

SCHOOL INTEGRATED MEDICAL OUTREACH: AN APPROACH TO ENHANCE HEALTH SERVICE DELIVERY IN TURKANA, KENYA

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Abstract

School integrated medical outreach, is an approach that aims at delivering basic health care services to school going children by linking schools to catchment community health units and health facilities. The approach is in line with the Universal Health coverage strategy, that puts communities at the center-stage of health care delivery services, with minimal delays and cost. In Turkana county, access to static health facilities is between 5 to 50 kilometers, this is a huge challenge to children as they are vulnerable to abuses, when they go to seek medical attention at static health facilities and at the health facilities, there are no specific services for children, even when they are in uniform, they are not given the attention they deserve, notwithstanding the fact that they have missed class hours, impacting on their academic performance. Mapping and zoning of schools within 0-20 kilometers from the static health facility, and in a strategy dubbed #TakingHospitalstoschoolschallenge#, the link community units staff plan, organize and conduct schools dialogue days (SDAs) and School Action Days (SADs), where schools are recognized as School Health Units (SHUs). The link health facility in consultation with school management and community unit organize school medical outreach on agreed schedule. The focus of the approach is schools located in nomadic pastrolist areas and hard to reach areas, which form 65% of schools. From 2019 to 2023, the link facility health care workers have managed to visit 45 schools, with a population of 87,706, treating 76,364, and further referring 6,017 to the link health facility for more review

Keywords: school integrated medical, school dialogue days, health service delivery, community health, Turkana county, nomadic pastrolists

Introduction

The government of Kenya recognizes that diseases, disability and ill-health are a major impediments to national development and poverty eradication. Consequently thorough the Kenya National school health policy of 2018 and the comprehensive school health framework, 2018 the Government is committed to the promotion of quality health care for children, who make 50% of the total population, many of whom suffer varying but significant degree of ill health, nutritional deficiencies and morbidity. These health concerns affect learning and realization of full production potential, (G.O.K, 2018). Schools are ideal settings to implement health Programs because they offer substantial opportunities to promote health. Schools also provide an efficient and effective channels to reach a large proportion of the population, they also provide interventions in a variety of ways, such as learning, experiences, linkages to services and a supportive environment. Children enroll in schools at early stages of their development when lifelong behaviors, values, skills and attitudes are being formed and when positive values and

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attitudes are instilled at the early stages of growth and development, there is enhanced cognitive development ,leading to good health outcomes, as children develop healthy behaviors early in life, therefore becoming a behavior

The school integrated medical outreach is an approach that focuses on the service delivery at the community level, rather than the convectional approach where sick citizens have to travel to static health facilities. The World Health organization has outlined three types of integration in its Technical brief no.1 of May 2008, as integration at the point of care with a holistic approach to the patient, systemic integration takes an upstream and ongoing support throughout the health system ,it includes policy, strategy and financing and relates to the degree to which an intervention is incorporated into needs assessment for health system support, basic packages of services ,health worker training.



Figure 1-School Health governance structure (Source-The Kenya School Health Policy,2018)

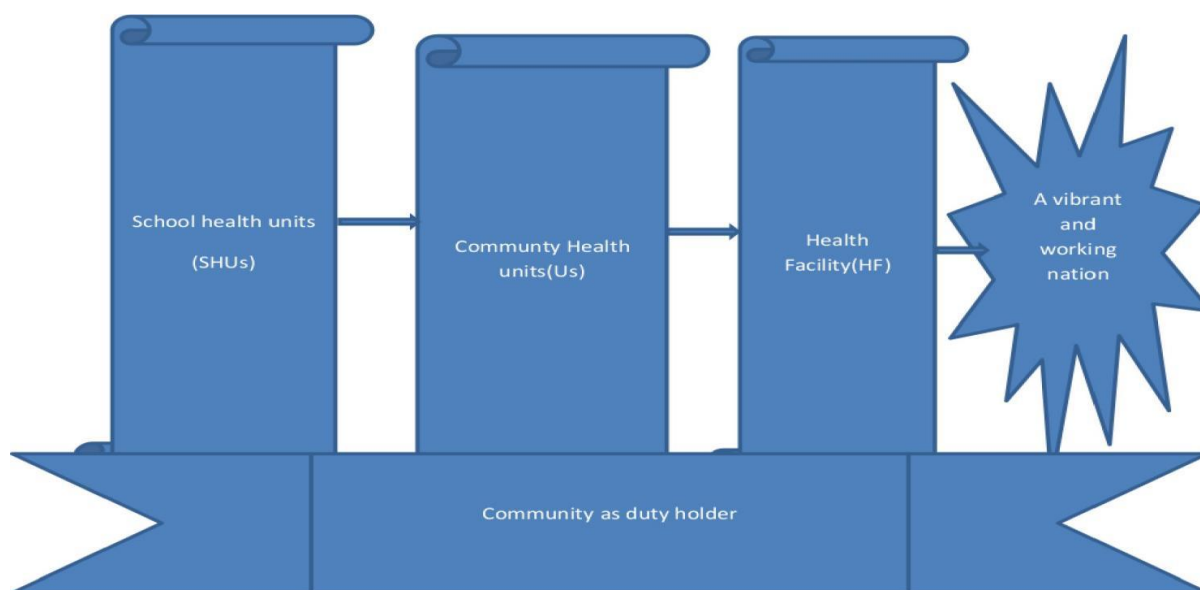


Figure 2 - Partners and stakeholders supporting health interventions in Turkana County

School Integrated medical outreach linkage framework highlights the Multi-sectoral coordination among various stakeholders in service delivery, effective integration depends on the existence of clear technical guidance for each of the interventions to be integrated. The importance of strengthening the focus on access to basic health care service to children through linkages is that, diagnosis, treatment of diseases early in life and referral of cases have a positive impact on the quality of life, as children will not miss class hours when services are brought to school.

