



Research Article

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## Reinventing School Health Service Management in Nigeria: Literature Review, Best Practices for Digital Upgrade

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### Abstract

The purpose of this study was to identify the problems associated with management of School Health Service (SHS) in Nigerian primary and secondary schools, and proffer solutions to them. Integrative literature review, in which texts were critiqued, analyzed and synthesized for gaps in knowledge, was used to establish the problems of SHS in Nigeria. The problems identified were: lack of awareness of SHS, lack of personnel, underfunding, poor facilities, poor inter sectoral networking, lack of critical leadership input, poor data management among others. The solution proffered to the problems was digitalized management input in form of: engaging in internet based awareness campaign on SHS; utilizing social media to host School/Community collaboration on SHS; creating school health help/donation platform using digital technology; providing digital leadership in school management, creating digital data mining system and others. Based on the conclusion that a digitalized management input will solve the problems of SHS in Nigerian schools, it was suggested among other things that: the Ministry of Education should insist on digital literacy for teachers and school heads, redefine conditions for stakeholders' participation in SHS and review its policy. The Ministries of Education and Health should set up a joint monitoring team to supervise operations of SHS in Nigerian schools.

**Keywords:** School Health Service, Best Practices, Digital Upgrade

## 1. Introduction

The renewal of school health service management and delivery in primary and secondary schools should be a national priority in Nigeria. This is because children, who are our future, risk contracting preventable and sometime life threatening diseases like malaria, pneumonia, diarrhea, tuberculosis and many other diseases which may affect their future health. Some of these diseases are leading cause of child mortality and morbidity in the world. A number of the children in secondary schools have reached puberty thus developing secondary sexual characteristics indicating transition to adulthood, and are at the threshold of experimentation with sex. They are, at this stage, open to Sexually Transmitted Diseases (STD) like gonorrhoea, chlamydia, syphilis, HIV, hepatitis and others which are said to be common with adolescents according to Shannon and Klausner (2018). They need health education, healthcare and counseling to effect this life transition. In addition to above health risks, young people often sustain injuries from accidents, have mental health issues, engage in substance abuse and other health issues. These may sometime constitute health emergencies during school hours, and it requires schools to be ready with the primary healthcare delivery facilities to handle such eventualities.

Since the enactment of National School Health Policy (NSHP) of Nigeria in 2006, its implementation according to Ezeonu, Asiegbu, Arua, Onwe, Una, Anyansi, and Onwe (2022) is rated as low due to concerns about facilities, personnel and operational atmosphere. Sanni, Airede, Anigilaje and Offiong (2022) also rated SHS in Nigeria as being suboptimal, while Oyinade, Ogunkunle and Olanrewaju (2014) simply remarked that it is unsatisfactory. Sarkin-Kebbi and Bakwai (2016) described it as being neglected. A healthcare delivery system that is rated as being suboptimal, unsatisfactory and neglected indicates problem of functionality. It is the purpose of this research therefore to search extant literature on management of SHS in Nigeria to locate the problems associated with it and to use the same literature to suggest ways to solve those problems. The outcome of the study will not only provide literature on the subject, but also serve as benchmark for management of School Health Service in Nigeria and beyond

## 2. Methods

Integrative literature review method was used to critique, analyze and synthesize relevant literature on SHS in Nigeria, and to generate new ideas and perspectives on the subject. It also helped in evaluating the quality of evidence in the literature; identifying knowledge gaps, assimilating and amalgamating data from different designs thus leading to more comprehensive and reliable conclusions on Nigerian SHS ( Dhollande, Taylor, Meyer and Scott 2021; Aveyard and Bradbury-Jones 2019; Soares, Hoga, Peduzzi, Sangaleti, Yonekura and Silva 2014). It also assisted in generating problems and issues in SHS in Nigerian primary and secondary schools. Articles for inclusion in the literature review were from following search engines or databases: Scopus, Web of Science, ScienceDirect, Directory of Open Access Journals (DOAJ), the digital library- JSTOR, Google Scholar, Google, Elsevier, Medscape, eMedicine, PubMed and others. Quantitative studies were preferred to qualitative studies, and reputability of journals also aided inclusion in the review.

