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AN EVALUATION OF THE ZAMBIA HEALTH WORKERS RETENTION SCHEME OF THE MINISTRY OF HEALTH

December 2013

The Zambia Integrated Systems Strengthening Program (ZISSP) is a technical assistance program to support the Government of Zambia. ZISSP is managed by Abt Associates, Inc. in collaboration with American College of Nurse-Midwives, Akros Research Inc., Banyan Global, Johns Hopkins Bloomberg School of Public Health-Center for Communication Programs, Liverpool School of Tropical Medicine, Broad Reach Institute for Training and Education and Planned Parenthood Association of Zambia. The project is funded by the United States Agency for International Development, under contract GHH-I-00-07-00003. Order No.GHS-I-11-07-00003-00.

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Acronyms

DHRA	Directorate of Human Resource and Administration
DMO	District Medical Officer
GRZ	Government of the Republic of Zambia
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HR	Human Resource
HRM	Human Resource Management
HRMO	Human Resource Management Officer
HRIS	Human Resource Information System
IDI	In-Depth Interview
MDG	Millennium Development Goals
M&E	Monitoring and Evaluation
MOH	Ministry of Health
RHC	Rural Health Centre
TB	Tuberculosis
TWG	Technical Working Group
UTH	University Teaching Hospital
ZHWRS	Zambia Health Worker Retention Scheme
ZISSP	Zambia Integrated Systems Strengthening Program

ACKNOWLEDGEMENT

The Zambia Health Worker Retention Scheme (ZHWRS) evaluation was successful due to the positive support and dedication of many different stakeholders involved in Zambia's human resource health sector. I wish to recognize the dedication of all those who were involved, both directly and indirectly, whose contributions and insights helped to ensure that the report was finalized with quality.

The report was developed through a participatory and consultative approach, with contributions and insight from the Human Resource and Administration Department of the Ministry of Health and the Human Resource Technical Working Group.

On behalf of the Ministry of Health, I also wish to acknowledge the financial and technical support of the Zambia Integrated Systems Strengthening Program (ZISSP) for making it possible to conduct the evaluation on the ZHWRS.

I thank them for their passion and dedication to the collection and analysis of data. I am aware that the implementation of ZHWRS has had many challenges, but with the commitment of the MOH and cooperation of all stakeholders, I strongly believe that the results outlined in this report provide a good foundation as to how best the ZHWRS can be implemented and managed.

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Dr Peter Mwaba

Permanent Secretary

Ministry of Health

EXECUTIVE SUMMARY

Background: Zambia, like many Sub-Saharan countries, faces an acute shortage of healthcare personnel, particularly in the rural and remote areas of the country. In order to meet the Millennium Development Goals, the Zambian Government (GRZ), through the Ministry of Health (MOH), has embarked on a drive to populate the rural and hard-to-reach health care facilities with professional healthcare workers.

In order to achieve this goal, a decision was taken to implement an innovative attraction and retention strategy to encourage medical doctors and other health professionals to work at health facilities in the remote and rural areas. The Zambia Health Workers' Retention Scheme (ZHWRs) was launched in 2003 for medical officers and in 2007 the scheme was scaled up to include other health cadres. This scheme offers both monetary and non-monetary incentives. The scheme has two major objectives; to ensure that the Ministry is able to attract and retain healthcare workers in the rural and remote areas of Zambia so that health care needs are provided to the people in those areas; and secondly to ensure that the GRZ health training facilities increase the production of health workers. As at December 2012, the scheme membership was at 1,023 against a target of 1,400. In March 2013, the MOH, supported by the Zambia Integrated Systems Strengthening Program (ZISSP), embarked on an evaluation of the ZHWRs. The core objectives of the evaluation were to assess the implementation progress of the ZHWRs and take stock of its achievements against planned targets and intended benefits. The evaluation also assessed the impact of the ZHWRs on health service utilization and its sustainability.

Methodology: The evaluation adopted a multi-data source research methodology. Qualitative data were collected through In-depth interviews with health facility in-charges, tutors/principals at training institutions, District Medical Officers, and MOH staff at Headquarters responsible for the operations and management of the ZHWRs. Quantitative data were collected through structured face-to-face interviews with 207 respondents who included health providers, tutors and lecturers that were members of the scheme at the time of the survey. These were complemented with a review of secondary data in the form of program reports, evaluation reports and other documentation on retention schemes in Southern Africa.