Table 1- Showing population by location

Sub-County	Area (kwi²)	Population	No. Wards	No. of sub-locations
Kibish	1.0,400.1	30,70q	2	14
Loima	q,1.1.3.3	1.07,7q5	4	32
Turkana Central	",41.5.2	1.85,305	5	25
Turkana South	1.1.,3q5."	1.38,52"	3	25
Turkana East	7,01.2.2	"5,21.8	4	27

North

Turkana 7,051..5 1.53,73" 5 :1.7

Turkana West 1.7, 778.q 23q,027 7 20

Sub locations are the lowest service delivery points where a sub chief is the leader and village administrators, village elders and leaders from various village committees engage and deliberate on various issues affecting the community, they are key entry points to the community and community mobilizers.

Table 2 - Schools enrolment by sub county 2023

NO.	Sub county	ECDS	Pr m.	Sec.	Boys	Girls
1	Lokichoggio	13	15	2	2978	1478
2	Arno	23	10	5	1899	1423
3	Sukuta	9	7	5	1542	754
4	Loima	42	38	7	1553	876
5	T.central	102	98	14	10522	8,815
6	T.South	87	103	8	10,865	9006
7	T.West	87	35	7	3,766	1,231
8	T.East	35	32	5	2,988	1,075
9	T.North	12	65	8	1,960	1,432
		410	405	61	34,683	25,214
Grand Total					34,683+25,214=	59,879

Aspects of School Integrated medical outreaches (SI MO)

Schools integrated medical outreach is a strategic approach, towards early detection of disease, prevention and promotion of health, early in life and due to the pastoralist livelihood and nomadic lifestyle of 70% of the population in Turkana, integration in service delivery is the way to target children in early developmental stages and service delivery is done using the existing community systems through networking and collaboration with other stakeholders operating in a particular area to Identify schools as focal service delivery units as outlined in the Universal health coverage and primary health care approaches that put communities at the centre stage of service delivery systems(School Health Units-SH Us)

Link community health units staff visit schools to engage School health club members through schools dialogue days (SADs) to discuss with school children on health needs of the school and to come up with a coordinated joint work plan ,children should be engaged as change agents rather that service receivers,this ensures ownership of the activities for effective implementation .The link community unit

further engages link health facility staff for planning,organizing and conducting school integrated medical outreaches in link schools as per the plan during the school dialogue

School attendance varies due to the nomadic migration since the nomadic pastoralists move with families and livestock to mountain ranges located in international borders with Uganda,Southern Sudan and Ethiopia ,these mountain ranges serve as water and pasture reservoirs.

