

# **DISRUPTING PATTERNS OF EDUCATIONAL INEQUALITY AND DISADVANTAGE IN MALAWI**

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## **Abstract**

This paper is concerned with the gap in educational provision for vulnerable learners in Malawi who are at-risk of falling behind and dropping out of school due to irregular attendance. It draws on a study in high HIV-prevalence areas that explores the patterns of inequality and disadvantage that disrupt learning and uses this knowledge to design a school-based intervention to complement conventional schooling with more open and flexible delivery of the curriculum and increased school and community support. The intervention was implemented over one school year and evaluated using a randomised controlled design. The findings show that the intervention reduced drop-out overall by 42% in intervention compared to non-intervention group. These findings suggest that there is a role for more open and flexible models of schooling and support in reducing educational inequalities. However, transforming established practice would require an integrated strategy supported by national policies that recognise the need for schools to change.

**Key words:** educational inequality, Malawi, circles of support, open and flexible learning.

## **INTRODUCTION**

The 2011 Global Monitoring Report confirmed that many countries in sub-Saharan Africa (SSA) are not on track to reach Universal Primary Education by 2015. It called on governments to address problems of retention and progression by improving educational quality and providing ‘additional support and learning opportunities for the poorest and most vulnerable learners’ (UNESCO, 2011, p.97). Many of these learners live in high HIV-prevalence areas and attend school irregularly because they have to help their families.

The need for schools to do more to reach out to these children was highlighted by an earlier study in Mozambique and South Africa by Pridmore and Yates (2005). The study showed that most schools in high HIV-prevalence areas were still trying to carry on business as usual and were struggling to meet the educational and emotional needs of children present in the classroom, let alone those who were absent. The researchers called for more open and flexible delivery of the curriculum to enable pupils to carry on learning when not able to attend school. This call resonates with advocacy for greater equity and inclusiveness in education systems to achieve the Education for all targets (UNESCO, 2008; UNESCO, 2010).

The need to move away from the ‘one-size fits all’ model of conventional schooling and find ways to deliver the national curriculum more flexibly has been recognised by the Ministry of Education (MOE) in some high HIV-prevalence countries:

As deaths from HIV and AIDS cause the number of orphaned children to increase drastically, action must be taken to protect their right to schooling and education. It will, therefore be necessary to create alternative pathways to learning that meet needs and requirements of these children. (Government of Malawi, 2005, p.5)

Despite such recognition at national level, there has been little uptake of open, distance and flexible learning strategies for basic education and there have been calls for better integration and linkage of these strategies into school-based systems (Nielsen, 199, Perraton, 2000; Yates, 2000). Studies have identified the need for schools to change policies that exclude the poorest children (Pridmore and Yates, 2005) and to provide targeted support to orphans and other HIV-affected children (Bennell, 2005). Some authors have suggested that schools could become more inclusive by learning from the experiences of non-formal education (Hepburn, 2001; Kadzamira et al., 2001; Robson and Sylvester, 2007).

This paper contributes to the current debate on problems of retention and progression by addressing the gap in educational provision for vulnerable learners in Malawi who are at-risk of falling behind and dropping out of school due to irregular attendance. It aims to develop a situated understanding of the patterns of educational inequality and disadvantage in high HIV-prevalence, rural areas and to identify ways that schools and their communities can work together to disrupt these patterns. To achieve this aim the paper draws on the findings from a study in Malawi conducted between 2007 and 2010 under the auspices of a larger research project known as SOFIE (Strengthening Open and Flexible Learning to Increase Educational Access) which also carried out a similar study in Lesotho.

## **METHOD**

The study was conducted in 4 stages:

1. Structured literature reviews were carried out to identify factors that can disrupt schooling for vulnerable children living in high HIV-prevalence areas of SSA and interventions to increase their access to education and learning.
2. Qualitative case-studies were developed to learn more about these issues in Malawi.
3. The knowledge gained was used to design a school-based intervention which was amended and further contextualised in response to critical comment from the head teachers and teachers in the case study schools, the school management committee (SMC), Ministry of Education (MOE), donor agencies and academics.
4. The intervention was implemented in primary schools over one school year (January to November 2009) and evaluated in a randomised controlled trial. Intervention was made through primary schools because 70% of children registering in Standard 1 dropped out before completing the full cycle to Standard 8. (GOM, 2006).