Key Findings: The ZHWRs had managed to distribute members in all provinces of Zambia¹. There were 1023 health workers placed on the scheme by December 2012. The ZHWRs Guidelines provide the categorization of districts into four groups by less remote (categories A and B) to more and most remote (categories C and D). The scheme managed to distribute health workers in the critical districts of category C and D. However, it has not performed well in terms of reaching the actual target by cadre. The scheme target was to enroll 1,400 health workers, and the study found that 1023, representing 73% were enrolled as of December 2012.

Of the 1,023 health workers who were officially listed on the scheme, not all were actively working at the assigned health facilities. Over two-thirds of respondents reported that they had been working at their current facility longer than they had been on the ZHWRs. In most cases, monetary incentives were provided as a form of retention. Irregular and late payment of monthly allowances was cited as a major challenge experienced by health workers on the retention scheme. However, respondents also felt that the ZHWRs monthly allowance, if consistent and paid on time, was a major motivation for staff to continue working in rural and remote areas. It was also found that funds were not always available from the Ministry of Finance at the time they were needed for payments; as a result there was a backlog of monthly allowances for health workers on the retention scheme, and consequently the scheme has, over time, incurred unfunded liability.

Further, it was found that formal monitoring and evaluation (M&E) of the implementation of the scheme incentives was weak. Management and staff at MOH Headquarters cited late submission of contracts for new entrants on the scheme and those intending to renew their contracts; inadequate communication on the transfers of staff; and lack of cooperation towards management of the scheme by field Human Resource Management Officers (HRMOs) in the Districts. Other challenges included under- and over-payments of staff (due to transfers or movements of staff on the scheme) that remain unreported, leading to potential loss of funds which are

¹ The researchers did not have separate data for the 10th Province, Muchinga, as this province was newly created in 2012. Muchinga Province data is therefore included in Northern Province throughout this report.

wrongly paid to staff that have left their stations. District Medical Offices (DMOs) receive irregular updates on the scheme, and there is lack of administrative orientation of DMOs to the scheme as well as difficulties in recruiting new staff onto the scheme. It was also found that training institutions did not increase their enrolment capacity as a result of employing ZHWRS tutors and lecturers; and therefore were only able to graduate up to the maximum capacity limit, thereby falling short on one of the objectives of the scheme.

A desk review of health worker retention initiatives in the region revealed that countries in the Southern African region have implemented the retention scheme through the provision of financial or non- financial incentives. Most countries have both their government and multiple donors supporting the scheme program. All five countries reviewed provide rural allowances as a financial incentive (South Africa, Swaziland, Malawi, Botswana and Lesotho). Non-financial incentives included training and career development, opportunities for higher training, scholarships/bursaries, early promotions, and research. Other scheme incentives include social needs, i.e. housing and staff transport, childcare facilities or employee support centers. Further, almost all retention schemes in the region did not have a sustainability plan.

Conclusion: Generally, it is proving to be a challenge to sustain the retention incentives because of lack of funds and weak management and monitoring mechanism. This is further exacerbated by poor condition of services and working environment prevailing in the rural and remote areas.

Recommendations: It is recommended that non-monetary incentives such as medical equipment and staff housing should be encouraged. A strong management and implementation plan for the scheme should be developed which should include Human Resource Management (HRM) and human resource information systems (HRIS) system. A Sustainability Strategy must be developed as a matter of urgency.

1.1 Background

Zambia, like many other developing countries, is facing a serious challenge with human resources in the health sector. The critical shortage of skilled manpower is a major obstacle to delivering quality health care services and to achieving the Millennium Development Goals (MDGs), particularly those related to maternal and child health (MDG 4 and 5, respectively). Human resource challenges also impede the country's response to combating priority diseases such as malaria, tuberculosis (TB), and the Human Immunodeficiency Virus (HIV) (MDG 6). This shortage is due to both insufficient production of clinical health workers, doctors and nurses in particular, and the macro-economic and fiscal limitations which negatively impact the country's ability to recruit and retain core health workers.

The shortage of health care workers is particularly acute in rural and remote areas of the country. Public health facilities in rural and remote areas have the lowest number of health care workers compared to urban areas and those areas along the line of rail. This has resulted in unqualified staff members (e.g. casual daily employees) running a significant number of rural health centers (RHC). Some facilities have only one qualified staff member.