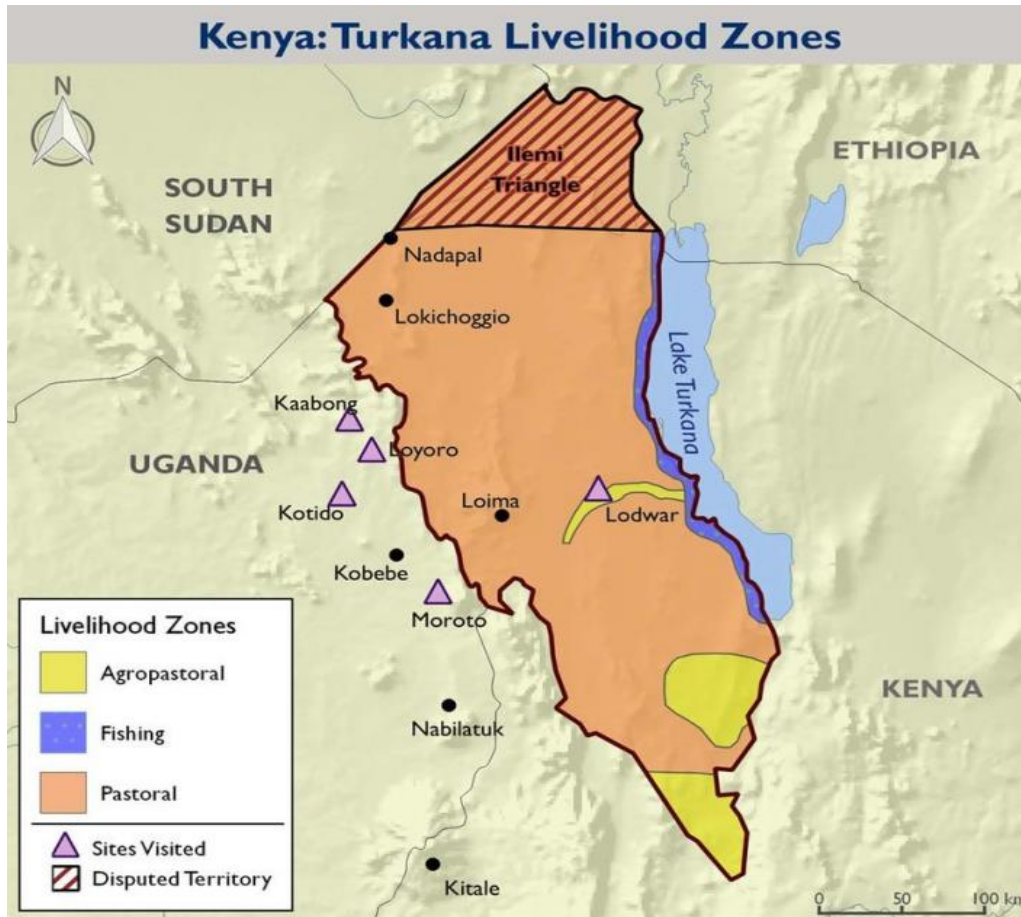


Figure 3 - Map of Turkana County showing livelihood zones

Mapping of livelihood zones is key to service delivery as it helps planners and service delivery agents to plan for appropriate strategies for each segment of the population. The pastoralist populations are reached in watering points as they are the main congregation points for families and their livestock, this is where Kimormorr strategy is applicable, where service providers take a multi-sectoral approach to take all key services such as registration of persons, Veterinary services, human health, health education and food distribution to the people, schools are also sited in relation to watering points and when pastoralists move to pasture lands during drought, women, children and the old are left in a settlement near schools and a watering point, this is what informed the School integrated medical outreaches and linkage of schools to the nearest health facilities, since some schools are more than a kilometre from the static health facility and due to the security and vulnerability of children to various forms of violence.

School integrated medical outreaches organized by link health facilities in the #TakingHospitalsToSchools/challenge# is aimed at reducing exposure to child abuse when children are released from schools for parents to take them to hospitals for medical attention,most parents end up giving children house hold chores and some of them given items to hawk,this encourages school dropout.

Table 3 - Showing approaches that are appropriate to the nomadic populations

Approach	Strategy model	Supporting Partner
Nga'dakarin Bamocha Project	Integrated health and social development program,contributing to improved health and quality of life for disadvantaged nomadic pastrolists communities in Kenya through promoting the delivery of innovative ,comprehensive and cost- effective health and social development systems	Amref Health Africa(UK)
Kimormor-Turkana <i>word meaning 'all together'</i>	Providing one-stop health shop for Kenyan pastrolists and their herds	AFYATIMIZA
One Health Approach	Recognizes the connection between the health of the people ,animals and environment .It is a collaborative ,multi- sectoral and trans-disciplinary approach working at the local ,regional ,national and global level -with the goal of achieving optical health outcomes .recognizing the the interconnection between people ,animals,plants and environment	CDC
School Integrated medical Outreaches	Recognizes schools as congregation areas,linking schools to catchment community units and health facility for health care staff to plan,organize and conduct school integrated medical outreaches in link schools,within 0-10 kilometers from the link health facility	Amref Health Africa- lmarisha Project,USAI D- NAWIRI,Concer n worldwide,Peace wind Japan,Save the

		Children,World vision,Sight saves
Community-Led Sanitation (CLTS)	Takes an approach to rural sanitation that works without hardware subsidies and that facilitates communities to recognize the problem of open defecation and take collective action to clean up and become "open defecation free"	National Government ,county government,supporting g partners

Integrated approaches targeting the nomadic pastoralists,these approaches were adapted ,BAMOCHA in 2007 and Kimormorr in 2016, when service delivery providers realized that ,since independence in 1963,Government policies ignored the pastoralist nomadic communities,forgetting that 80% of land mass in Kenya is occupied by the nomadic pastoralists,whose main priority is the their livestock.This caused marginalization of the nomadic pastoralists as the areas were mapped as North Frontier Districts(N FDs) during collonial era,and during self rule in 1963,the areas were tagged as hard to reach areas,this profiling impacted negatively on service delivery ,as most service delivery points were in urban centres,leaving behind 70% of the population whose livelihood depends on livestock rearing and nomadic movement as a coping mechanism .This also affected the literacy level of the residents of Turkana people as there were no schools for the nomadic population.

Materials and Methods

In order to achieve the required results in integrated outreaches,assessment of community needs is key,in terms of what areas have low access to services and what type of services should be made available through the integrated medical outreach.Individual and group discussions helped facilitators to highlight barriers or to providing services to be addressed prior to implementation and what resources are available within the communities to support outreaches ,some communities may require outreach services to include basic emergency services,integrating and packaging family planning services with other related health services ,such as HIV testing ,sexual reproductive health services ,child health and immunization can help generate demand for health care services.

Link heath facility and community unit staff, mapped and zoned areas,such as schools,churches,market centres ,watering points and traditional functions such as weddings for them to plan,organize and conduct Integrated medical outreaches as per the,guidelines and also to plan and mobilize for required

resources, engagement of community through laid down protocols and approaches was key to ensure communities own the process.

Mapping and zoning of schools to link them to 20 kilometre radius from the link Community unit and health facility and Conducting needs assessment of schools to find out existing health interventions and the status of schools on attainment of minimum health standards for a conducive learning environment, using mixed method, of questionnaires, observation checklist, focus group discussions, Key informants interviews whereby link community unit staff were used as data collectors.

The link community unit staff conducted school dialogue(SDDs) and Schools action days to engage students and staff on various issues affecting their schools and to come with local solutions and to plan for SIMOs, the link health facility provided Nurses, clinical officers, for diagnosis and treatment, Public Health officers for health education and mentorship and lab technologists to conduct rapid malaria tests, during the school integrated medical outreaches.

Schools integrated medical outreaches teams visited schools in the afternoon, this is in line with ministry of education guidelines, that no activity should affect learning and any activity is allocated the extra-curricula hours of between 3pm to 4.30pm, the teams adhered to this guideline.