Sampling was carried out in 4 stages:

1. *Selection of study sites:* Two study sites were selected in Malawi with high HIV-prevalence rates, high pupil drop-out and grade-repetition rates and low levels of donor intervention; these sites were Phalombe District and Mzimba South District. In Mzimba South, which is larger than Phalombe the sampling frame was restricted to one Traditional Authority, M'mbwela.
2. *Selection of study schools and randomisation into intervention and control groups:* In each study site, all primary schools were ranked in quintiles according to school performance using the Primary School Leaving Certificate scores. Two matched pairs of schools from each quintile were then randomly assigned to the intervention or control group to give 20 schools in each group. (Sample size calculations indicated that 40 schools would be sufficient to detect a reduction in dropout from 20% to 9% in 15 'at-risk' children in each school with 80% power, assuming an intra-class correlation coefficient of 0.05).
3. *Selection of the four intervention schools for the case studies to identify factors disrupting schooling:* Two schools, one rural and one semi-rural, were purposively selected from the intervention group in each of the two study sites. The two schools in Phalombe were larger than those in Mzimba (with total enrolments of 1 162 and 2222 compared to 500 and 915). Each school had a local community based organisation (CBO) willing to facilitate community data collection. Within each school, purposive non-random sampling was used to select pupils in Standards 5 to 8 who were at-risk of grade-repetition or school drop-out due to poor attendance or attainment and these pupils were invited to attend a half-day workshop. Purposive non-random sampling was also used to select young people who had dropped-out in recent years to attend a separate workshop. Young people from HIV-affected households were sampled as a sub-group of a wider sample of orphans and other vulnerable young people.
4. *Selection of pupils within the 20 intervention schools:* Following discussions with the MOE the Standard 6 class in each of the 20 intervention schools was selected for implementing the intervention. In each class a sub-group of pupils were identified by the class teacher and school management committee (SMC) who were considered to be at-risk of grade repetition or school drop-out due to poor attendance and attainment. These pupils were placed on the class teacher's at-risk register and recruited onto the intervention programme. An equivalent sub-group of at-risk pupils from control schools was not identified and tracked because of the lack of any accrued benefits. Sampling of this sub-group was therefore done retrospectively using propensity score matching based on pupil characteristics available from the pupil database (Luellen, et al, 2005)

## **Data collection and analysis**

### *For the case studies*

Qualitative data were collected in 2008 from the four case-study schools to develop a situated understanding of the the factors disrupting schooling and patterns of educational inequality and disadvantage. As shown in Table 1, data were collected during separate workshops for in-school pupils and out-of-school youth and follow-on interviews, semi-structured interviews (SSIs) with teachers, guardians, and key informants and focus group discussions

(FGDs) with members of the school management committee (SMC) and the parent teacher association (PTA).

In the workshops pupils participated in single sex groups to draw problem trees to identify the causes and consequences of school absenteeism and pair-wise ranking of these causes by gender, household diagrams to show the household composition and ages and schooling of other children. Pupils also made individual ‘River of Life’ drawings to show major events in their lives that affected their schooling. The age range of young people participating in these workshops was 14- 17 years for the in-school pupils and 15 to 24 years for the out-of-school youth. Twenty four workshop participants (14 in-school and 11 out-of-school) were then followed-up for in-depth interviews of whom 13 were female, 9 were single orphans and 15 double orphans, 14 were in schools and 1- out-of school and 5 were living in sibling-headed households.

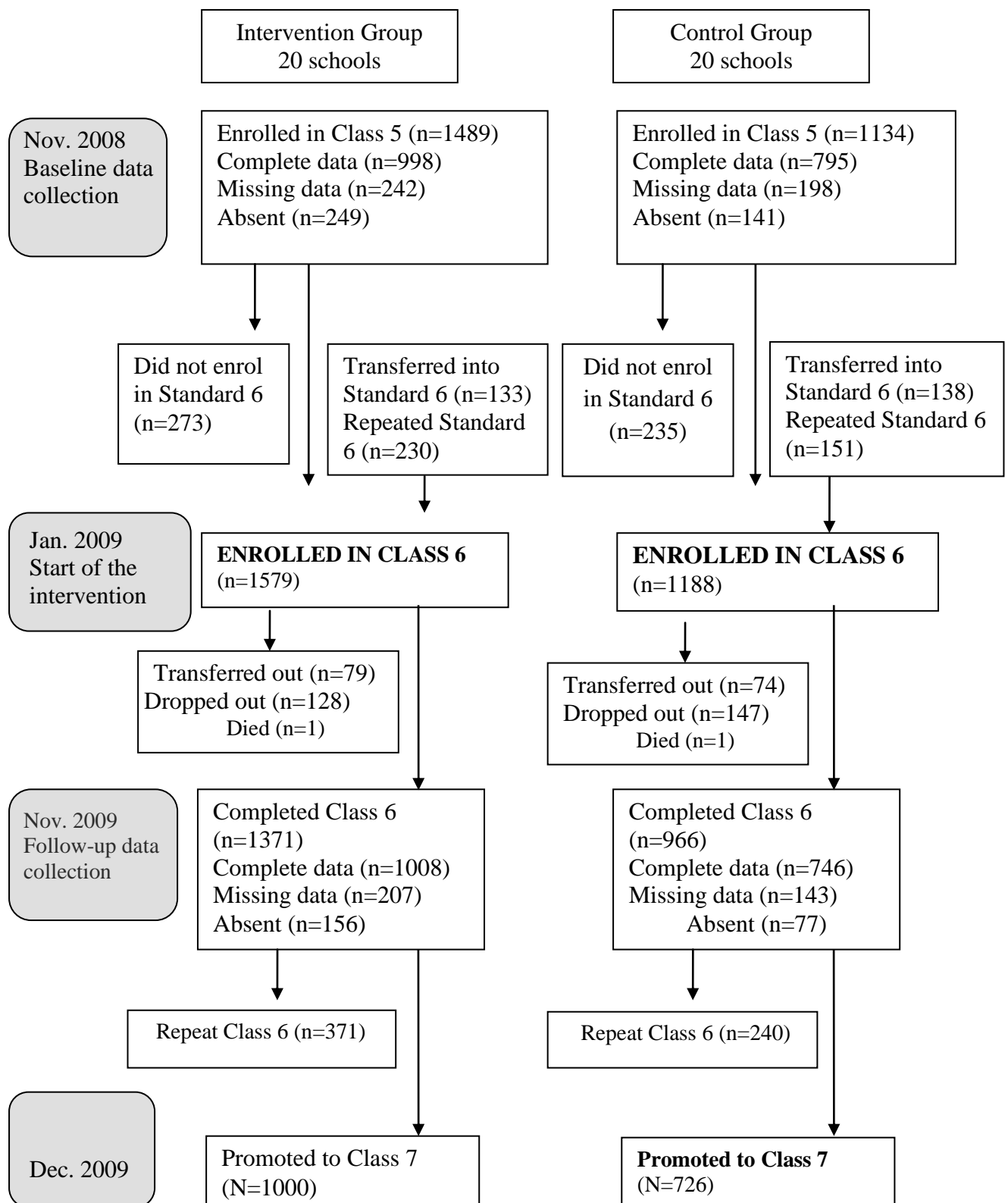
Table 1 Data collection to inform case studies

