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## The State of School Health Services of the School Health Programme in Nigeria: A Position Paper by the Paediatric Association of Nigeria (PAN) Sub-Committee on School Health Programme

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### Abstract

This position paper summarises the current understanding of the School Health Services (SHS) component of the School Health Programme (SHP) in Nigeria in light of the results of the Nationwide Situation Analysis (SITAN) Survey conducted, existing literature exploration, and findings from the interactive sessions with relevant stakeholders on SHP. This article on SHS complements and is intended to integrate with parallel position papers on other components of the School Health Programme: Healthful school environment, School feeding services, School-based health education, and School home and community relationships in Nigeria. Challenges and solutions related to pre-entry medical screening, routine health screening/examinations, immunisation, school health records, sick bay, first aid and referral services were all reviewed. Gaps in our understanding of SHS in Nigeria and avenues for further research were also examined. Recommendations include a mandatory review of the National School Health Policy of 2006, training and retraining of staff and students on attitudinal change to become advocates for health in both the schools and communities, linkage of schools with healthcare providers, especially paediatricians and nurses, in a hub and spoke model; and development of precise performance -monitoring indicators for SHS. Gaps in our understanding of SHS in Nigeria and avenues for further research work were also highlighted.

**Keywords:** *Situation Analysis Survey, Students, School Health Services, School Health Programme.*

## Introduction

Nigeria faces a high disease burden, particularly among children and adolescents, compounded by a fragile health system. This situation underscores the need for cost-effective and sustainable measures to control both communicable and non-communicable diseases.<sup>1</sup> School-aged children and adolescents constitute a greater proportion of the population of the average Nigerian community. This demographic profile constitutes an enormous challenge for programs formulated to ensure the optimal health of this population. If well implemented, the School Health Program (SHP) is a critical component of the National Health Promotion program.<sup>2,3</sup> The World Health Organization (WHO) defines a health-promoting school as one that constantly strengthens its capacity as a healthy setting for living, learning, and working.<sup>4</sup> The School Health Programme is the means through which schools foster a healthy learning environment via its five critical components: healthful school environment, school feeding services, school-based health education, school health services (SHS), and school home and community relationships. This makes the SHP an essential component of any country's overall healthcare delivery system.<sup>5</sup>

Despite the growing interest in the School Health Program (SHP) and the significant impact schools have on the health and quality of life (QOL) of children, comprehensive policy guidelines for implementing School Health Services (SHS) remain insufficient, and there is an urgent need for SHP review in Nigeria that will aid community awareness and facilitate implementation.<sup>6</sup> The Paediatric Association of Nigeria (PAN) has previously developed unique guidelines for common diseases and health-related issues affecting children and adolescents. However, critical aspects of SHS, such as pre-entry medical screening, routine health examinations, immunisation, school health

records, sick bay, first aid, and referral services, still need detailed implementation guidance.

Based on the nationwide Situation Analysis Survey (SITAN) findings,<sup>7</sup> explorations of existing literature (see suggested citation below), and interactive sessions with relevant stakeholders on SHP, PAN is now providing evidence to guide the effective implementation of SHS in Nigeria.<sup>8-10</sup> This communication is prepared by the Paediatric Association of Nigeria's sub-committee on the School Health Programme in Nigeria. It is the first effort to address the challenges of implementation of SHS in Nigerian schools. It sets out to detail the roles of key stakeholders for SHS, such as the pupils, students, school teachers, parents, physicians, school nurses, health educators, environmental health officers, school guidance counsellors, community health workers, dieticians, nutritionists, social workers, the community and the relevant government agencies. It also analyses the challenges of implementing effective school health services and proffers solutions for implementation.

## Methods

### *Situation Analysis on School Health Services (SHS) component of the SHP*

The SHS include pre-enrolment medical examination for pupils and students, pre-employment medical examination for teachers, periodic medical inspection, health education, environmental sanitation, nutritional services, deworming program, provision of first aid materials, and data collection on medical treatments and school health records.

