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Author (s):	Muhammad Ajmal Bhatti, Muhammad Asad Azhar
Affiliation (s):	Pakistan Administrative Service
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Critical Review of School Health and Nutrition (SHN) Program to Achieving Advance Preventive Healthcare for Children in Punjab

Muhammad Ajmal Bhatti and Muhammad Asad Azhar*

Pakistan Administrative Service

Abstract

The School Health and Nutrition (SHN) program was launched in year 2007-08 in different districts of Punjab, Pakistan. As the core of this program, School Health and Nutrition Supervisors (SHNS) were hired as the main agents to implement the program's objectives. These SHNS were appointed at Basic Health Units (BHUs) and tasked with the objectives to screen the children in public schools, identify sick children, ensure their medical treatment, referrals, and follow-ups along with conducting health education sessions in their respective schools and communities. The current paper attempted to assess the performance of this program and suggested succinct measures to reform it in order to achieve its desired objectives. It included the analysis of the reasons and bottlenecks due to which the highlighted anticipated outcomes of this program could not be fully realized. After analyzing the qualitative and quantitative shortcomings in the design and implementation of this program, the current article recommends workable solutions based on strategic revisions in both the clinical as well as the procedural part of the program.

Keywords: adolescent health, preventive healthcare system, rural health, rural nutrition program, school children

Introduction

The current paper aimed to scrutinize the School Health and Nutrition (SHN) program, launched by Policy & Strategic Planning Unit (PSPU), under the erstwhile consolidated Health Department in Punjab in year 2007-08. It was launched in different districts of Punjab province including 11 districts of South Punjab. As the core of this program, School Health & Nutrition Supervisors (SHNS) were hired who were the main agents to implement the program's objectives. These SHNS were appointed at Basic Health Units (BHUs) and tasked with objectives of screening of children in public schools, identifying sick children, ensuring their medical treatment,

* Corresponding Author: asad.azhar96@outlook.com

referrals and follow-up and doing health education sessions in respective schools and communities. This paper assesses the performance of the program and suggests succinct measures to reform it to achieve its desired objectives. It includes analysis of the reasons and bottlenecks due to which the highlighted anticipated outcomes of this program could not be fully realized so far. After analyzing the qualitative and quantitative shortcomings in the design and implementation of this program, this article recommends doable solutions towards mitigating mentioned speed-breakers with strategic revisions in the clinical as well as the procedural part of the program. By describing the learning curve of such an attempt in South Punjab, it is hoped that this study would be instrumental to improve the health and development of primary school children, especially in rural areas.

Overview of the Program

The current research discussed issues regarding food security, nutrition, and disabilities that are prevalent, especially in the rural areas of Punjab. These issues could be sufficiently inhibited and even cured if they are addressed at the early stages of growth (Bobonis et al., 2004). This program was initiated to ameliorate these issues, improving health and nutrition first which, in turn, would increase learning, school attendance, and put Pakistan back on track to achieve the Millennium Development Goals for health and education (Alderman et al., 2013).

A growth issue, either moderate or severe, is found in 42% of school enrolled children (School health and nutrition, n.d). The National Nutritional Survey of 2018 determined that around 12.7% of the children have a functional disability in one of these domains, that is, sensing, hearing, walking, remembering, self-care, and communication (Unicef, 2018). Pro rating that to the population of the ages 0-9 in the census of 2019, it may be assumed that more than 2.5 million children in rural Punjab are currently inflicted by a functional disability in at least one areas mentioned above (Pakistan Bureau of Statistics, 2017). In the same nutritional survey of 2018, it was highlighted that around 43% of children under the age of 5 are stunted, 19% are wasted, 32% are underweight, and 9.4% are overweight (UNICEF, 2018). These numbers are alarming for a country where most of the population is in the lower age bracket. Hence, it necessitates timely preventive healthcare service to ensure that these could be controlled earlier when they are much easier to manage sustainably.

The spirit of this program embodied the vision to manage and reduce nutritional and other health related issues in children (National Association of School Nurses, 2020). The SHNS, which are the implementing agents of the program are allotted the catchment area of the BHU they are appointed at. Each supervisor is responsible to plan visits to all their schools at least once a month. Additionally, along with screening all the children of their allotted schools, they are also tasked to organize awareness sessions in the schools and the associated communities. Moreover, the supervisors also train school and community leaders in their catchment areas to ensure sustainable awareness of these issues in the community.