	Phalombe 1	Phalombe 2	Mzimba 1	Mzimba 2	Total
Workshop activities with - out-of-school youth - in-school pupils	8 (2M/6F) 6 (2M/6F)	6 (6M/3F) 5 (5M/7F)	8 (8M/4F) 12 (6M/6F)	5(5M/5F) 12 (6M/6F)	39 (21M/18F) 48 (23M/25F)
Follow-on interviews	6 (3M/3F)	6 (2M/4F)	6 (4M/2F)	6 (2M/4F)	24 (11M/13F)
SSIs with teachers	7 (6M/1F)	7 (5M/2F)	4 (3M/1F)	7 (2M/5F)	25 (16M/9F)
SSIs with guardians	2 (2M/2F)	6 (4M/2F)	7 (1M/6F)	7 (3M/4F)	24 (10M/14F)
SSI with key informants (school and village heads, PEAs)	7 (5M/2F)	7 (5M/2F)	6 (5M/1F)	6 (6M/0F)	26(21M/5F)
FGDs with SMC and PTA members	6 (4M/2F)	7 (3M/4F)	7 (4M/3F)	7 (4M/3F)	17 (15M/17F)

### *To evaluate the intervention*

Participants from Standard 6 in the 40 study schools were 2,767 children aged 8-20 years (M=13.4 years). There were 1,355 girls (49.0%) in the sample. Data were missing at baseline in 2008 and at follow-up in 2009 for many reasons (see Figure 1 for the participant flow chart). Multiple imputation techniques were used to predict missing values based on observable characteristics of each child. The sub-group of Standard 6 pupils considered to be at-risk of grade repetition or drop-out had a total of 259 pupils in the intervention group and 259 matched equivalents in the control group. Overall, 45.2% of the at-risk sub-sample was female.

Figure 1 Participant flow in intervention and control groups



Quantitative evaluation data were collected at baseline in November 2008 from pupils in Standard 5 and at follow-up in November 2009 from pupils in Standard 6. These data were collected using four, pre-tested instruments (translated into local languages, Chichewa and Chitumbuka, where necessary):

1. A short, pre-tested pupil questionnaire designed to gather data on pupil characteristics.
2. Pre-and post tests in mathematics and English adapted from a national survey developed by the Malawi National Examinations Board (MANEB).
3. A school checklist to collate data on attendance and grade progression from school records and monthly SOFIE monitoring forms) with additional questions included for intervention schools to collect data on process indicators during the mid-term and post intervention school visits).
4. Pupil tracking records to maintain up-to-date information on pupil educational status.

Qualitative, process data on implementation were collected through SSIs with Standard 6 teachers, youth club leaders, school heads and the chairperson of the SMC intervention sub-group; FGDs with community members; informal discussions with school buddies, school staff and parents/guardians of ‘at-risk’ pupils who had dropped out of school; half-day workshops with ‘at-risk’ pupils to explore their views on schooling and on the intervention; and follow up interviews with workshop participants. The interviews and discussions were carried out either in English or one of the local languages as appropriate.

The quantitative data to evaluate the impact of the intervention on pupil outcomes were analysed using Stata software to estimate differences in outcomes between the intervention and control group. The first set of analyses aimed to estimate overall outcomes using multilevel logistic regression. The second set of analyses aimed to estimate the impact of the program on the sub-group of children who were selected to take part in the SOFIE club due to their ‘at-risk’ status; as previously mentioned propensity score matching was used to identify a comparison group in the control schools. The third set of analyses aimed to identify which activities made the greatest contribution to the impact measured.