## 3. Concept of School Health Service (SHS)

World Health Organization (2021) defined School Health Service (SHS) as health services that are based or linked to schools, which provide services such as sexual and reproductive health education, vaccinations, nutrition screening, vision screening, and nutrition education to people in education setting. SHS is a branch of School Health Programme (SHP). Kuponiyi, Amoran and Kuponiyi (2016) outlined components of SHS to be supervision of the health of school children and personnel, health appraisals, recordkeeping and control of communicable diseases. It is designed for objective assessment of health of individuals. (Oyinlade, Ogunkunle, and Olanrewaju 2014). Essential SHS

resources according to Kuponiyi, Amoran and Kuponiyi (2016) include school clinic, sick bay, first aid box, health personnel including school nurses, medical doctors and health educators. School health services are managed by principals and school health personnel such as medical doctors, nurses, health educators and schools with communities and ministries of health as partners according to Ukpabio and Uchendu (2016).

#### 4. Management of School Health Service in Nigeria: Literature Review

Review of literature on practices and management of SHS in Nigeria focused on establishing the availability of SHS resources such as clinic, sick bay, first aid box, health personnel and others. It also focused on SHS activities such as health appraisals, recordkeeping, control of communicable diseases and knowledge of teachers and head teachers on SHS. Dania and Adebayo (2019) embarked on a review of literature on policy implementation and practices of school health program in public and private primary and secondary schools of Nigeria between 2006 -2019, involving 26 studies. This review covered 17 studies in South West of the country, four (4) studies in the South East, two (2) in the South-South and three (3) in the North Central of Nigeria. The studies covered School Health Program components and contents such as hygiene conditions, status of implementation of School Health Program, skill based health education, knowledge of school health program among teachers and Head Teachers and many other school health related topics. These reviews punctured holes in the overall delivery of School Health Program (SHP) practices in Nigeria, rating it as being poor and substandard. They also acknowledged ignorance of SHS practices by teachers, and that time allotted to skill based health education was inadequate with most schools not meeting the required 3hours per week. They called for redefinition of stakeholders' participation for effective coordination, and for SHS policy review (Adebayo Makinde & Omode, 2018)

Olatunya, Oseni, Olaleye, Olatunya., Akani and Oyelami (2015) studied SHS in 64 primary schools of Ilesa East Local Government Area of Osun State, Nigeria. The schools consisted of 34 public and 30 private primary schools with total population of 18,694 pupils; of which 11894(63.6%) were in public schools, and 6800(36.4%) belonged to private schools. Eight schools, representing 14. % of all the public schools had health committees while 10.0% of the private schools had same. Furthermore, medical screening for pupils was shown to happen in five schools, while six (6) schools had health personnel, and four schools had sick bay, all of which were in private schools. Immunization did not happen in either private or public secondary schools, and children with communicable diseases were referred home. It was also observed that there were no health records in the schools. The study concluded that SHS delivery in the study area was inadequate, and implementation of health policy poor and public schools were more of the culpable party. In a related study, Sanni, Airede, Anigilaje and Offiong (2022) assessed SHS practices in 146 primary schools in primary schools in Gwagwalada area council of Abuja, Nigeria, with the result showing that Ninety-five (65.1%) of the schools lacked health personnel; All the schools referred children home in the case of communicable disease, none of the schools had an ambulance or a sickbay. In a related research, Bisi-Onyemaechi, Akani, Ikefuna, Tagbo, Chinawa and Chikani (2017) assessed perspectives from a resource-poor setting of school health services in Enugu East, Nigeria. Eight public and twenty five private schools, with 304 teachers, of which 116 were from the 8 public schools and 188 were from the 25 private schools. Two of the schools were located in farm settlements. The findings showed that only eight of the head teachers in the sampled schools had an idea of what SHS meant, and none of them could list its sub- components. The report also held that while there were four private schools with health personnel, there were none in any of the public schools; there were no health appraisal in the form of pre-entry medical screening and no periodic medical examination for staff and students. All but two of the schools (both public) had a first aid box, of which five of the boxes were empty.