Public health facilities are the main referral points after the screening process (Berkley & Jamison, 1990). When a student is identified with an issue, the supervisors refer them to the BHU at which they are appointed. In case the student needs any specialized treatment, they are referred to the nearest Rural Health Center or secondary / tertiary hospital depending on the availability of the respective specialty. However, if students and their families have to incur pocket expenditure, the supervisors would try to get that amount arranged through school or health councils, NGOs or philanthropists.

With supervisors appointed at more than 1,700 BHUs, the SHN program is a promising addition to improve lagging health and education outcomes in Punjab. However, due to deficiencies in the design and implementation of the program, it did not bear all the fruits that were envisioned in its conception. The next section highlights these issues and assesses the reasons behind them.

Design Flaws

A thorough and inclusive project design is the backbone to gain success for any initiative. There were a lot of gaps in SHN which gave rise to different hurdles in implementation, These gaps included hurdles that could have been avoided by involving all stakeholders in the project design phase. This section discusses those issues and how they inhibited the performance of the program.

Detached from all Other Stakeholders

This program carried the unique aspect to involve both, the education department and the Health Department. After the supervisors enter the school for screening, the facilitation becomes the responsibility of education

department (National Association of School Psychologists, 2020). However, no major attempts were made in design and implementation stages to establish synergy between both departments, due to which the supervisors face a lot of hurdles in their assigned schools.

An important missing link was the data. There was no centralized system to store the collected data and to access that data, needed for daily operations, such as those related to enrolled students and community (Meester & Tienstra, 2012). The SHNS was isolated from all relevant databases. No data linkage was established between the education department and health department. Hence, a lot of data remained in manual form, either unutilized or disregarded.

This program was idealized to be the focal implementation unit for all the nutritional and preventive health programs involving external donors and agents, especially that of Hepatitis. However, the program continued to be isolated from all of these activities which resulted in its redundancy. These collaborations would also have played a significant role to improve the capacity of the supervisors by exposing them to global best practices in their functional areas.

Inefficacious Human Resource Plan

The hiring criteria of the supervisors did not match the skillset required for the task. The recruitment criteria that exists is very general. Disciplines, such as social sciences, business administration, and public administration were considered as part of the screening process to hire these supervisors. Due to this, many supervisors on-board did not have any background knowledge about child health and nutrition. Hence, capacity is still a major issue in many dimensions (World Health Organization, 2013).

A successful human resource is always heavily dependent on a regular refresher and upskilling environment which is mostly possible through regular training programs. For the SHN program, no sustainable and regular training system was designed. Even for the trainings that were given, they had no accurate way to ascertain learning outcomes and were designed without appropriate evaluation processes. This further added to the capacity issues, where supervisors with no experience in the primary health setting were not trained effectively.

Ineffective Screening Questions

Additionally, the analysis of the screening questions was inadequate to assess the child and carried a huge subjectivity assigned to them which reduced their accuracy. Answers of many questions were not helpful to ascertain the health or nutritional condition of the student. For instance, many questions in the mental health screening part of the application included vague metrics, such as "is the child irritated". Children may be irritated momentarily and that is very common, especially in an active school environment (World Health Organization, 2009). The answer to that could be solely related to any event that occurred in specific time period and hence, could not be used to ascertain if the student is mentally disturbed due to a more prevailing condition.

No link with Health Mainstream Management

Although, supervisors are hired at a BHU and considered part of its team, however, they are reporting to a totally different entity which is the Policy and Strategic Planning Unit, Government of the Punjab. Even though, the medical officer is the facility in-charge of the BHU, still he has no authority to oversee the working of the supervisors. Since BHUs are managed by an organization which is not linked with any administrative arm of the health department, the supervisors are not included as an actual part of the BHU's team on ground.

This is problematic, because a lot of their work relies on the staff working at a BHU. For instance, the medical officer for the BHU is the first point of referral for students, identified with a problem by the supervisor. Along with that, the outreach staff stationed at BHU is an important information source for family and community dynamics and a good link with those could help the supervisors gauge the awareness level accurately (Currie et al., 2011). These broken linkages led to the supervisors not owned by the health department along with the already discussed disconnection with the education department. The working silo established for the supervisors was a significant reason to detract them from their core job description and requirements.