Recently, SITAN was conducted by the PAN Technical Working Group (TWG) on the School Health Services (SHS) aspect of the School Health Programme (SHP). The National Health Research and Ethics Committee approved the nationwide survey with approval number

NHREC/01/01/2007-29/07/2022. Schools were selected from six of the country's 36 plus one states, one from each of the six geo-political zones in Nigeria. The states were Abia, Bauchi, Delta, Kano, Ogun, and Sokoto. Then, schools were selected from urban and rural, private and public, and primary and secondary registered schools. A total of 105 schools were surveyed using an interviewer-administered questionnaire. The survey revealed the performance on the key interventions of the school health services as follows: pre-entry medical screening/examination of children (38.2%), routine health screening/examinations (57.1%), specific immunisation (26.9%), school health records keeping (33.3%), availability of sick bay (47.1%), first aid treatment available (46.2%) and referral services (51.7%). Furthermore, other indicators for other services such as retainership (26.9%), request of immunisation record (37.5%), and availability of trained health personnel (17.6%)<sup>7</sup> performed below average as well.

There are other studies on the SHS component of the SHP, and the summary of the findings is as follows:

- Inadequate knowledge of National School Health Policy (NSHPo)<sup>11,12</sup>
- Overall poor implementation of school health services<sup>13,14</sup>
- Poor implementation of pre-enrolment medical examinations<sup>9,14</sup>
- Availability of first aid boxes in many schools, but inadequate content<sup>9,14</sup>
- Availability of medical records ranges from 33.3% to 64.5%<sup>9,14</sup>

### **Development of the Position paper**

The sub-committee of the Paediatric Association of Nigeria (PAN) on the School Health Programme (SHP) involved in developing this position paper included members of the association selected from tertiary institutions to

represent the six geo-political zones of Nigeria. The PAN President, PAN President-elect, and PAN Secretaries (present and past) were also available to participate in the conceptualisation, conduct of the SITAN, consultation of stakeholders, and manuscript writing process. The authorship of the position paper included members of the sub-committee who are experts in different paediatric sub-specialties: Gastroenterology, Cardiology, Haematology and Oncology, Infectious diseases and Community paediatrics. These experts were pooled together to address issues in the School Health Programme in Nigeria.

Five subgroups of School Health Services were identified: (i) Pre-entry medical screening, (ii) Routine health screening/examinations, (iii) Immunisation, (iv) School health records keeping and availability of sickbay, (v) First aid and referral services. Two members of the sub-committee were assigned to each subgroup. All available publications were reviewed after each subgroup conducted Medline and PubMed searches related to their themes from March to June 2023. Regular meetings and correspondences were conducted between the subgroups and the lead author.

Subsequently, tentative summary statements on recommendations were made based on the strength of the reviewed scientific evidence. Each sub-theme was reviewed by the subgroup's members, followed by an iterative consensus-building process amongst all the authors and other non-authors who were asked to participate in the prioritisation. In the initial round of consensus building, the initial list of recommendations was shortlisted using Nominal Group Technic. The selected recommendations were prioritised based on two plain assessment matrices of performance and importance. The recommendations for which the majority of the authors voted were retained.

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The updated draft of the manuscript was shared with all committee members for further review. After all appropriate edits were completed, the final position paper was submitted and subsequently approved by the executive committee of PAN.

The Paediatric Association of Nigeria has over 1000 paediatricians practising in different health institutions in Nigeria and abroad. The PAN has a clear mandate of being a strong child health advocate and promoter of the overall well-being of children. The children from other countries residing in Nigeria are also cared for. Their key areas of paediatric practice are both curative and preventive. PAN has committees on all the sub-specialities: Adolescent, Cardiology, Emergency, Endocrinology, Gastroenterology, Haematology and Oncology, Infectious diseases, Nephrology, Neurology, Neonatology, Respiratory, and Social Paediatrics. All aspects of childhood diseases are covered, and the services are available country-wide. The PAN has yet to have a policy document on their roles in the school health programme. Through this position paper, the PAN is working internally to develop her policy document for the School Health Programme, which will clearly define roles for implementing the programme.