Qualitative data from recorded interviews and FGDs were transcribed and then translated into English. Visualisations generated through workshop activities were translated into English along with notes taken during plenary sessions. All typed transcripts and reports were uploaded onto NVivo software for coding and content analysis to identify the major categories and sub-categories of factors that disrupt schooling. Categorical aggregation of issues emerging from the coded text and preliminary analysis provided a framework for further analysis and presentation of the data (Cresswell, 2007). Qualitative process data were analysed to explore the fidelity of the intervention process.

### **Ethical considerations and limitations**

Research permission was obtained from the MOE and access to schools negotiated through head teachers and the SMC. Information about the study was given at meetings of Parent Teacher Associations, village chiefs and village heads, local churches and mosques. Pupils were informed through school assemblies and those in participating classes were requested to inform parents/guardians of their involvement. High levels of illiteracy within households made it inappropriate to request written consent but verbal consent was obtained prior to all data collection. Pupils were informed of their right to withdraw at any time. Confidentiality

was assured and protected through anonymising data and storing it on one computer with a password.

To avoid stigmatising HIV-affected children the study focused on increasing educational access for vulnerable learners. To enable purposive sampling local health surveillance assistants provided information in confidence to identify HIV-affected families. Cases of near destitution found on home-visits were referred to social welfare workers. Teachers and youth club leaders were alerted to the possibility of vulnerable learners being stigmatised by being recruited onto the intervention programme but evidence from interviews and discussion during the post intervention evaluation workshops suggested this had not been an issue.

A randomised controlled trial design was used to evaluate the intervention because it had not previously been tried and tested and it aimed to influence policy. The ethical dilemma of having a control group that does not receive any benefit was addressed by giving control schools registers to record pupil attendance at the start of the intervention and giving them some copies of the school text books for maths and English after the intervention. In the longer term control schools may benefit from wider implementation of the intervention by the MOE. The dilemma of a community intervention that starts and stops was addressed through organising and facilitating a post-intervention workshop in each study site for stakeholders at community, school, district and provincial levels to carry out a participatory evaluation of the intervention and decide on their next steps. All intervention schools were represented. In both workshops the stakeholders decided to continue providing the additional support for vulnerable learners and developed action plans to do this.

Some limitations were identified during implementation. The members of SMC acknowledged that the process of identifying and selecting learners to be on the at-risk register was very challenging and a few teachers were not very conscientious in their record-keeping and checking of work done by the vulnerable learners. Interviews suggested that fewer girls than boys were followed-up which may have been due to male youth club leaders and male teachers being reluctant to visit the girl's homes in case this may have been misconstrued by others.

## **FINDINGS**

### **Factors disrupting schooling**

The background literature reviews (Pridmore, 2008; Streuli and Moleni, 2008) found substantial evidence to show that loss of schooling cannot be accounted for solely by poverty. For example, a multivariate analysis of data from nationally representative household surveys conducted between 1992 and 2003 from 51 countries (including countries in SSA) found that after controlling for economic status the countries most affected by the AIDS pandemic still had among the lowest enrollment rates in the world and orphans were less likely than non-orphans to be enrolled in school (Ainsworth and Filmer, 2006). Such gaps are unlikely to be entirely economically motivated. The literature reviews also found evidence that the following factors contribute to educational inequality and disadvantage in high HIV-prevalence areas of SSA

- frequent changes in household organisation and child migration leading to loss of social cohesion and increased risk of child abuse and unplanned pregnancy;

- increased poverty and demand for child labour;
- poor quality and reduced supply of schooling;
- intra-household discrimination against orphans;
- increased trauma and stress following bereavement causing poor attention in school;
- school policies and practices that exclude the poorest and most vulnerable learners and fail to prevent gender-based violence, stigma and discrimination.

The findings from the qualitative case studies helped to situate these factors within the Malawi context and reveal their complexity. Loss of schooling was not found to be solely due to poverty and there are no fees for primary schooling. Nevertheless, some children were working to raise money for additional school costs and in all but one of the sibling-headed households visited the eldest child had dropped out of school to seek out *ganyu* (low-paid, casual work) to support the family. Lack of money for school uniform was a problem especially for girls.

*Girls face more problems. Say if a boy and a girl comes from a poor family, for the boy, even if he were to wear worn out shorts, it will be OK with him, in contrast to a girl wearing a worn out skirt. (Male teacher)*

*What happens to a girl when at 15 and is not dressed properly, maybe her breasts are exposed; boys begin to touch her. If the clothing is torn they will touch her. (Female teacher)*

*When we do not have enough clothes or the clothes are dirty and we have no soap to wash clothes, we are absent from school, .....when we put on dirty clothes our school friends say bad words...(In-school girl)*

Girls were also disproportionately affected by the need to provide care for siblings and for chronically sick parents and relatives and this contributed to irregular school attendance

*Sometimes I am absent, but not much ...only when my mother is sick. I would be looking after her, escorting her to the hospital as there is nobody else to help her. (Malawi, in-school girl)*

*The sick person will require more people to look after him/her. The children will be given all sorts of chores like 'go and wash this', thus they can't go to school. (Adult male community member)*

Intra-household discrimination against orphans and neglect was common and sometimes linked to early marriage for girls, especially if they were double orphans.