Results

From the time School Integrated medical outreaches was piloted in 2019 to 2023, Link community units and health facility staff in collaboration with supporting partners, County Government and National Government conducted School integrated medical outreaches in 45 out of 678 schools a cross the county, this translates to a paltry 7% of outreaches conducted in in five years, this could be attributed to strident programme areas which are heavily biased towards nutrition, WASH, hygiene and sanitation and health education .The school integrated medical outreaches teams managed to reach 8706 pupils, treating 5512, further referring 200 pupils for further attention and from the 200 pupils referred, 25 were initiated to care and treatment, this was an a major achievement of the #TakingHospitalsToSchools/challenge# through School integrated medical outreaches. Another school outreach in 2022, done in schools in Turkana county by Kenya Medical Research Institute(KEMRI) conducted survey to determine the prevalence of Tungiasis in eleven counties visiting eleven schools in each county. Turkana was selected in hot dry a climatic zones, a total of 1254 pupils between the age of 8 to 14 years were surveyed for feet inspection to determine the presence of jiggers in their feet..The finding ,from the survey conducted by Elson Lynne, et a/1, 2023 revealed a low prevalence of jigger infestation in Turkana county, this was attributed to the dry weather conditions prevalent in Turkana county and from the assessment of health interventions conducted in 55 schools in three sub of Turkana

south,Loima and Kibish sub counties in 2018,despite WASH being a key health intervention areas in schools,latrine coverage in 80% of schools was poor,with most schools having 1;200 toilet ratio for boys and 1;75 ration for girls and teachers having no toilet,due to this factors,open defecation is rampant in most of the schools visited.

The team assessed classrooms,dormitories and dinning kitchens and dinning halls,it was revealed that congestion is rampant in most schools and in most schools a standard classroom of 25 feet by 30 feet was holding 70 to 90 students,this is against the Public Health Act cap 242,laws of Kenya where a standard classroom should hold 45 students and 45 desks plus one teacher and his desk.The situation is a key factor in the spread of Tuberculosis ,contact diseases and other airborne diseases.The dormitories are the worst in terms of congestion and overcrowding,double Decker beds worsen the situation as beds are packed closer,with mettle boxes blocking emergency exit spaces between the beds,this situation impedes escape in case of an emergency ,making dormitories disaster zones .During Focus Group Discussions (FGDs) with students a cross the schools visited,students attributed open defecation to the fact that toilets are few,dirty with flies hovering around with pungent smells emanating from the toilets.Another factor that came out from FGDs with students is that the toilets are almost collapsing with gaping holes discourage pupils from using the toilets for fear of falling into the pit.Another key finding is that most schools have school clubs in place,we also confirmed this from the the headteachers offices where the school health club members list is pasted on the walls,but the clubs are not active and from the interview with the School health patrons,school health club members and the head teachers,this was attributed to tight academic time table and non commitment from school health club patrons as they concentrate on their lesson plan .Supporting partners provided staff with fuel and daily substances allowances and the county government and National government provided staff pharmaceuticals and other medical supplies and equipment.

Table 3 - Data from school integrated medial outreaches planned, organized and conducted by link health facilities

No.	Type of school	NO.	Attendance	Treated	Referred
1	ECDs	10	1342	544	18
2	Primary	20	5598	3734	156
3	Secondary	15	1766	1234	26
	Total	45	8706	5,512	200



Figure 4 -School integrated medical outreach Advocacy ,mentors hip and communication team from Lokichar Sub-county Referral hospital at a youth conference during schools holiday



Figure 5 -Diagnosis and clinical School integrated medical outreach from Nadapal Dispensary at David Lee secondary school



Figure 6 - A girl receiving HPV vaccine in a mobile integrated outreach targeting migratory nomads