Implementation Issues

Since its inception, this program has been marred by serious issues in its implementation. Due to subsequent poor monitoring and evaluation, the program deviated from its core function in the following years. Working

against the objectives of the SHNs was analyzed in all districts of South Punjab to identify the key areas where the program was deficient to achieve its objectives. It may be summarized below:

Deviation from Core Responsibilities

One of the overarching issues was that many of the SHNs were not active on the application and rarely focused to perform the duty as prescribed by the program. They were assigned to other programs, such as to oversee the immunization campaigns and vertical programs which meant that they did not have time to fulfill their own objectives as an SHNS. In its concept, an SHNS must screen an average of 20 children per weekly visit, however, the average by June 2021was around 1.5 children per weekly visit (HISDU, 2017).

Over the years, it became a norm due to which the supervisors and the program in general separated from its core ambition. A big reason for that was the poor design which, in turn, created roadblocks for implementation. As they were not utilized for their own purposes, other programs started to avail their services for their outreach activities. This soon became a usual practice and was well established as a norm when this assessment was undertaken in 2021.

Deficient Tracking of Referred Students

Another major issue in implementation of the program's objectives was that there was no system in place to ensure the clinical referrals of screened students. The application included data points, such as how many children are screened and how many of them need extra care, however, it failed to inculcate if the referred child has had a clinical checkup (Wilson et al., 2022). Many health professionals in the secondary and tertiary health facilities were unaware of the program's existence due to which referrals were seldom entertained as they must have at facilities of a larger scale than the BHU. The application itself did not include any section dedicated to referrals. Hence, the data of referral was pretty much nonexistent. The only data point that the application could provide was the number of students that were referred.

Poor Monitoring and Evaluation Regime

The core of efficient implementation is always a robust monitoring and evaluation mechanism. In this case, the systems implemented were weak

and irregular. No system of accountability existed in which the supervisors and their functional outputs were reviewed by any entity. Reviews were conducted on whims and did not have a lot of follow-ups, which greatly undermined their effectiveness. For instance, 280 supervisors did not screen any students from February 2021 till July 2021, however, this was not even reflected in any relevant administrative platforms (HISDU, 2017). Approximately,7% of the supervisors were not even registered on the SHNS application till July 2021 (HISDU, 2017).

Conclusion

It appears that no major attempts were made in design and implementation stages to establish synergy between health and education departments. The hiring criteria of the supervisors did not match the skillset required for the task. Besides, analyzing the screening questions were inadequate in assessing the child and had a big subjectivity assigned to them which reduced their accuracy. The existing recruitment criteria is very general. For instance, disciplines such as social sciences, business administration, and public administration were considered as part of the screening process for hiring these supervisors After analyzing the qualitative and quantitative shortcomings in the design and implementation of this program, this article recommends doable solutions towards mitigating mentioned speed-breakers with strategic revisions in the clinical as well as the procedural part of the program. Poor monitoring and evaluation has been the bane of the design.

Recommendations

The issues and shortcomings discussed above necessitated to revamp the existing structure at all levels. This section discusses recommendations for the major functional areas:

Revision of Screening Questions

The first step in the current research was to revise the screening criteria. The application needs to be designed in such a way that the questions and their responses are accurate and precise enough to suggest the way forward for the screened student. The purpose here was to reduce the element of subjectivity in answer choices as much as possible. The answers to the questions must also be valuable for the doctor that the student is referred to in case of any issue. The categories of screening remained the same which were:

- ENT
- Dental
- Psychological
- Development and growth
- Skin

The major change was to formulate precise questions and establish a scoring/rating mechanism with the answers. This would make the whole process uniform by providing distinct choices and creating an algorithm to score the screened children (Michie et al., 2013). To do this, consultative sessions were held with medical professionals of the above fields in South Punjab. They were tasked to develop a much more objective and score able screening criteria for each of their respective disciplines.