*Guardians do force children to do the chores or else they beat the children. They tell them to work and not go to school.....,others tell you "you should just go and get married....." (In-school girl)*

*How old were you when you got married?' I was 15 years old.  
Were you happy to be married at that age? Yes, because I wanted help from the man.  
(Female, out-of-school, head-of-household)*

Lack of encouragement to stay in school contributed to school drop-out of children in sibling-headed households:



*There was no one who encouraged us.....if there were people who could encourage us we would have continued with school (Out of school boy).*

*There was nobody to force us to go to school since we were all children...If there were people who could encourage me to go to school my future would have been bright.(Out-of-school boy head of household.*

Lack of social cohesion within these HIV-stressed communities left vulnerable children unsupported and at-risk of abuse:

*This time the cost of living is high, each one looks after their own family - this extended family is not there. ...There is no more communal living in the village. In the past, orphans could easily be cared for in that way. But this time, it is everywhere – people thinking of money only. (District education officer)*

*Some people who have money to help, instead of helping they take advantage of this to abuse these adolescents. They end up impregnating them and then leave such girls. (Adult male community member)*

School visits showed that schools were understaffed and classes with more than 100 pupils were common. Record keeping was weak. There were no systems place to monitor the progress of children whose attendance and/or attainment was poor or to provide additional support for their learning or psychosocial needs. Despite government policies making primary school uniform optional, some schools excluded children who did not wear it and some teachers excluded children who had been absent for short periods:

*Whenever they (the siblings) went to school they were being sent back because of (no) uniform and I had no money to buy it .... They just started herding animals since each time they went to school they would be sent back. (Out-of-school boy, head-of-household)*

*My grandparent was sick so I was not going to school. (My teacher said) “You have missed lessons for a whole week so it is better for you to not come back until next term”. (Out-of-school orphan)*

In-depth interviews revealed that all these factors are interlocking and have a cumulative impact on schooling which is dynamic and closely linked to a child’s personal circumstances and resilience at a given moment in time. In some cases, family crises (and their psychosocial effects) led to periods of absenteeism or temporary withdrawal from school followed by a return to more regular attendance. In other cases, multiple shocks and limited recourse to appropriate support and care led to permanent dropout. Even children who attended school regularly were sometimes unable to fully participate due to psychosocial trauma or discrimination and thereby ‘silently excluded’. These points are illustrated in the following vignette:

*Bornwell was a 16 year old boy who had recently dropped out of school. His father died when he was 10 years old and he left school a year later when his mother fell sick and took him back to her home village. After his mother died he stayed there with his maternal grandmother for another 2 years until she died. He then went to live with his paternal grandfather who supported him and other grandchildren by farming. He went back to school but his performance was poor and he was made to repeat a standard.*

*He dropped out two years later following a quarrel with a teacher over what he considered unjust punishment. He explained that after his father died he became discouraged; his mother was 'crying all the time' and no longer helped him with his homework or encouraged him to stay in school. On returning to school he felt that he had not been able to learn well because he was still deeply touched by his father's death and was thinking about the situation at home. He also said that fellow pupils mocked him, saying that his father died of AIDS. His grandfather said that he is often short-tempered, withdrawn and difficult to get along with.*

## **Developing and implementing the intervention**

The findings from the literature reviews and case studies suggested that problems of school retention and progression needed to be addressed in two ways. Firstly, through strengthening community support for pupils with a poor record of school attendance and attainment and secondly, by building the capacity of schools to better support their psychosocial and learning needs.

Before designing the intervention lessons were learned from the experiences of the following four interventions, identified through the literature reviews. Each intervention had been evaluated and found to increase educational access and learning for primary school-aged children in SSA.

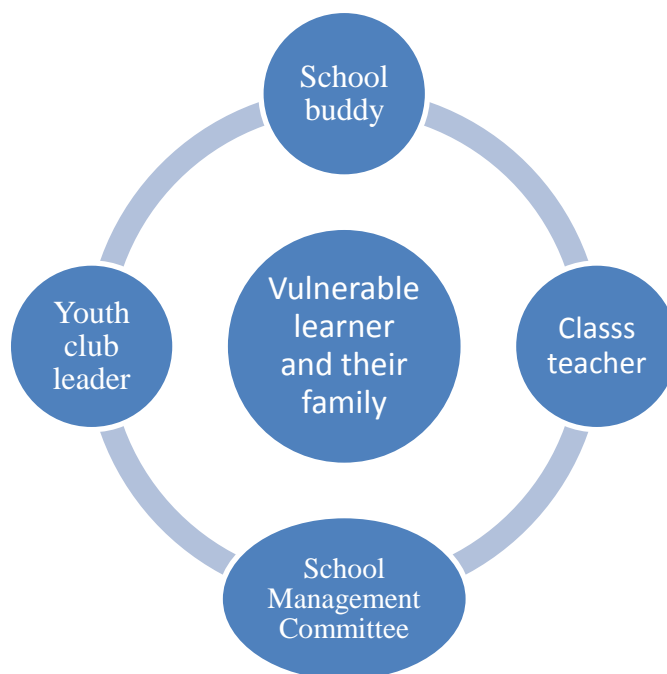
- The complementary basic education (CBE) Programme, supported by GTZ and UNICEF, using interactive study guides with children who have dropped out of primary school before Standard 5 with learning support from unemployed secondary school leavers.
- The Interactive Radio Instruction (IRI) programme, 'Tikwere' (Let's climb), supported by USAID and broadcast nationally to Primary Standards 1,2 and 3 by the Malawi Broadcasting Corporation.
- The Escuela Nueva approach, long established in Colombia and now being piloted in primary schools in South Africa, Zambia and Uganda using self-study learner-guides.
- The Circles of Support initiative developed by the Soul City Institute in South Africa and piloted in Botswana, Namibia and Swaziland which mobilizes networks of family, friends and neighbours to develop and undertake small actions to support vulnerable learners.