### **Recommendations**

#### *Knowledge of the National School Health Policy (NSHPo) and School Health Programme*

Knowledge of the National School Health Policy means being aware of the existence of such a document, having a copy of it, and having an overview of the content of the policy document. Knowing the School Health Programme means having heard of it and its components. However, only awareness of the policies was assessed in the review. The survey, together with other studies, revealed that:

*There needs to be more awareness/knowledge of the National School Health Policy and School Health Programme.*<sup>7,11,12,15</sup>

#### *Recommendations*

- 1) Strengthen community involvement in the promotion of the SHP by making the SHP an agenda during the meetings of Parents-Teachers Associations (PTA), including the development of a PTA committee for SHS, thereby enlightening parents on the importance of the SHP.
- 2) Equip educators with appropriate skills and adopt healthy lifestyles<sup>16</sup> as a way to create awareness and understanding of the school health policy.
- 3) Provide adequate and age-appropriate health education instructional materials (posters, textbooks, and pamphlets) and review the curriculum to include the basic fundamentals of healthy lifestyles and habits.
- 4) Include paediatricians in the National/State Steering Committees on school health programmes.
- 5) Include the components of the School Health Programme in the curriculum at the teachers' training schools and make deliberate attempts to routinely train teachers on SHP in schools, especially as a component of their appraisal for promotion.
- 6) Disseminate health information based on evidence generated from well-designed research and reviews.

### **Implementation of the School Health Policy and Programme**

Implementing a school health programme means that four broad areas are considered: planning for implementation, the programme introduced in the schools, the programme embedded in routine practice, and fidelity of the implementation and programme adaptation.<sup>17</sup> However, the item

evaluated was whether the programme was embedded in the routine school practices. The review revealed overall poor implementation of school health services in Nigeria.<sup>13,14</sup>

#### *Recommendations*

- 1) To build capacity for the School Health Programme and develop standards to guide the implementation of SHP in schools through providing Information, Education and Communication (IEC) materials, development of guidelines, and SHP implementation plans.
- 2) There is a need to develop the Nigerian Network of Health Promoting Schools through the designation of schools as school health programme models. These schools will be branded early adopters of school health programme interventions, starting with private schools that thrive on competition. This could provide a source of healthy competition to drive SHP.
- 3) The Federal and State Ministry of Education and Ministry of Health departments should provide technical support and conduct regular and periodic on-the-spot checks for compliance with regulations.
- 4) Students can be trained through the SHP to become effective health ambassadors, especially in areas of challenge like vaccine uptake and coverage in hard-to-reach places and behavioural change communication.<sup>18</sup> It has been shown that where SHP is effectively implemented, the impact is extensive, including school enrolment, retention, and the health and nutritional benefits of staff, families, and communities.<sup>19</sup>

#### **School Health Services**

School Health Services is a coordinated system that ensures a continuum of care from school to

home to community health care provider and back. The coverage of the school system is often broader compared to the health system, together with an extensive skilled workforce and strong community relationships,<sup>20</sup> hence its potential role in optimising the health system. It has several components, which include:

#### **Pre-enrolment medical examination**

Students' pre-enrolment medical examination lets schools have baseline health information of their pupils/students, which might be deployed in emergencies. It also ensures that prospective students do not pose any health risks to other pupils in the school. Pre-enrolment medical examinations aim to ensure prospective students can perform their academic duties safely and efficiently without placing other students at risk. The survey and other literature revealed poor implementation of pre-enrolment medical examinations.<sup>7,9,14</sup>

#### *Recommendations*

There is a need to harmonise the contents and procedures of pre-enrolment medical examination, segregating the process of pre-enrolment medical examination into three components: history taking, physical examination, and laboratory investigations. Each of the components should be done in different places.

The Ministry of Education should deposit the forms at schools, where the students/parents or caregivers will collect them and complete the medical history part of the form. Upon entrance to the school, a medical examiner will review and discuss the contents of the filled form with the student-parent pair. The medical examiners should request additional testing, review the available test results, and counsel or refer where deemed necessary.

There is a need to generate evidence on the effectiveness of pre-enrolment medical examinations in preventing health-related school

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risks and improving the assessment of the teachers' performance.<sup>21</sup> Research has demonstrated that teachers will adopt innovation to the extent that it first addresses the concerns about changes asked of them in classroom management and practice and then addresses the impact on students. Without meeting the first requirement, new practices are unlikely to be adopted and sustained, no matter how innovative.

