and should be captured in Essential Drug List (EDL) [6]. New drug introduction into the system involve selection from EDL according to need, efficacy, safety, and affordability of the products [7]. The concept of EDL as proposed by WHO is, "that *the list should comprise drugs corresponding to the health needs of the majority of the people*". In Nigeria, patient's visits to hospital dropped by 50-75% when health facilities ran out of commonly used drugs [8]. Regular supply of drugs in health care facilities is one of the major hallmarks of an efficient health care system in both the perspective of patients, care providers, and policy makers. Many governments, non-governmental organizations, and community health programs have implemented user fees to fund or partially fund the cost of pharmaceuticals or other health services. Many different types of DRF exist. Their common element is that fees are charged for medicine dispensed. In the Bamako initiative context, community pharmaceutical schemes often have cost-recovery objectives that include the financing and sustainability of Primary Health Care (PHC)

programs. This study described the DRF situation in Nigeria and the ways to promote better management, sustainability and utilization of the scheme.

## 2. METHODS

Electronic search was carried out using Google scholar, PubMed, and officially published documents relevant to the subject. Key words namely: Essential drugs, revolving funds, cost recovery, decapitalization, capitalization and Nigeria were used singly and in combinations. Official publications from reorganized websites were used. Study was carried out between October 2015 and March 2016. The criteria for selection were studies published in English language, studies conducted in Nigeria, and those with defined inclusion criteria and ethical approval. Studies without defined inclusion and exclusion criteria and published documents with any form of bias due to funding or affiliation were excluded. Information were extracted independently and summarized based predominantly on qualitative level.

### 2.1 An Overview of the Concept of DRF

DRF is where the seed money provided by the government, donor agencies or interested communities is used to purchase an original stock of essential and commonly used medicines to be dispensed at prices sufficient to replace the stock of medicines and ensures a continuous supply. DRF is very necessary in health care delivery in developing countries because essential medicines are critical to effective preventive and curative care. Patients perceive increased availability of medicines and other pharmaceuticals as real improvement in the quality of care, and are willing to pay for the pharmaceuticals within their resources. Patients spend more money buying pharmaceuticals, but spend less through DRF and have increased value of drugs of which they have paid for as evidenced by improved level of adherence [9]. DRF linked to essential drug has improved efficiency of pharmaceutical services, increased revenue, and price awareness by prescribers and patients. This may result to improved and rational use of medicines. If current public financing is sufficient to ensure universal access to essential medicine without charge, medicine fees are unnecessary. If current financing is inadequate, DRF can provide supplementary resources to make low-cost essential medicines more accessible [10]. Cost recovery plus minimal surplus in DRF is associated with substantial

revenue generation, which is added to central allocations for improved service and sustainability of the scheme. This translates to improved quality of care, availability of pharmaceuticals and improved revenue.

Equity is promoted as limited public funds can be targeted to helping the most needy through discounts and exemptions while the rest pay [11]. Decentralization of DRF services is re-enforced through local control of resources by the DRF committee. In order to improve efficiency, the design should include community involvement, careful implementation associated with quality improvement, and good management, monitoring and evaluation. DRF needs commitment to the public health goals. It should incorporate planning, implementation and management principles [12]. Thorough situation analysis and feasibility assessment is very essential in DRF scheme. It should use a financial plan that considers cost recovery objectives, capitalization requirements and long term financial needs [13]. Determination of the organizational structure, staffing, and legal status of the DRF is paramount to its success. The operators should develop an implementation plan, determine pricing and exempting policies, develop the necessary systems for pharmaceutical and financial management, prepare public communication system, monitor impact and adjust the program accordingly.

## **2.2 Situation Assessment of DRF in Nigeria**

Weak political, socioeconomic, managerial, and administrative structure all impact negatively on the DRF system operation [14]. When considering discontinuing DRF, the government must take measures and have the resources in place to handle the consequences of losing revenue, such as stock out syndrome and supporting healthcare providers who have come to rely on user fees to supplement income [15]. Political issues for establishment include acceptance of the user fee concept [16], local retention of fee revenue, political climate, administrative credibility, degree of autonomy, and capacity for decentralization [17]. Can sufficient fund be recovered to justify the efforts required to make DRF successful? The answer to this question depends on the national and economic strength, patients ability, and willingness to pay, competitions, availability of capital, and policies [18].

Can a cost recovery system operate? There should be accountability, businesslike

orientation, supply management capacity and prudence in managing DRF. This involves defining that cost-recovery objective, the roles of government and external funding, capitation requirement and foreign exchange. Implementing planning involves decision about bottom – up versus top-bottom implementation phasing and pilot testing and development of DRF procedures [19]. Pricing and exemption policies are essential for DRF efficiency and sustainability [20]. Management of pharmaceuticals and funds need well-coordinated selection, procurement, quality assurance, distribution, management information systems, and effective medicine use. The entire process is meant to be in a continuum and in line with the essential drug list. Rational drug use and proper inventory management, and accountability of every money spent helps to avoid depletion of the capital [21]. Mentoring the entire health staff, stakeholders, and periodic trainings are invaluable to smooth and effective running of the scheme. Regular monitoring, evaluation, and supervision are important in assessment of the impact of DRF on patients and financial performance of the system [22].