These four initiatives showed it was feasible to intervene through primary schools using self-study learner-guides with local support from older unemployed youth and networks of family, friends and neighbours. An anticipated challenge was the difficult circumstances in which many teachers were working, with high workloads and low motivation potentially limiting their participation. The intervention was therefore designed to mobilise a range of local people who would work together to build a circle of support around each vulnerable learner and his/her family. As previously mentioned, the proposed intervention was widely disseminated for critical comment before being adapted, contextualised and implemented.

As shown in Figure 2, the key people providing additional learning opportunities and support to each pupil on the at-risk register were the class teacher, a peer mentor known as a school buddy, SMC members, and the voluntary youth club leader. These actors were themselves

supported by the head teachers, primary schools advisers (PEAs) and district and zonal education officers.

Figure 2 The circle of support build around vulnerable learners in the intervention



From the start of the intervention the Class 6 teacher kept a register of vulnerable learners at-risk of school drop-out or grade repetition and monitored their attendance, progress and participation in class activities. This teacher also gave each pupil on the ‘at-risk’ register

- a ‘School-in-a-Bag’ (containing self-study learner-guides written with their literacy levels in mind and designed to ‘wrap-around’ the class textbooks for Maths and English and some notebooks and pens);
- a school-buddy to provide support and encouragement for learning,
- an invitation for the pupil and buddy to attend the weekly youth club meetings run by the youth leaders.

These teachers were expected to work closely with the youth leaders to assign homework tasks in the self-study guides and it was recommended that teachers review the work done in the pupils’ study guides at least every two weeks.

The youth leader facilitated weekly youth club meetings and was encouraged to make them fun for the at-risk pupils, to listen to their problems and concerns, and provide encouragement and support for learning. The leader was also expected to mark the homework tasks. To set up and run these clubs each youth leader was given

- a ‘School-in-a-Box’ containing the self-study learner-guides and related text books, supplementary readers, an HIV game, a football and a wind-up radio. The box was in reality a rucksack;
- a bicycle to transport him/herself and the rucksack to the club venue and as an incentive to sustain commitment.

The SMC members worked with the Class 6 teacher to identify vulnerable learners for inclusion on the 'at-risk' register. They were also expected to

- follow up pupils who were absent from school or the youth club, talk with their families, listen to their problems and concerns and provide encouragement for learning and for life;
- mobilise community support for the welfare of the vulnerable learners and identify small practical actions that could be taken to enable them to return to school (such as helping them to get clothes and shoes and walking with them to school), as well as advocating for changes to exclusionary school policies or practices.

In practice all intervention schools developed a sub-committee of the SMC to undertake these activities, which included members of the PTA, the head teacher, the Class 6 teacher, youth club leader and a pupil representative.

Before implementing the intervention, workshops were conducted for the head teachers, Class 6 teachers, SMC members and youth club leaders in the intervention schools to orientate them to the intervention and build capacity in record keeping, monitoring and follow-up of pupil attendance and attainment and guidance and counselling. School managers were encouraged to reflect on their existing school policies and practices and consider changes to make their schools more inclusive. Several schools subsequently implemented these changes, for example, five schools made the wearing of school uniform no longer compulsory and others gave families more time to buy uniform before excluding the child. Some schools also re-visited their discipline policies and made efforts to reduce discrimination and encourage wider participation in class. To strengthen pastoral and welfare support for at-risk pupils learner-centred, exploratory approaches to guidance and counselling were advocated during the workshops; these were usually modified later on to fit the more traditional, culturally-familiar practice of 'advice-giving' by elders but many pupils found the advice encouraging and said it had motivated them to take schooling more seriously. Almost half of the intervention schools also initiated small-scale fund-raising activities to support at-risk pupils by, for example, providing them with soap or maize.

### **The impact of the intervention**

Word limitations preclude presentation of the full data analytic plan and statistical analyses and tables produced to evaluate the impact of the evaluation. However, full details are presented and discussed in a separate paper<sup>1</sup> and a summary of the main findings is given below.