**Routine health screening**

Routine health screening is a mandatory exercise which includes dental checks, hearing checks, visual assessments, mental health evaluations, blood pressure readings, and height and weight measurements. Recently, screening for hepatitis, tuberculosis, and immunisation status have been considered, as well as physical examination for skeletal deformities. This will require the services of nurses or a trained staff of the school. The school health services staff are responsible for coordinating care by communicating with the student's family and health care providers so that they can stay healthy and ready to learn. Unfortunately, there is poor implementation of routine school health screening/examinations in Nigeria.<sup>13</sup>

*Recommendations*

- 1) PAN in collaboration with neuropsychiatrists, should develop capacity for screening for mental health disorders such as psychiatric disorders and substance abuse. The components of health assessments to be applied should be guided by the appropriateness of the people's cultural practices and efforts to keep the outcome confidential and avoid stigmatisation and discrimination.
- 2) The State Ministry of Health, with the supports of development partners and agencies, will provide basic screening tools for the school clinic, such as

weighing scales, measuring tapes, Shakir strips, and a tuning fork.

**Availability of Sick Bay and First Aid Box, medical records and referral services**

PAN in collaboration with development partners and agencies, should guide schools without a first aid room on the selection of a suitable first aid area (sick bay) for treating ill or injured students and staff. Sickbays should meet as many minimum requirements for first aid rooms as possible. There are minimum first aid room requirements, which include but are not limited to the following items:

- Personal protective equipment (eye protection, gloves, apron/gown)
- Resuscitation mask
- Electric power points
- Sharps disposal system
- Biohazard waste container and sanitary waste bin
- Workbench or dressing trolley
- Storage cupboards
- Sink (with hot and cold water)
- First aid kit appropriate for the workplace
- Blankets and pillows
- An upright chair
- Desk and telephone
- List of emergency telephone numbers
- First Aid Summary Sheet displayed
- Stretcher

The medical records and referral algorithm with contact details should be made available. The latter should be displayed openly on a notice board. Schools should have a first aid room, which should be located so as to be accessible to injured students and staff. It should be well-lit, ventilated, and identified with appropriate signage.

The SITAN and other reviews revealed the availability of first aid boxes in many schools, but



they had inadequate content.<sup>7,9,14</sup> The availability of medical records ranged from 33.3% to 64.5%.<sup>7,9,14</sup> The SITAN showed that about 91.4% of the students had taken ill at least once while in school, out of which 50% were sent home for treatment, and 7.7% were taken to a health facility from school.<sup>7</sup>

#### *Recommendations*

- 1) Skilled health care providers like paediatricians and nurses need to adopt schools and routinely update them on the current thinking on the diagnosis and management of minor illnesses and referral services.
- 2) Training all designated teachers in first-aid management is essential.<sup>22</sup> Treating students in the school will reduce absenteeism, as 42% of poor academic performance is attributable to absenteeism.<sup>23</sup>
- 3) The training must respond to the felt needs of the teachers themselves in their professional roles in the school; otherwise, it will be ineffective and will not be adopted and sustained.
- 4) There is a need to form a school healthcare team consisting of a medical doctor, a trained nurse, students, and a health visitor. Thus, schools are encouraged to identify and register with nearby standard health facilities for emergency services and maintain a communication link with a designated Paediatrician.
- 5) Development and deployment of treatment guidelines to schools.

#### **School vaccine policy or guidelines**

How to increase vaccination among older children and adolescents has received increased attention since the Global Vaccine Action Plan's call to extend the benefits of immunisation more equitably beyond childhood. Many programmes

have been launched to increase the uptake of different vaccines: human papillomavirus (HPV), hepatitis B and tetanus-diphtheria-acellular-pertussis (Tdap), meningococcal, and influenza in adolescent populations. Therefore, understanding and evaluating the various interventions that can be used to improve adolescent vaccination is crucial<sup>24</sup>.

#### *Recommendations*

- 1) The appointment of vaccine ambassadors in schools as change agents will close the gap between the change agent and those to whom the innovation is directed.
- 2) Enlighten parents and children on the importance of vaccination and where vaccines can be obtained through the provision of simplified information leaflets on vaccines and vaccine performance feedback.<sup>24</sup>
- 3) Providers' prompt use of SMS and social media to link schools with paediatricians and health facilities.