Before the introduction of DRF, acute shortage of essential drugs was seen in most public hospitals in Nigeria. However, DRF was adapted to solving the problem of acute shortage of essential drugs. Nigerian tried different DRF systems including centralized state controlled schemes manned at state levels, the Petroleum Trust Fund (PTF) support scheme through subsidy from petroleum resources, and 50% cost recovery DRF system [23]. None of these was successful due to insufficient financial resources, undue political interference in the functioning of the scheme and poor management [24], inadequate managerial and financial autonomy, barrier to access for the very poor and vulnerable, poor capacity of facility staff, and operation guidelines insensitive to the local environment and poor management [25]. Lack of a culture of transparency and accountability within the health system, the community, and limited capacity for rolling out the scheme militate against the effectiveness of the system. A review of the previous DRF in 2003 indicated that four interventions accounted for a successful DRF. These interventions include establishment of facility based DRF system [26], strengthening financial management system, creation of safety net for the very poor and establishment of an assured source of drugs. The focus was to establish DRF and financial management system. In some states, safety nets for the very poor were introduced.

Establishing or strengthening existing state medical stores as an assured source of drugs and medical supplies for health facilities, was addressed. Stakeholders recognized the importance of involving a critical mass of health facilities in the sustainable drug supply mechanism whose impact is measurable [27]. Thus, statewide rollout took place once the DRF model was experimented in a few facilities. The DRF and financial management system against a backdrop of acute shortages of medicines and related products, lack of financial prudence, political affiliations and poor monitoring and evaluation led to the emergence of different unregulated and illegal DRF unethical practices in many facilities.

Key levels of DRF were established, the central medical stores, Local Government Areas, hospitals and primary health care facilities [28]. DRF has been practiced based on essential drug since Nigerian governments imbibed the idea. It has not been fully implemented according to the original blue print due to many sociopolitical and economic issues bordering on autonomy and poor implementation and corruption. Many hospital managements in Nigeria have decided to modify the operations and principles of DRF such that it no longer conforms to the original plan. These hospitals have enlarged the scope of the activities of DRF by including several other departments in the DRF operations and management. In some places some pharmaceutical products and consumables like needle and strings, antiseptics cotton wool etc. that were supposed to be under the control of pharmacy department are now under the control of other hospital departments. Recently, the emergence of Public Private Partnership (PPP) was introduced as the main system for drug procurement where there is inefficiency in the operation of the existing DRF. This PPP is a system where by the private pharmacies collaborate with the public pharmacies in the supply and management of drugs and other pharmaceuticals. The gains from such PPP are to be shared by both the private and public pharmacies in line with laid down rules. Proper implementation of PPP without interference from hospitals management will ensure availability of essential drugs [28].

### **2.3 Limitations to Effective DRF System in Nigeria**

There were critical challenges in strengthening the financial management systems at the early stage of DRF operations in Nigeria. The major

challenges were multiple oversight and interferences on the scheme predominantly from their resident institutions leading to weak financial management systems and poor accountability. In many states in Nigeria, State Hospital Management Boards has been established to exercise the necessary oversight over hospitals while the State Ministry of Health is charged with the responsibility of Planning and Policy Formulation. In few cases, the health and human services secretariat combined the function of State Hospital Management Board. This created different set of accounting rules [29]. Several other changes include establishment of financial management system in facilities in the face of acute shortage of account staff, establishment of weak financial management systems, untrained and unqualified staff, corruption and lack of monitoring and evaluation framework [30]. However, the availability of essential drugs has improved unlike when there was no DRF policy. The major challenges lie with accountability, efficiency and sustainability to avoid decapitalization which leads to "cycle of terror" and eventual collapse of the system.

There is compelling evidence of irrational use of drugs. It is not just enough to make essential drug available through DRF, but the stronger measures or policies should be in place to encourage rational use. Drug used is better in a system with better regulatory frameworks, standard treatment schedules, training, and supervision to avoid irrational use [31]. DRF adopted from the Bamako initiative has been subjected to widespread criticism at its inception [32]. One of the areas identified by those who prefer a need-determined basis for policy making was excessive emphasis on drugs relative to other components of health care delivery system. They argued that linking finance with drug supply might re-enforce an undesirable emphasis in drugs in the mind of both patients and community health workers.