*Did the intervention work? (Impact analysis):* Analysis of the baseline characteristics of the intervention and control groups showed that randomization created a reasonable balance between the groups except for the baseline English scores which were significantly higher in the control group.

Overall differences were estimated between the Standard 6 classes in the intervention and control groups. Random school effects were included to account for clustering of outcomes at the school level. Multilevel logistic regression was conducted to determine the impact of the intervention on school drop-out, grade-repetition and progression to Standard 7. The results showed that implementing the intervention over one school year (January to November 2009) reduced overall drop-out by 42% and that this was greater among 'at-risk' pupils than those not 'at-risk'. There was no significant interaction between 'at-risk' status and the intervention

suggesting that it was equally effective for the both the 'at risk' pupils and the rest of the children in Standard 6. (See Table 2 and Table 3)

*For whom did it work? (Sub-group analysis):* Regression analysis was used to estimate the impact of the intervention on the sub-group of at-risk pupils who were specifically targeted by the intervention. The results showed that there was no overall programme impact, nor any interaction between the programme and the at-risk group on repetition, absenteeism or promotion to next standard. There was no overall significant effect on exam scores but there was an improvement in the maths exam for at risk pupils ( $p=.031$ ). A history of grade repetition was found to be a better predictor of future drop-out than orphanhood. These findings suggest that community selection of at-risk children may be based on inappropriate criteria but that the SOFIE approach to flexible learning reached the most vulnerable regardless and was effective in keeping at-risk children in school. (See Table 2 and Table 3)

Table 2. Main outcome variables in Intervention and Control Groups

	n	Intervention Group			Control Group		
<b>Overall</b>							
		Freq	%	n	Freq	%	n
Dropped out (2009)	2,767	128	(8.1%)	1,579	147	(12.4%)	1,188
Repeated St 6 (2009-10)	2,767	371	(23.5%)	1,579	240	(20.2%)	1,188
Absent at final survey	2,767	156	(9.9%)	1,579	77	(6.5%)	1,188
Promoted to St. 7 (2010)	2,767	1000	(63.3%)	1,579	726	(61.1%)	1,188
		M	SD	n	M	SD	n
Maths exam score (2009)	2,028	7.45	(5.93)	1,166	6.06	(3.97)	862
English exam score (2009)	2,028	10.28	(5.57)	1,166	10.65	(5.00)	862
Advanced exam score (2009)	2,028	8.87	(3.38)	1,166	8.85	(3.01)	862
<b>At Risk Children</b>							
		Freq	%	n	Freq	%	n
Dropped out (2009)	518	13	(5.0%)	259	29	(11.2%)	259
Repeated St 6 (2009-10)	518	56	(21.6%)	259	48	(18.5%)	259
Absent at final survey	518	20	(7.7%)	259	13	(5.0%)	259
Promoted to St. 7 (2010)	518	180	(69.5%)	259	168	(64.9%)	259
		M	SD	n	M	SD	n
Maths exam score (2009)	412	7.05	(5.41)	213	6.005	(4.09)	199
English exam score (2009)	412	10.25	(5.57)	213	10.46	(4.75)	199
Advanced exam score (2009)	412	8.98	(3.19)	213	8.61	(2.94)	199

Table 3. Summary of significant program impact overall and by at-risk sub-groups

Outcome:	Dropout		Maths	
	Unadjusted	Adjusted	Unadjusted	Adjusted
	Odds Ratio	Odds Ratio	Coeff	Coeff
Overall n=2,767	0.55*** (0.367 - 0.827)	0.46*** (0.311 - 0.673)	0.63 (-0.124 - 1.380)	0.59 (-0.253 - 1.442)
At Risk n=518	0.40** (0.189 - 0.838)	0.40** (0.171 - 0.943)	0.91** (0.085 - 1.733)	0.83* (-0.071 - 1.733)
Not At Risk n=2,249	0.61** (0.401 - 0.921)	0.51*** (0.336 - 0.760)	0.61 (-0.151 - 1.375)	0.58 (-0.194 - 1.354)

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1 95% confidence intervals in parentheses

(Adjusted estimates indicate whether any difference found between intervention and control groups was independent of group differences in baseline variables.)

*Why did it work? (Process Analysis):* Data were collected to understand the implementation process and identify which activities (e.g. training of teachers, at-risk registers, school buddies, age and sex of youth club leaders and number of youth club meetings held) made the greatest contribution to any impact found. Drop-out was found to be lowest among the 13 schools in which the teachers had been trained and then kept at risk registers.

Analysis of the qualitative data from post-intervention interviews, discussions and workshops suggested that the intervention may have led to additional benefits for the at-risk pupils including improved motivation and capacity for independent learning, an improved reading culture and stronger social networks leading to higher self-esteem.