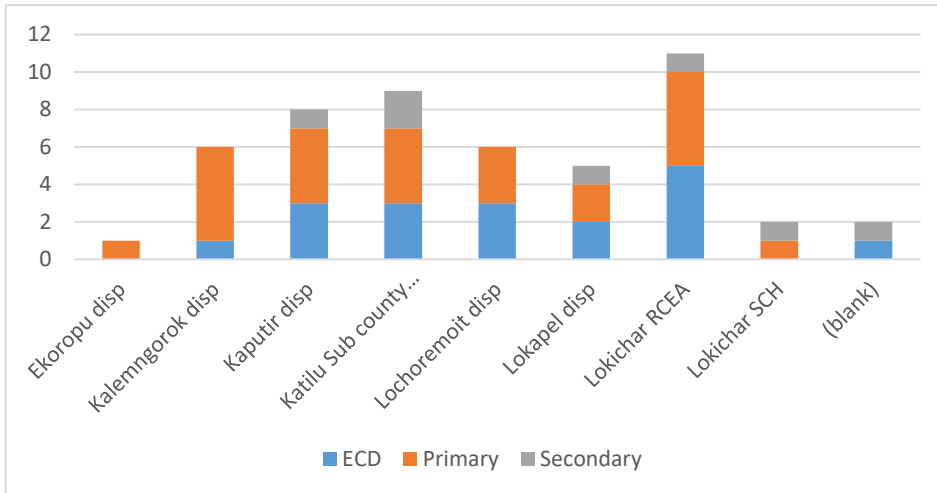


Figure 7 - Linkage of schools to health facilities in Turkana South sub county

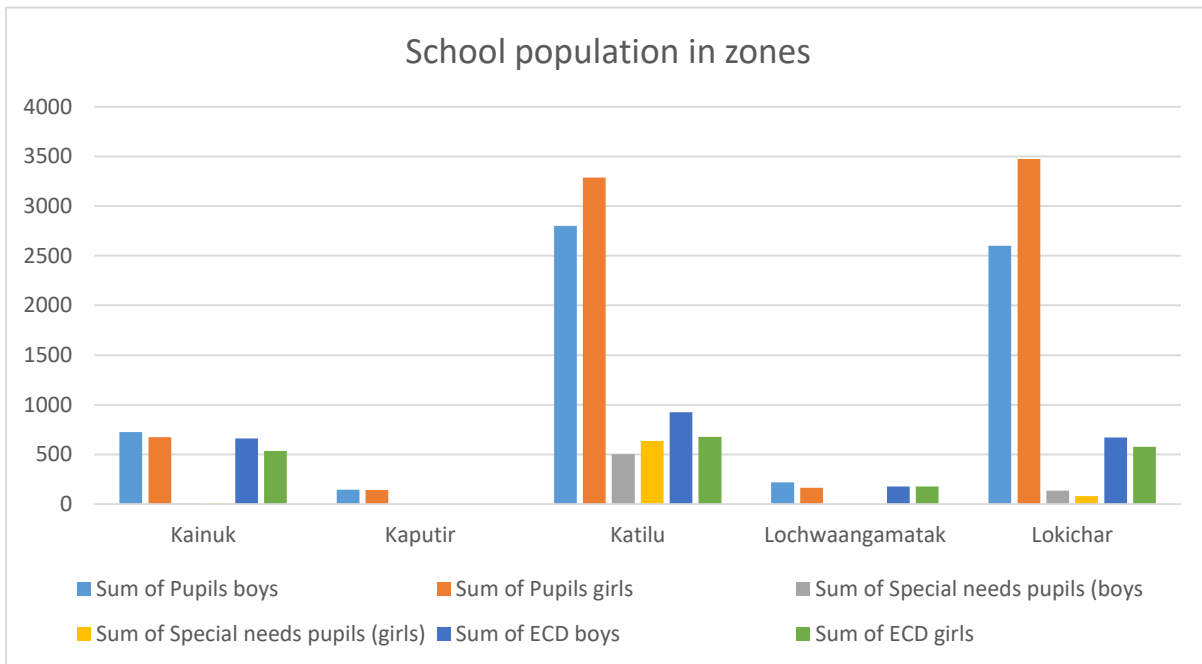


Figure 8 - Schools enrolment in zones in Turkana

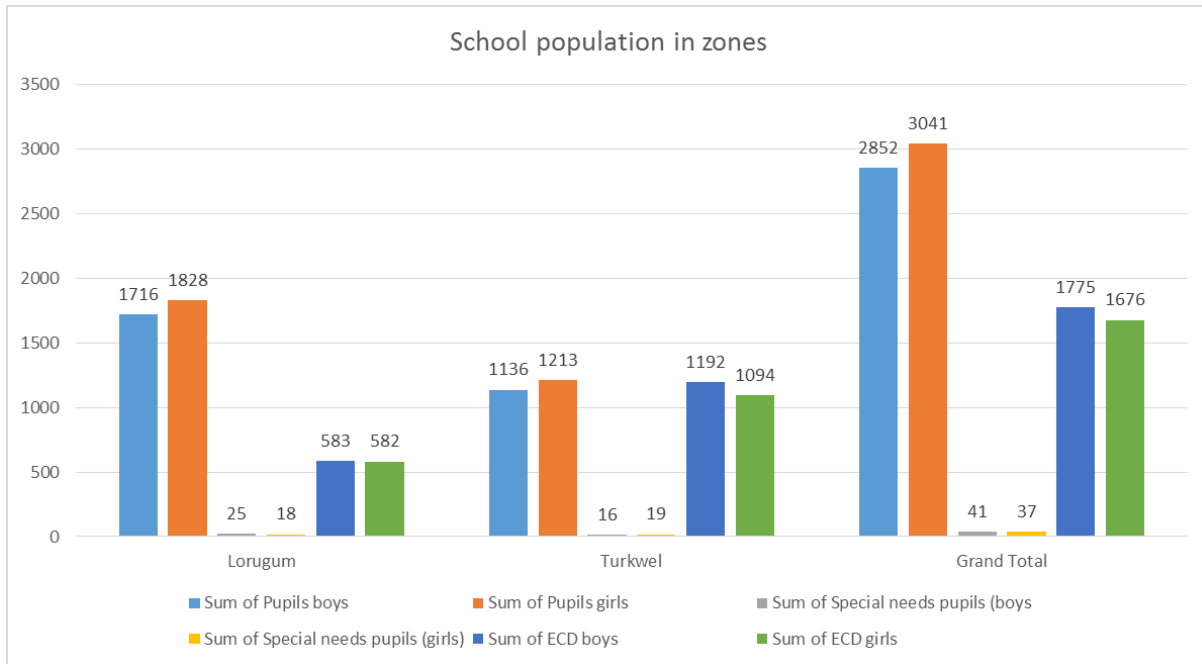


Figure 9 - Enrolment in by zone in Loima sub county

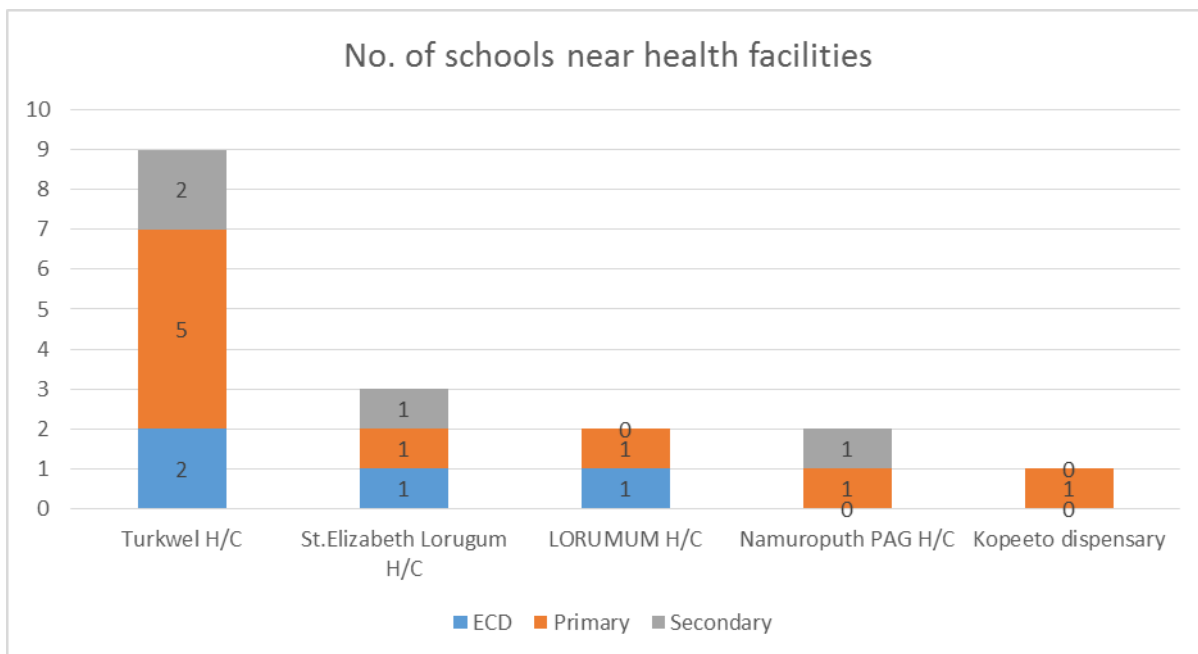


Figure 10 - Showing schools linked to health facilities in Loima sub county

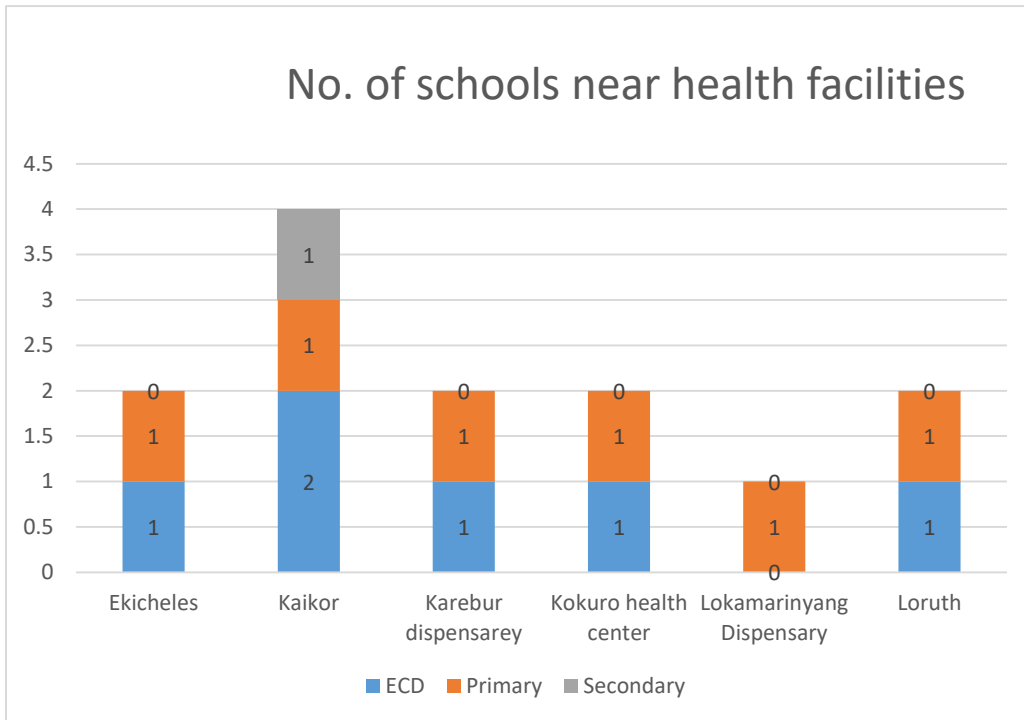


Figure 11 - Schools linked to health facilities in Kibish sub

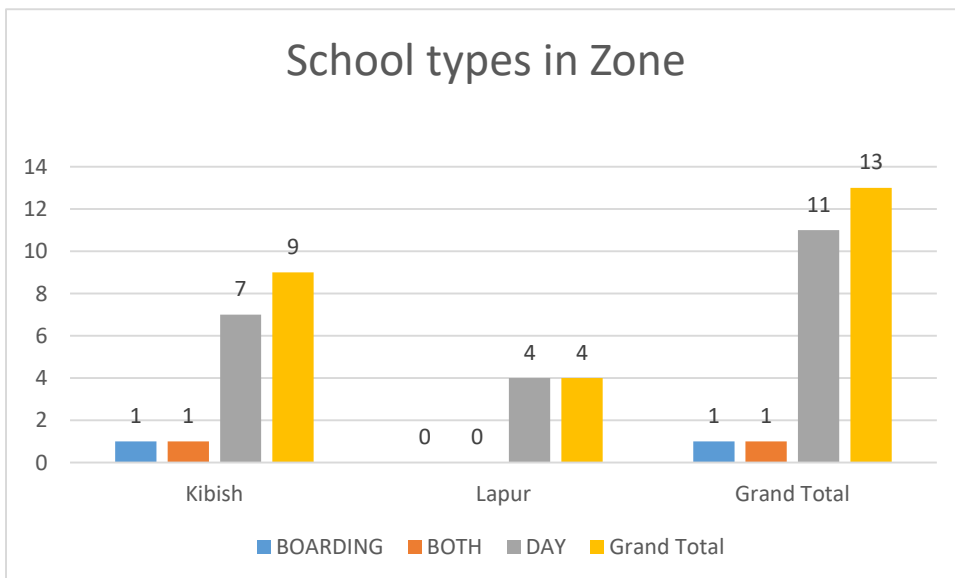


Figure 12 - schools by zone in Kibish Sub county

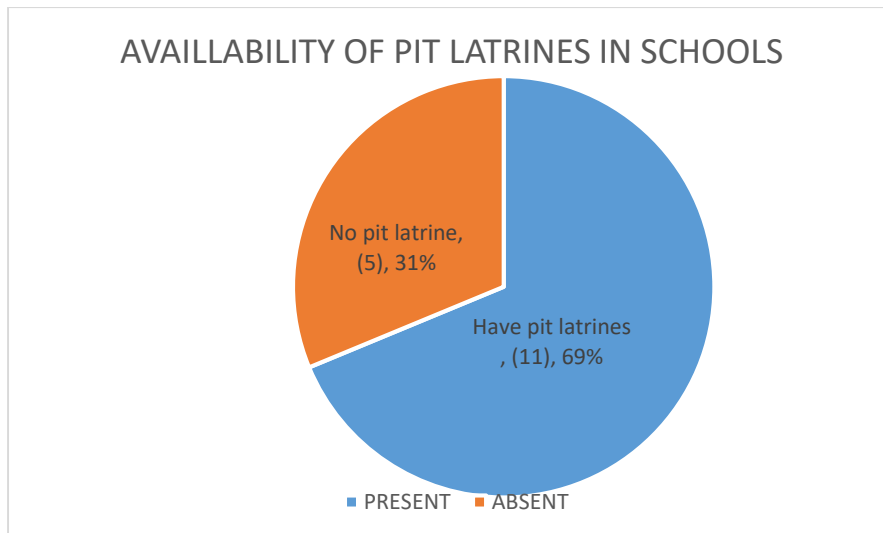


Figure 13 - Showing toilet availability is schools in Kibish sub county

Pie chart is showing toilet availability is schools in Kibish sub county, from the findings five schools out of the sixteen schools visited in Kibish sub county have no toilets, this implies that children and teachers defecate in the bush and since this is a security zone, children and teachers risk their lives when they go to the bush to defecate and for the eleven school with toilets, the toilets are in poor state of maintenance and the paths leading to the toilets are bushy taking into account the area is a snake prone zone, our observation revealed that the toilets are rarely used and faeces were observed around the toilet areas.

Focus group discussions with pupils and teachers from the eleven schools with pit latrines revealed that children and teachers fear going to the toilets, due to insecurity, as toilets are located at the extreme end of the school compound, the bushy environment around the toilets also contribute to non utilization of the few available toilets.