Concerns were expected on the potential impact of the irrational use of drugs. One of the limitations of the operations of DRF and essential drugs is non availability of essential drugs, which cause problems for the treatment of disease that predominantly affect the developing countries [33]. Though constant provision of essential drugs is vital, their rational use at the lower levels of health services like primary health care (PHC) without supervision is problematic. The issue of irrational prescribing practices is also a major

concern [34]. Inappropriate prescribing practices encourage irrational use of medicines [35]. Brand prescription is common and lead to diversion and loss of prescriptions and revenues to operators outside the hospital. Drug therapy problems like over prescribing, especially of antibiotics is evident. This increases the tendency for antibiotic resistance development. Poly pharmacy is very common in multiple disease conditions and chronic states [36].

Critiques claimed that collection costs might exceed revenues when the full cost of developing the system and all additional administrative costs are considered. No improvement may take place in availability of pharmaceuticals and other quality measures. They argued that user charges might become a form of “sick tax” substituting for rather than supplementing central allocations. People, particularly the poor, are dissuaded from seeking essential health care. Experience has shown that cost recovery mechanisms are rarely able to achieve the objectives of DRF in the long term. Programs, which implemented large fees without considerations for the public and little improvement on quality, attract little patronage. Those with little attention to management and accounting systems have resulted in abuse and generated little revenue. DRF schemes that do not consider re-investing revenues to improve quality of services and operation have resulted in decline of public confidence and patronage while those without quality and reliable sources of low-cost medicines remained comatose. Some DRF schemes overcharge with drug prices higher than normal leading to low patronage while some have unusually low prices leading to decapitalization. This may be because many see DRF as a nonprofit venture. DRF systems in most public health institutions in Nigeria today are decapitalized and poorly managed with interferences from the management of various hospitals where they operate. Sometimes funds are collected from the system for other non-related purposes. Corruption, pilfering, expiration of drugs are usually occasioned by lack of improved software's, and good management information systems in managing the operations of the scheme.

#### **2.4 Steps and Recommendations towards Better Utilization, Management, and Sustainability of DRF Schemes**

DRF schemes should be seen and managed as a business venture without compromising on quality, service delivery, and patient care. All

operators and key players should see the DRF capital investment as a money strictly meant for business and should be guarded and managed based on sound financial principles. Expansions should be based on proper forecasting, situation analysis and use of data generated from the scheme for making evidence based and informed decisions. Strict monitoring and evaluation can only be effective through inputs from feedback mechanisms which must be implemented and controlled by supply of cost effective essential drugs supply, rational exemption policies for equitability of access, revenue retention and accountability. Implementation of DRF projects systematically and in phases should be encouraged. The DRF financial account should be independently maintained for ease of access while upholding the stakeholders to maintain public confidence. Theft, pilfering, expiration of drugs which has crippled many DRF systems could be minimized or controlled by the use of effective softwares, good management information systems and physical measures. Cost recovery potentials which if user and operator friendly and promotes effective and efficient operation of the scheme should be upheld [37,38,39].

#### **2.5 Prospects of DRF in Nigeria**

In November 2007, a review of DRF models recommended that there was need to review the models to improve operational efficiency, reduce costs, and deal with critical emerging issues in the sector. The model of DRF should metamorphose into a more “sustainable drug supply system [31], Reduction of workload by collapsing and simplifying resultant paper works and addressing poor staffing by specifying minimum staffing requirement. Increased utilization of services and modification of the pricing system at the L.G.A/PHC levels whereby the operators include the cost of expenses incurred for replenishing their stock into the price of drugs will boost cost recovery and lead to formidable DRF systems especially in places where subsidies are not obtainable. This will make the scheme to be self sustainable, reliable, render improved cost effective services, promote improved availability of essential drugs and encourage sustainability [40].

#### **3. CONCLUSION**

Achieving sustainable universal health coverage without a viable, efficient, and affordable drug supply system will be a mirage especially in

developing countries. Government must spread her tentacles to fight corruption and decadence in the system and track her operations at all level of health care through sound monitoring, evaluation and feedback mechanisms and operational framework. Advocacy strategy should be promoted during implementation as well as scaling-up or rollout, which should include setting up the state team of facilitators. The government should strengthen the oversight agencies to serve efficiently as repository of data from the facility and provide models for central drug supply system at the state levels. Assurance of reliable source of drugs and other medical supplies and consumables should never be compromised. Sales should be extended to faith based sector. To promote equity of access and improve overall performance, of the scheme, cost recovery potentials, organizational structure, planning, operation process, financial management systems, government funding and exemptions should be reviewed periodically. This should be without prejudice to public communication, monitoring and supervision, external funding, stakeholders' involvement, drug supply systems up grade and scale up. These will help to arrest the "Cycle of Terror" which decapitalizes the entire system leading to inefficiency and system collapse. The need for continual operators training, consideration of the economic climate, population dynamics, political, and managerial status as it affects operations should be captured during budgeting and planning.

## CONSENT

It is not applicable.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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