Abubakar, Oche, Awosan,Raji, Abdullahi and Kaoje (2021) used 382 public primary school teachers in their cross-sectional study to assess teachers' Knowledge of School Health Programme in Sokoto Metropolis of Northwestern Nigeria. It was concluded from this study that nearly half of the

respondents, who were teachers, had poor knowledge of SHS, and it was further concluded that this could have negative effect on children benefiting from SHS. A related study by Ezeonu, Asiegbu, Arua, Edafiohor, Una, Anyansi and Onwe (2022) in surveying teachers' perception and implementation of National School Health Policy of Nigeria in public schools in Ebonyi State concluded that the pursuit of topdown policy formulation and implementation approach by government in which central government officials monopolize control to the exclusion of the skills of local implementers is responsible for the ineffectiveness of SHS. The failure to build capacity, carry along and involve grassroot implementers of SHS, such as school health personnel, teachers, principals and head teachers are interpreted by this source as reasons for the inefficiency of the program in Nigeria.

##### **5. Analysis of Literature Review: Identifying Research Gaps and Rationale for this Research**

Issues and problems generated from the literature review on SHS in Nigeria include: lack of SHS coordination especially between the Ministries of Health and Education, poor definition of roles, ignorance of teachers and school managers about SHS, problem of personnel, funding, and recordkeeping. They also include data collection, lack of facilities and over centralization of school health policy implementation and control among others. A further deduction from analysis of literature is the problem of overdependence on government for health handouts especially in public schools. It was also observed from the literature that private schools fared better than public schools in execution of SHS activities. A general overview of the problems associated with SHS in Nigeria is that they are all issues of coordination, organization and planning which are all management functions, and can be undertaken by school heads with injection of digital technology and proper definition of roles. It is the opinion of this research, based on literature reviewed, that the injection of innovative and digitalized management in these schools will create awareness, provide leadership, stimulate inter-sectoral collaboration and synergy, provide data management model for best practices in School Health Service delivery in Nigerian.

##### **6. Best Management Practices for Digital Upgrade of School Health Service in Nigerian**

The achievement of an effective and beneficial SHS delivery in Nigeria does not require rocket science to achieve, but a technology driven management initiative. A template of effectiveness in infusion of the right technology into healthcare delivery is in the works of Akeju, Okusanya, Okunade, Ajepe, Allsop and Ebenso (2022), who studied sustainability of the effects and impacts of adopting digital technology in maternal health services in rural and hard-to-reach populations in Southwest Nigeria. The research acknowledged the importance of e-Health as a major medical solution and a means of closing gaps in healthcare delivery especially in *rural areas*. Furthermore, Ebenso, Okusanya, Okunade, Akeju, Ajepe, Akaba, Yalma, Dirisu, Tukur, Abdullahi, Okuzu and Allsop (2021) in finding contextual enablers and impacts of utilizing digital technology to extend maternal and child health services to rural areas of Nigeria concluded that data digitization through satellite communication (SatCom) and 3G mobile networks not only improved staff confidence and motivation, but also had positive effect on healthcare delivery at the micro, meso, and macro levels of the health system. This can be duplicated in the school system in Nigeria thus:

##### **7. Engaging in Digitalized Awareness Campaign on School Health Services**

Social media, according Scafnd, Scafnd and Larson (2010), play catalytic role in facilitating rapid social and educational communication to adolescents by providing better engagement in health education, healthcare delivery and health policy implementation platform (Wong, Merchant and Moreno 2014). These platforms include social networking sites like Facebook, blogs and microblogs like the Twitter and others. Tayo, Adebola, and Yahya, (2019) reported the percentage of Nigerian

youths' social media usage as: WhatsApp 97%, Facebook 85%, Instagram 65%, YouTube 62%, Twitter 25%, LinkedIn 21%, Google Plus 15%, Snapchat 10% and Skype; and for following purposes: Socialization purpose 83%, information purpose 74%, academic purpose 73%, business purpose 68% and entertainment purpose 61%. These platforms may be useful for adolescents in creating, storing, sharing and receiving information on adolescent health. Jones, Carter, Wilkerson and Kramer (2019) asserted that online public information related to HIV/AIDS created positive awareness about HIV, and underscored the importance of online media in disseminating HIV/AIDS preventive messages. Principals can open social media platforms like school WhatsApp group and Face book pages to facilitate communication with students, parents and guardians on health issues that may be otherwise difficult to obtain using traditional sources alone with reference to efficiency, effectiveness and accessibility (Lapointe, Ramaprasad and Vede 2014). Adoption of social media for responsible communication on infectious diseases and adolescent health issues may also serve to accurately and effectively counter misinformation and myths about the nature of some diseases like the HIV/AIDS and thus save students from unnecessary panic and subsequently inform students and teachers on how to activate appropriate behavioral responses to some troubling and challenging health issues.