#### **Need for Operational Research on SHP**

Only 26 studies (all prevalence studies) have been carried out on SHP in Nigeria.<sup>25</sup> Operational research (OR) is an initiative designed to improve any implementation process.

#### *Recommendations*

- 1) In collaboration with the implementing partners, determine which services the Ministry of Health can most efficiently and cost-effectively provide through school-based health clinics.
- 2) Implementing diffusion of innovation to influence schools to adopt and maintain quality programmes by the Ministry of Education.
- 3) Policy research on the most effective ways to establish and maintain inter-sectoral collaboration and coordination of efforts of donors and volunteer

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agencies by Academic institutions and licensing bodies.

- 4) Evaluate the effects of health-promoting schools on the health and learning of students and the lessons learnt.

### Conclusion

There is a need to reform the school health services component of the school health programme in Nigeria. Deliberate efforts should be made to implement the suggested recommendations to bring about the much-anticipated improvement in the health of schoolchildren. These expected changes may take time and proceed unevenly across schools and regions. Every attempt should be made to avoid evaluating the results of any adopted process too early. Since some schools may struggle to implement these new interventions or approaches, this may reduce the efficiency, and it will appear that the innovation is unsuccessful. The implementers of the innovation should be strategic to ameliorate the resistance to change. It is essential to ensure that the perception of the reward of such interventions is clear; these must include the improved academic performance of the students and enhanced ability of the teachers to impart knowledge to their students.

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### References

1. Niohuru I. Disease Burden and Mortality. In: Healthcare and Disease Burden in Africa. SpringerBriefs in Economics. Springer,

- Cham. 2023. [https://doi.org/10.1007/978-3-031-19719-2\\_3](https://doi.org/10.1007/978-3-031-19719-2_3)
2. Shrestha RM, Ghimire M, Shakya P, Ayer R, Dhital R, Jimba M. School health and nutrition program implementation, impact, and challenges in schools in Nepal: stakeholders' perceptions. *Trop Med Health* 2019;47:32. <https://doi.org/10.1186/s41182-019-0159-4>
3. Mendis S. Inadequate investment in school health education: A missed opportunity. *Indian Heart J.* 2016;68(1):6–8.
4. World Health Organization. Health-promoting schools <https://www.who.int/health-topics>
5. Ademokun OM, Osungbade KO, Obembe TA. A Qualitative Study on Status of Implementation of School Health Programme in South Western Nigeria: Implications for Healthy Living of School Age Children in Developing Countries. *Am J Educ Res Am J Educ Res* 2014;2(11):1076-1087.
6. Adebayo, A, Bella-Awusah T., Adediran, K, Omigbodun O. School health and well-being in Nigeria: gaps in policy and design. *J Public Health (Berl.)* 2023. <https://doi.org/10.1007/s10389-023-01984-4>
7. Ughasoro MD, Abonyi EL, Dedekede IOF, Garba M, Ibrahim H, Jiya FB, Muhammed FB, Anyiam J, Oguiche S, Tabansi P, Ogunrinde OG. Performance of School Health Programme in Nigeria: A Situation Analysis. *Niger J Paediatr* 2023; 50(1):7-12. <http://dx.doi.org/10.4314/njp.v50i1.2>
8. Osuorah, DIC, Ulasi T, Ebenebe J, Onah KS, Ndu KI, Ekwochi U, *et al.* The Status of School Health Services: A Comparative Study of Primary Schools in a Developing Country. *Am J Public Health Res* 2016;4(2):42-46.
9. Bisi-Onyemaechi AI, Akani AN, Ikefuna AN, Tagbo BN, Chinawa JM, Chikani UN. School health services in Enugu East, Nigeria: perspectives from a resource-poor setting. *Healthcare in Low-Resource Setting.* 2017 Aug 29; 5(1). [Online] Available from: <https://www.pagepressjournals.org/index.php>