Tracking of Medical Referrals

The second step was to devise a system which would automatically track the status of referrals by ensuring that the students are provided with the appropriate clinical treatment. Ideally, this needs to be facilitated through the expansion of current application to incorporate a portal for public sector hospitals. However, in the system design recommended below, there is no need for a separate application as the information entry would be through data forms shared through SMS. The loop mentioned below ensures that unless a child is taken care of by a doctor he/she would remain pending in the system and hence the monitoring authority would be aware of the status on real time basis. The steps followed would be:

1. After the supervisor refers students for checkup due to any ailment, the school headmaster schedules visits of that referred student to primary health facility.
2. The primary health facility in-charge would have a login to the program application. Here, the doctor may see the referred students and their details on his/her application interface.
3. On visit, the doctor adds the diagnosis and clinical notes on the application against the referred students. The doctor may close the loop by marking the student as ‘treated’. Moreover, he/she could refer to any secondary or tertiary facility by entering the same on the application.

4. The in-charge of that respective secondary or tertiary facility may now see the referred students on the respective application interface. He/she has to then assign consultants from the facility to each student depending on their diagnosis done at the primary healthcare facility. The assigned consultants would receive a text message with a web form having the details of students tagged including their screening reports and previous diagnosis. The consultant/specialist would then add their treatment notes.
5. The assigned consultants are also visible on headmaster's existing interface on the application.
6. On visiting, the consultant could either treat the student and mark it as completed or he/she might refer him/her to another facility. If the student is further referred, steps 4 and 6 would be repeated again until the student is marked as treated.
7. A coupon could also be generated for free diagnostics to incentivize the headmaster and parents in order to complete this visit. The headmaster with the help of parents would schedule that visit to the consultant.

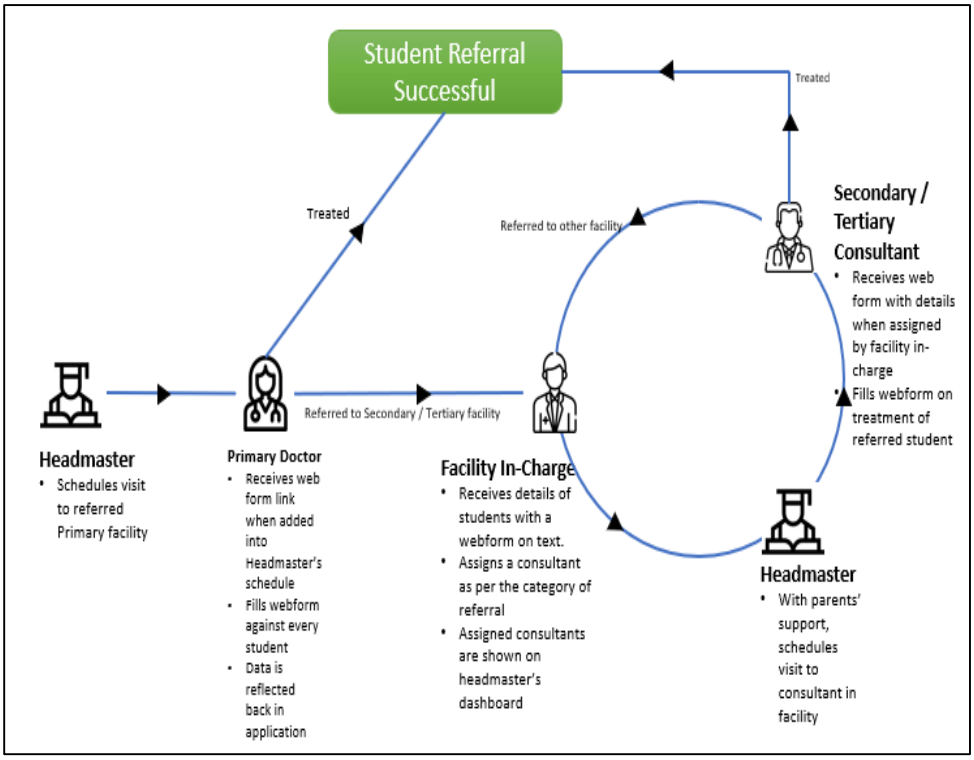
This system would ensure participation of the headmaster of the public schools as the key stakeholder to initiate and facilitate referrals. Thus, it would ensure synergy between both departments which would in the end ensure that the children are being taken care of, which is the core objective of the program. It would also ensure that the clinical records of the students are being stored. This would be one of the first health information systems in which the data would make a clinical audit possible.