Discussion

From the from the launch of the pilot school Integrated medical outreaches in 2019 and after an assessment of health interventions in selected schools in three sub counties in Turkana county, revealed that most health interventions in schools are biased towards WASH, health education and health promotion yet no tangible impact on the health outcomes of school children and ignoring diagnosis, treatment and Referral that may detect diseases and conditions early in life treat and refer to the next level, the #TakingHospitalstoschoolschallenge# through school integrated medical outreaches is an approach worthy to try.

In line with the approaches of primary health care and universal health coverage, to provide better health care services to all, making it an integral part of a country's health system the central function of the community's overall social and economic development, with the aim of achieving the highest possible level of health and well being, ensuring access and equitable distribution and a sustainable healthy lifestyle, without financial burden to citizens, schools integrated medical outreaches (SIMOs) is an approach worthy trying.

The approach through a strategy dubbed #TakingHospitalstoSchoolsChallenge# will ensure link health facility staff will plan, organize and conduct Schools Integrated Medical outreaches in link schools, this will further improve positive health outcomes, and will ensure conditions will be identified, treated and be referred early in life, before progressing further to complicated life threatening disease.

The peer and mentorship team of young peer educators, engaged adolescents girls, with an objective of understanding the challenges they face and from the focus group discussions it came out clear that girls who had dropped from school after a teenage pregnancy and due to the back to school strategy to bring children who drop out of school due various reasons, girls who dropped out due to a pregnancy tend to perform well than girls who did not drop out, this was attributed to the fact that they have experienced the difficulties of life without education. This was corroborated by the interviews administered to head teachers, school health patrons and schools matrons and a visit to Kapese secondary school in Turkana south, which was started to offer girls and boys another chance of completing secondary education, after dropping out of primary school, and who were brought back to complete their primary education through the back-to school program initiated by the ministry of Education. The first batch of girls who were initiated to this program in 2014, performed well in their 2018, form four examination, 7 out of the 15 girls who sat their examination at Kapese secondary school attained mark that enabled them to join universities, the school has continued to scale the heights of Education and giving hope to adolescent girls and boys whose lives could have been shattered stigma of teenage pregnancy, drug and substance abuse or gender based violence.