- p/hls/article/view/6357 [Accessed June 6, 2023].
10. Sanni UA, Airede KI, Anigilaje EA, Offiong UM. Assessment of school health services in primary schools in Gwagwalada Area Council, Federal Capital Territory, Nigeria. *Pan Afr Med J.* 2022;41:251. doi: 10.11604/pamj.2022.41.251.27372.
  11. Adebayo AM, Onadeko MO. Knowledge of School Health Programme among Public Primary School Teachers in Oyo State, South-West Nigeria: A Rural-Urban Comparative Study. *Afr J Reprod Health* 2016;20(2): 129-38.
  12. Odeyemi KA, Chukwu EE. Knowledge, Attitude and Practice of School Health among Primary School Teachers in Ogun State, Nigeria. *Niger J Paediatr.* 2015;42(4):340-345.
  13. Kuponiyi OT, Amoran OE, Kuponiyi OT. School health services and its practice among public and private primary schools in Western Nigeria. *BMC Res Notes.* 2016;9. [Online] Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4822242/> [Accessed April 30, 2023]
  14. Chidiebere OD, Thomas UO, Joy E, Stanley OK, Ikenna NK, Uchenna E, *et al.* The Status of School Health Services: A Comparative Study of Primary Schools in a Developing Country. *Am J Public Health Res.* 2016 February 2; 4(2):42-46.
  15. Obembe TA, Osungbade KO, Ademokun OM. Awareness and knowledge of National School Health Policy and School Health Programme among public secondary school teachers in Ibadan metropolis. *Niger Med J* 2016;57:217-25.
  16. Alex-Hart B, Akani A. Evaluation of health knowledge of teachers in public primary schools in Bonny Local Government Area of Rivers state. *Niger J Paediatr* 2014;41:365-369.
  17. Pearson M, Chilton R, Wyatt K, *et al.* Implementing health promotion programmes in schools: a realist systematic review of research and experience in the United Kingdom. *Implement* 2015;10(1):149.
  18. Aldinger C, Zhang X-W, Liu L-Q, Pan X-D, Yu S-H, Jones J. Changes in attitudes, knowledge and behaviour associated with implementing a comprehensive school health program in a province of China. *Health Educ Res.* 2007;23(6):1049-1067.
  19. Grant Catherine. The impact of school health programmes. Knowledge, evidence and learning for development. 2017 [Online]. Available from: [https://assets.publishing.service.gov.uk/media/5ba3b9bb40f0b607bab5a763/091\\_Impact\\_of\\_school\\_health\\_programmes.pdf](https://assets.publishing.service.gov.uk/media/5ba3b9bb40f0b607bab5a763/091_Impact_of_school_health_programmes.pdf) [Accessed February 19, 2023]
  20. UNESCO. Benefits of a School Health, Hygiene and Nutrition Programme [Online]. Available from: [http://www.unesco.org/education/tlsf/mods/theme\\_b/popups/mod08t04s01.html](http://www.unesco.org/education/tlsf/mods/theme_b/popups/mod08t04s01.html) [Accessed June 8, 2023]
  21. Pachman *et al* Pre-employment medical screening. *Bull World Health* 2009;87: 529-534. doi:10.2471/BLT.08.052605
  22. Qureshi FM, Khalid N, Nigah-e-Mumtaz S, Assad T, Noreen K. First aid facilities in the school settings: Are schools able to manage adequately? *Pak J Med Sci* 2018;34(2):272-276. <https://doi.org/10.12669/pjms.342.14766> [accessed June 18 2023].
  23. Miya YY, Sarkingobir Y, Hiliya AA, Sidi AS, Bello Z. Absenteeism of some students in secondary school in Sokoto East, Nigeria. *J Elem Secondary Sch* 2023;1(2):18-28. <https://doi.org/10.31098/jess.v1i2.1578>
  24. Abdullahi LH, Kagina BM, Ndze VN, Hussey GD, Wiysonge CS. Improving vaccination uptake among adolescents. *Cochrane Database Syst Rev.* 2020 January 17;1(1):CD011895. <https://doi.org/10.1002/14651858.CD011895.pub2>
  25. Oluyinka D, Adebayo MA. School Health Program in Nigeria: A Review of Its Implementation for Policy Improvement.” *Am J Educ Res* 2019;7:499-508. <https://doi.org/10.12691/education-7-7-10>