## **8. Creating School Health Help/Donation Platforms Using Digital Technology**

Information and communication technology offer schools the platform to establish school help/donation platforms on school healthcare issues. Torrent-Sellens, Salzar-Concha, Ficapal-Cusi and Saigi-Rubio (2021) lauded the transformational effect of digital platforms on economic activities of those who utilize their collaborative nature as online resources for temporary or permanent interaction (Ertz, Durif and Arcand 2016). Using digital technology for donations bypasses expensive mass marketing platforms which may be unaffordable to educational institutions. These social media applications are not only cost effective, they also enable organizations to connect with a large network of potential donors and provide the donors with online platform to easily donate to causes and missions that appeal to their consciences. Saxton and Wang (2013) opined that these social media and online platforms elicit crowd funding, impulse donation and social networking, while at the same time offering organizations and individuals rare broadcasting opportunities for organizational commitment and support. This source further suggest that this method produces a contagious effect which have persuasive power on other community members inducing them to donate by following the footsteps of their friends. This can provide solution to the issue of funding the Nigerian health sector which Omoleke and Taleat (2018) described as being grossly underfunded as the budgetary allocation to the Nigerian health sector falls below the World Health Organisation benchmark of 15% of the countries' total budget. Principals can benefit from this by opening donation website, Whatsapp application pages, Face Book addresses to publicize the health needs of the school and direct patronage to the right quarters. A partnership with service providers initiated by school administration can facilitate the formation of a central help/donation platform as suggested by World Economic Forum (2020).

## **9. Utilizing Social Media to Host School/Community Collaboration on Healthcare Services**

Information and Communication Technology (ICT) can be pivotal in enhancing school-community outreach, collaboration and networking for educational, health and related human endeavor mobilization (Joshi, Meza, Costa, Puricelli-Perin, Trout and Rayamajih 2013). Schools in some communities serve as the only spot for enlightenment and cooperation especially in many remote areas of Nigeria. The fact that some schools are actually called "community school" entail that it is a community project. Principals in such schools can take advantage of available networking technologies to greatly advance its community usefulness as the base for critical needs satisfaction and further cementing of school/community relations. A good example of networking and collaboration to help school and community is the formation of interactive groups on social media

where community people can ask questions and other members help answer them or setting up a webinar (Web Seminar) as suggested by Njoku, Nwabueze, Chilaka and Agbakwuru (2020).

#### **10. Provision of Digital Leadership in Management of School Health Service**

As school leaders and managers, principals play vital role in the creation and adoption of digital mindset and technology in schools. Principals' attitudes and disposition to ICT usage greatly influences their likelihood of promoting its use in the school situation (Hamzah, Nasir and Wahab 2021), and there is a positive correlation, according to Leong, Chua, and Sathiamoorthy (2016) between the knowledge of technology integration and principals' ability to motivate themselves in implementing whole school ICT changes. Principals need to acquire enabling skills and competence to initiate and see through the integration of technology into education system by modeling and incorporating technology into their daily management practices as held by Van Niekerk and Van Wyk (2014). Akpan (2016) suggested that principals can manifest digital leadership by demanding that teachers enrich lesson contents by using Google search engines in the internet to source for the latest course information which may not be found in textbooks. Hamzah, Nasir and Wahab (2021) asserted that the level of principals' digital leadership and teachers' digital teaching practice both positively correlated at a high level, and it can also improve students' academic performance. Nababan, Zainuddin, Purba, Batu and Sianipar (2021) suggested that since principals are the main actors responsible for managing inputs, processes, and outputs based on government education policies, they can strategically position administrative activities to favour digitalization by: Providing vision and creating opportunities and potentials for evolution of digital activities in school; Designing and supervising school activities that promote digitalization in line with best practices for the 21st century.