Table 3 - Document Review

Policy document	Vision	School Environment	Cooment
The Menstrual Hygiene Management Policy 2019-2030	To ensure that all women and girls in Kenya can manage menstruation hygienically, freely, with dignity without stigma or taboos and with access to; menstrual hygiene	➤ Address gaps in knowledge about menstruation	Menstrual hygiene has been perceived as a women's affair

	products ,services and facilities and to safely dispose off menstrual waste		
Menstrual Hygiene Management Strategy 2019-2024	The vision of the strategy is to ensure that women and girls have access to improved Menstrual Hygiene ,where safe hygienic behaviour during menstruation is the norm,and where comprehensive menstrual waste management is widely practiced ,leading to improved well-being and full realization of life	➤ To establish an enabling a legal and regulatory environment fro MHM at National and county government	Access to quality and dignified MHM products is a pipeline dream for 70% of women in low-income-countries
The Constitution of Kenya 2010	Chapter 6 on human rights	Addresses gender issues in governance	workers,NGOs ,partners and stakeholders offering services to communities
The Public Health Act cap 242 Laws of Kenya	Law to guide the health of the general public against Nuisances	➤ Outlines minimum health standards for buildings and lived environment	Government of Kenya The act is perceived as a punishment and punitive
Turkana County Government - County Health Sector Strategic Plan 2018-2022	To provide overall strategic direction for implementation of service delivery and administrative interventions aimed at achieving the vision of Turkana County Health sector	➤ The strategy also provides for alignment of the interventions to the overall vision of the county government as articulated in the county Intergrated Development Plan for 2018-2022 and the Kenya National Health Sector Policy and priorities in the draft Kenya	Turkana County Government Preference of politicians to concentrate on building structures,in the name of health facility Low implementation Low funding

		National Health Sector Strategy	
Turkana County ,Kenya-final report-Multi-indicators Cluster survey 2013-2014- KNBS,Nairobi University- unicef	Indicator survey to inform planning	➤ There are indicators targeting families at household and community	Low implementation after document launch
The Kenya Health Referral Systems;National Orientation package for health providers;facilitators manual,2013	Referral System to guide in referral sy	➤ No definition of MHM(Menstrual Health Management) in definition	Ignorance of Endometriosis as a condition that may require Referral
Training health care workers in the management of health care in Kenya;Trainer 's Guide-Draft version 2,April 2012		➤ Menstrual waste has not been captured,as a type of waste and categorized appropriate	Lack of medical waste systems Low training of health care staff on how to manage health care waste
Integrated Disease Surveillance and response;Technical Guidelines;201	Technical Guidelines in response to changes in health,social,economic ,environmental and technical factors in the last decade		Low support for surveillance systems Bias grading of diseases,as top 10 in terms of prevalence

2-GOK.			
The Environmental Management and Co-ordination Act(No.8 of 1999);Environmental Management and Co-ordination (Waste Management) Regulations ,2006	Sets regulations to control management of various wastes	<ul style="list-style-type: none"> ➤ Outlines segregation of wastes ➤ Outlines guidelines on waste management from production,storage,transportation and final disposal 	
Community Based Maternal and Newborn Care;A training course for community health workers Community Health Worker Manual.G.O.K	A document to empower community health workers ,to conduct home visits to all women/families	Outlines basic modules fro community health workers	<p>GOK</p> <p>Low remuneration of Community health workers,as volunteers</p> <p>Political interference on selection of community health volunteers</p>
The UNICEF Child friendly Schools model in Kenya and Uganda ;An Assessment of the Success and challenges of the model	<p>Outlines the rights of children to quality education and a conducive environment for learning</p> <p>Puts guidelines on what a child friendly schools is,in terms of safety,needs od children</p>	Provides a framework for the planning ,monitoring and implementation of the effectiveness of strategies used to increase access to basic ,quality education	Most schools do not conform to the child friendly school as outlined in model
Convention on the Rights of the Child-UNICEF	The convention on the rights of the child explains who children are ,all their rights and the responsibilities of governments,.All the rights ,are connected ,they are all	It is an important agreement by countries who have promised to protect child rights	Child right abuses are still rampant in the society

	equally important and they cannot be taken away		
Kimormor startegy	A holistic approach covering health and social development under one roof.	It aims to improve the health of mothers ,children and adolescents of Turkana county	The School integrated medical outreaches(SIMOS) targets schools
One Health Strategy	A holistic approach for the pastrolist communities	It aims to improve human health and animal health	The approach is using the livelihood of the pastrolist to reach them
Turkana County Annual work plan 2023-2024	Outlines yearly activities	It aims to generate work plans for the standing year	Health workers involved in making the AWP

Recommendations

School integrated medical outreaches {SIMOs},is an approach that when adapted and supported by stakeholders,partners and policy makers will ease the burden of disease among population ,as it targets children at early developmental and cognitive stages where adapting health behaviour like hand washing and health seeking behaviour is much easier than during adulthood,children are also good change agents among community members,since when they pick a message during school medical integrated medical.outreaches,they can pass that information to the community

Working a cross sector. Support the health and well being of children through multi-sectoral collaboration to develop strategies to address issues of multisectorality ,policy and governance ,finances and monitoring and evaluation of approaches that implement programs geared towards addressing access,quality and holistic service delivery at the lowest community level.

Acknowledgments

The County Government of Turkana,the National Government,USAID-NAWIRI, AMREF health Africa,UNICEF,Link Community health units staff,link health facility staff and all schools that allowed teams to conduct Needs assessments in their schools.School integrated medical outreaches and surveys

that helped in formulating strategies and approaches than can ease access to basic health care services to communities who live far away from the static health care facilities.

Declaration of Interest Statement

This paper is my original work in my duties as a public health officer, whose mandate is to initiate programs that promote health and prevent common communicable diseases through appropriate, acceptable and affordable strategies as outlined in the Primary health care approaches and Universal Health coverage strategies that put communities at the centre stage of service delivery systems, to provide quality basic health care services at minimal cost and delay

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