To further implement these steps, its necessary to incentivize parents and students, especially to visit secondary/ tertiary health facilities. Some of such incentives that are recommended are:

- Establish SHN program counters/focal persons at all secondary and tertiary hospitals of the districts to facilitate referred students on priority
- Each referred student would be given coupon for no-cost diagnosis
- Ensure that all essential pediatric medicines are available at primary health facilities through MEA visits

Figure 1

The Clinical Loop to Ensure Treatment of Referred Students



Improving Governance and Instilling Accountability

Another focus was to implement monitoring and governance measures through the application and the associated systems. One such measure is to geo-tag all public schools so that screening entries could only be made while inside these geo-marked locations. Additionally, , the MEAs (Monitoring and Evaluation Assistants) for both Education and Health Departments would be used to verify visit details, OPD slips for treated children and entries at the school registers. The current MEA system could easily be enhanced to cater for regular evaluation of the SHNS program. After the implementation of these steps, a monthly meeting would be regularized with an agenda to monitor and improve the performance which would be ranked through the data collected through the MEAs and the application. A significant part of these review meetings should also be clinical audit of a random sample of children by a constituted committee of medical

professionals, so that it's ensured that the treated child did undergo all the required treatments.

Improving HR Management

A significant functional area that needs improvement is the hiring and further tasking of the supervisors themselves. There is a need to change the recruitment criteria for the supervisors in order to allow the most relevant human resource to pass through the HR screening process. Along with a masters or bachelors' requirement, the ideal candidate need to have some experience with public healthcare, preferably with child nutrition and development.

Additionally, a robust training and development mechanism need to be established for the supervisors. This must include a holistic training program, followed by testing instruments to ensure proper learning. Moreover, bi-annual or quarterly workshops must also be included to enhance the knowledge and skillset of the supervisors. It must essentially be part of a much broader on-job training regime that regularly enhances the capacity of working supervisors.

A strict prohibition must be enforced on supervisors on being used for other purposes by the relevant departments. No general duty and no allotment on areas outside the scope of the SHN program must be allowed. The allotment of supervisors must also be rationalized by linking it to the number of students enrolled in Union Councils rather than a standard number for every UC so that the workload is evenly and fairly spread.

Establishing Synergy with all Relevant Stakeholders

The last major step needs to be taken to link this program with all stakeholder entities. The first and foremost of this would be the education department. A link has already been established with them by involving their evaluation structure, however, it must also be established on a much larger scale. The data systems of the program must be linked with the education department. The schools may be involved to bolster the awareness part of the whole program by including the learning areas as part of normal curriculum.

Moreover, the data must also be shared with the central health systems used by the health department. The data collected through this program could be used to establish a student information registry with their

respective medical information. This may be used by government and non-government entities in overseeing and policy making for multiple areas.

Expected Impact

By bringing this project back to its original track, preventive healthcare in its essence would be improved in rural areas. The importance of this program is further supported by the fact that the younger population forms a major chunk of the total population. Around 45% of the rural population lies in the age bracket of 0-14 (UNICEF, 2018). Hence, rooting out and eliminating factors that are insidious to a healthy life of these children would positively affect the productivity and general health condition of the society for the foreseeable future.

Poor nutrition, growth, and dental degradations are some of the major issues in the rural population among school going children and regular screening of these children through this program would help to contain them. Similarly, psychological health is a factor that is widely ignored due to societal tendencies resulting in certain issues, such as low productivity, hindrance in thinking and communicating, and a poor ability to handle social relationships. These issues push back the growth of these children to become a productive and effective member of the society. This issue is further aggravated in rural areas, where societal stereotypes against mental health are more entrenched. These premises make the proper implementation of SHNS crucial, since a major part of screening involves countering these psychological issues.

The data collected as part of this program would be vital for decision makers and policy think tanks. It would help them better plan interventions in the education and health sectors. This data could also be combined with the current rudimentary family registry system. It could be the first step towards a complete health information system that has family information linked with major medical information.

Preliminary screening at facility would reduce burden on all tiers of health facilities by treating conditions at an earlier level before they deteriorate into something serious that may require basic or advanced clinical interventions. This program would also support the implementation and indirect evaluation for all outreach programs. Regular screenings may highlight issues in vaccinations, sanitary, and hygiene elements or any communicable diseases. All of these categories are handled by the

designated HR, stationed at BHUs and RHCs. Hence, a parallel program with overlap would ensure implementation of the above-mentioned programs too.

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