#### **11. Creating Digitalized Data Mining and Sharing on School Health Service.**

Data mining has to do with the practice of examining and studying large databases in order to generate new information from its analyses. Hand, Mannila and Smyth (2001) in Ahmad, Qamar. and Rizvi (2015) defined data mining as the process of extracting useful information from a large collection of data which was previously unknown. Data mining is a process used by companies to turn raw data into useful information by using software to look for patterns in large batches of data. Collating and comparing data on sicknesses for example, the HIV or any other infection to discern patterns of occurrence around the world can be done according to Wu, Li, Feng, LI, Huang, Xu and Lyu 2021; He, Zhang and Li (2021) with the help of data mining especially based on demographics. Thus, in the school system with huge data on HIV, data mining can be used through demographics to determine which gender falls victim more or at which age bracket is the sickness most rampant. Schools therefore need technology to enhance data reception, storage, processing and transfer to facilitate the process of data mining, also known as Knowledge Discovery in Data (KDD) while at the same paying attention to its legal implications.

#### **12. ICT Enabled Instructional Processes for Health Education and Capacity Building**

ICT tools is often employed in the instructional process in mostly five ways of: Presentation, demonstration, drill and practice, interaction, tele-collaboration, according to Rusten and Hudson (2002). They ( ICT) do not only enhance classroom presentations, but also enrich content and convey information to students as held by Baba, Iwuoha and Alhassan (2022). Some software applications are developed to meet specific instructional objectives such as those for strengthening subject matter competence on the part of teachers, providing drill and practice activities for different subjects and others. There are also some digital software like the computer animation, which according to Ainsworth (2008) in Otuturu (2022) is an important ICT tool for promotion of effective learning

through helping learners visualize things which are invisible in real world, and to clarify relationships through visual means. Computer animation and demonstrations can be used to teach students about health issues like infectious diseases, HIV Aids, and manipulated to take students on exciting journeys through time and space in form of movies, videos and other demonstrations. Animation are particularly useful in conveying information or complex contents that are difficult to portray through static textbook images or slides according to Knapp, Benhebil, Evans and Moe-Byrne (2022). PowerPoint is another important presentation software which is effective in large classes, and Ro (2016) asserted that it can be used to build capacities and skill against infectious diseases by teachers through creating interactive slides containing text, art, animation, audio and video elements related to the specific disease.

These different ways that technology can be used to advance effective management of SHS in Nigeria have worked in other settings, and it is believed that it can also work to bring management upgrade in the Nigerian school system

### **13. Synthesis and Conclusion**

School health service is planned program designed to appraise, protect, and promote health of students and school personnel by offering health services such as sexual and reproductive health education, vaccinations and other health benefits. All these are to ensure that children are healthy enough to obtain the full benefit of education. The literature reviewed showed that SHS in Nigeria is suffering because of lack of awareness about its (SHS) practices, lack of personnel, underfunding, poor facilities and other related factors. Some of our children thus may not be enjoying the full benefits of education due to inadequate School Health Service. The problems of SHS identified are managerial in nature, and can be handled with innovative and technology enhanced management initiatives. With proper definition of roles therefore, principals and headmasters or a designated person can be empowered to pivot and provide the digital leadership and organisation needed in management of School Health Service by; utilizing social media to host School/Community collaboration on healthcare services through which community members can interface on school health related issues; creating school health help/donation platforms using digital technology from where financial and material appeals can be made; engaging in digitalized awareness campaign on SHS in which disinformation or misinformation about some adolescent and general health problems are countered and awareness and right information given. Furthermore, creating digital data management system for data mining and sharing on school health service will make for better data gathering and analysis for best practices in school health service management.

This study concludes that, rejuvenating healthcare delivery in the primary and secondary school system in Nigeria does not require rocket science, but effecting a digital upgrade: utilizing technology to create platform for beneficiaries and stakeholders to connect, engage, share, socialize and learn about practices of School Health Service in the country. The study has also identified the problems of School Health Service (SHS) in Nigerian, and offered solutions to them. The different digital pathways to solving these problems as suggested here are in no way exhaustive, but they are indicative of some of the best practices which, if adopted, will bring about revival and effectiveness in management of School Health Service in Nigeria.

### **14. Recommendations**

1. The Ministry of Education should insist on digital literacy for prospective teachers and school heads, and retraining on SHS of those already in service.
2. The Ministries of Education and Health should redefine stakeholders' participation in SHS, review SHS policy and set up joint monitoring team to supervise operations of school health service in Nigeria
3. The Education Ministry should frequently inspect school health facilities and records.

4. The Ministry of Education should form Local Health Committees comprising selected local school heads and representatives of Local School Health Committees
5. The Ministry of Education should insist that all schools form Health Committees

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