## DISCUSSION

The findings presented in this paper have illuminated the ongoing patterns of educational inequality and disadvantage that disrupt schooling for vulnerable learners in high HIV-prevalence areas of rural Malawi. It has shown that problems of poor school retention and progression are not only due to poverty but also to loss of social cohesion within HIV-stressed families and communities exacerbated by the failure of schools to implement inclusive education policies and provide additional support for vulnerable learners. Although these findings cannot be generalised, very similar patterns of educational inequality and disruption were identified from the study in Lesotho. However, in contrast to the situation in Malawi, education in the highland communities in Lesotho was not valued highly; boys commonly dropped out of school more than girls and started herding cattle after going to 'initiation' school; there was a tradition of girls dropping out to elope with their boyfriends and corruption at the local level disrupted payment of MOE school bursaries to some double orphans who dropped out because they were unable to pay the school fees.

The findings have also shown that patterns of educational inequality can be disrupted by intervening through primary schools to build circles of support around vulnerable learners and their families and complement conventional schooling with more open and flexible delivery of the curriculum; using interactive, self-study learner guides linked to national curriculum text books. The findings from the similar study in Lesotho showed that the intervention also had the potential to reduce educational inequalities when intervening through junior secondary schools although there are additional challenges. For example, negotiations have to be held with subject specialist teachers as well as class teachers and all participating schools have to agree to use the same text books (from the range permitted by the MOE) so that learner-guides could be linked to the agreed texts.

These findings suggest that there is a role for more open and flexible models of schooling and support in reducing educational inequalities. But it is one thing to develop more effective models of curriculum delivery and support and quite another for education systems to radically transform their established policies and patterns of work. It is equally challenging for teachers to move from a position that regards the children who drop out as the problem to one that recognises the school as the problem and the need to provide additional support and learning opportunities.

So what can be done to create the enabling environment needed for policy development to support more open and flexible delivery of the school curriculum and increase support for learning and pupil welfare? From the outset of the study the SOFIE research team have addressed this question in three ways. Firstly, by establishing an ongoing dialogue through the advisory group with the MOE and donor agencies for policy development to support multi-mode (face-to-face and ODFL) delivery of the national curriculum. Secondly, through facilitating close co-operation and collaboration between schools, education officers, community leaders, local NGOs and CBOs and the teachers unions to increase openness and tolerance to change and the build capacity needed for action. Thirdly, by strengthened links between the University of Malawi (Centre for Educational Research and Training and Chancellor College's Faculty of Education) and the Malawi Institute of Education to institutionalise the skills needed to write self-study learner-guides and deliver the curriculum more flexibly within the B.Ed. programmes.

Costs also have to be carefully considered, especially at a time when governments in many low income countries have responded to the financial crisis in 2009 by cutting back spending on education (Kyrili and Martin 2010). The overall cost for the training and the resources provided in the school-in-the-bag and the school-in-the-box has been estimated at USD 43 for each at-risk pupil. However, if the spill-over effects of the intervention on all pupils in Standard 6 are factored into the calculations then the cost per pupil is reduced to approximately USD 8.5 per enrolled pupil. In any future roll-out of the intervention distribution costs may need to be factored in and further incentives may need to be found to sustain community support long-term, because ongoing reliance on community members and youth leaders supporting pupils on a voluntary basis was seen by them to be a critical challenge. Furthermore, these costs need to be viewed in relation to the recurrent government expenditure per student in primary education which, at around MK3000 (USD 20) in 2007/8, was amongst the lowest in SSA (World Bank 2010, p.32).

However, major cost savings could also be made. The small cost for the notebooks and pens in the 'school-in-a-bag' and 'school-in-a-box' could be subsumed within guidelines for school-level decision making about grants from the Malawi Government's Direct School



Support Programme. No additional budget would be needed for text books because most intervention schools had already been supplied with enough textbooks for the numbers of pupils enrolled and they just needed. But there would need to be a change in teachers' attitudes to ensure that each pupil received the books supplied and was allowed take textbooks home so they could use them over a longer period of time. The self-study guides, at the core of the ODFL strategy, were the single largest expense costing about \$3.00 each. Although wider roll-out could reduce costs due to economies of scale, experience suggests that these guides could be revised to reduce length without reducing quality. No additional budget would be needed for the costly solar radios (included in the school-in-the-box) because the USAID-funded IRI project has now supplied almost all government primary schools with these radios. However, good collaboration would be needed between school-based clubs and school management to enable sharing of this valuable resource, which was found to have greatly increased the popularity of clubs and to be a rich resource for learning.

In conclusion, this paper has demonstrated that even in the context of poverty and high HIV-prevalence, patterns of educational inequality and disadvantage can be disrupted and significant improvements in school retention made by intervening through primary schools to support vulnerable learners. However, an integrated strategy is needed to change school policies and practices, improve school record keeping and pupil follow-up, develop self-study learner-guides and provide additional support for learning and for pupil welfare. Given the existing pressures on meagre education budgets it may be tempting to implement only parts of this strategy but this is unlikely to bring significant improvements in pupil retention and progression because synergy is needed between all of the components. This integrated strategy also needs to be supported by improved teacher education and surrounded by national policies that recognise and support vulnerable learners and are promoted by policy champions.

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<sup>1</sup> Full details of the statistical analyses on which these results are based have been presented in a paper submitted to Comparative Education Review.