According to the *Zambian Health Workers Retention Scheme (ZHWRS) Guidelines*, the following factors contribute to staff shortages in the rural areas:²

- Inadequate conditions of service (pay, allowances and incentives)
- Poor working conditions (facilities, supplies and equipment)
- Poor performance management throughout the public sector
- Inadequate education and training systems
- Poor living conditions and lack of government housing in rural areas

In order to address the inequitable distribution of health workers, the Government of the Republic of Zambia (GRZ), in partnership with the Royal Netherlands Government, piloted the ZHWRS program in 2003 to increase qualified health providers in rural areas. The initial experience focused on increasing the number of doctors. Based on the pilot results, the Government established a larger ZHWRS in 2007 that increased the number of qualifying cadres (Table 1).

Table 1: Zambian Health Worker Retention Scheme, by qualifying cadre and facility level

Cadre	Facilities	District Categories	Started
Medical Officers	District Hospitals and District Health Offices	C and D	2003
Medical Consultants	Provincial Hospitals (except for UTH)	A, B, C, and D	July 2007
Medical Licentiates	District Hospitals	C and D	July 2007
Lecturers and Tutors	GRZ Training Institutions	A, B, C, and D	July 2007
Zambian Enrolled Nurses	Rural Health Centres "Hard to reach"	A, B, C, and D	Oct. 2007
Zambian Enrolled Midwives	Rural Health Centres "Hard to reach"	A, B, C, and D	Oct. 2007
Clinical Officers	Rural Health Centres "Hard to reach"	A, B, C, and D	Oct. 2007
Environmental Health Technologists	Rural Health Centres "Hard to reach"	A, B, C, and D	Oct. 2007

Source: *ZHWRS Guidelines, 2010*

The districts are categorized as A, B, C or D (listed in Annex A), and range from being described as less remote (categories A and B) to the more and most remote (found in categories C and D). The term 'hard to reach' in Table 1 refers to the degree of difficulty in reaching the RHC. Harder to reach centers are characterized by bad or seasonally impassable gravel or dirt roads and/or having to use a boat to get to the facility for health care. The descriptions and list of RHCs which are "hard to reach" are determined by the District Medical Offices (DMO)³ through the Provincial Medical Office.

² Zambia Health Workers Retention Scheme Guidelines - 2010

³ Ibid

The *ZHWRS Guidelines*, developed in 2010, outline the scale-up plan to address the human resource challenges faced by the healthcare delivery system in rural areas of Zambia. The plan is linked to the Ministry of Health's (MOH) National Training Plan, the Training Operational Plan and the Human Resources for Health Strategic Plan (2011-2015).

The ZHWRS has two key objectives:

1. To ensure that the Ministry is able to attract and retain healthcare workers in the rural and remote areas of Zambia so that health care needs are provided to the people in those areas
2. To ensure that the GRZ health training facilities increase the production of health workers

The guidelines also outline the terms of employment contracts for the retention scheme. Bonuses provided under the scheme are determined by the level of the material deprivation index in the district (Categories A, B, C, or D) where health workers have been posted. Different scales of benefits apply to the different health cadres working in the different health facilities within the designated district categories. Medical Consultants, Medical Officers, and Medical Licentiatees on the scheme are also eligible for advances for a house renovation and purchase of a vehicle or land. Members who successfully complete the three-year contract period without breaks are eligible for a taxable, end-of-contract bonus equal to nine months' worth of the individuals' applicable monthly scheme allowance.

The implementation of the ZHWRS plan has been in a phased approach due to budgetary limitations. The source of funding for the scheme was mainly external funding through financial agreements with Cooperating Partners to complement funding through the Ministry of Finance and National Planning.

This evaluation was undertaken by MOH in 2013 through the Human Resource Technical Working Group (HR TWG) to review the performance the scheme. The evaluation received guidance of Directorate of Human Resource and Administration (DHRA) with support from Zambia Integrated Systems Strengthening Program (ZISSP).

1.2 Study Objectives

The objectives of the study were to:

1. Measure the extent to which the ZHWRS has redistributed and retained health care workers in the rural and remote areas of Zambia
2. Measure the scheme's effect on health service outputs and outcomes
3. Measure the extent to which the ZHWRS has affected the number of tutors and graduating health workers
4. Review the cost implications of the scheme
5. Review various retention schemes in Zambia and the region
6. Review the efficacy of the implementation and management modalities

Part 2: Methodology and Sampling

2.1 Research Design

The review adopted a multi-data source research design comprised of quantitative and qualitative methods. Quantitative data was gathered as part of face-to-face interviews with health workers on the ZHWRS while qualitative research was done with individual through in-Depth Interviews (IDIs) with training institutions, District Medical Officers (DMOs), ZHWRS management staff and individuals in charge of health facilities. Quantitative and qualitative research was complemented with literature review of different documentation on retentions schemes.

2.2 Sampling Design

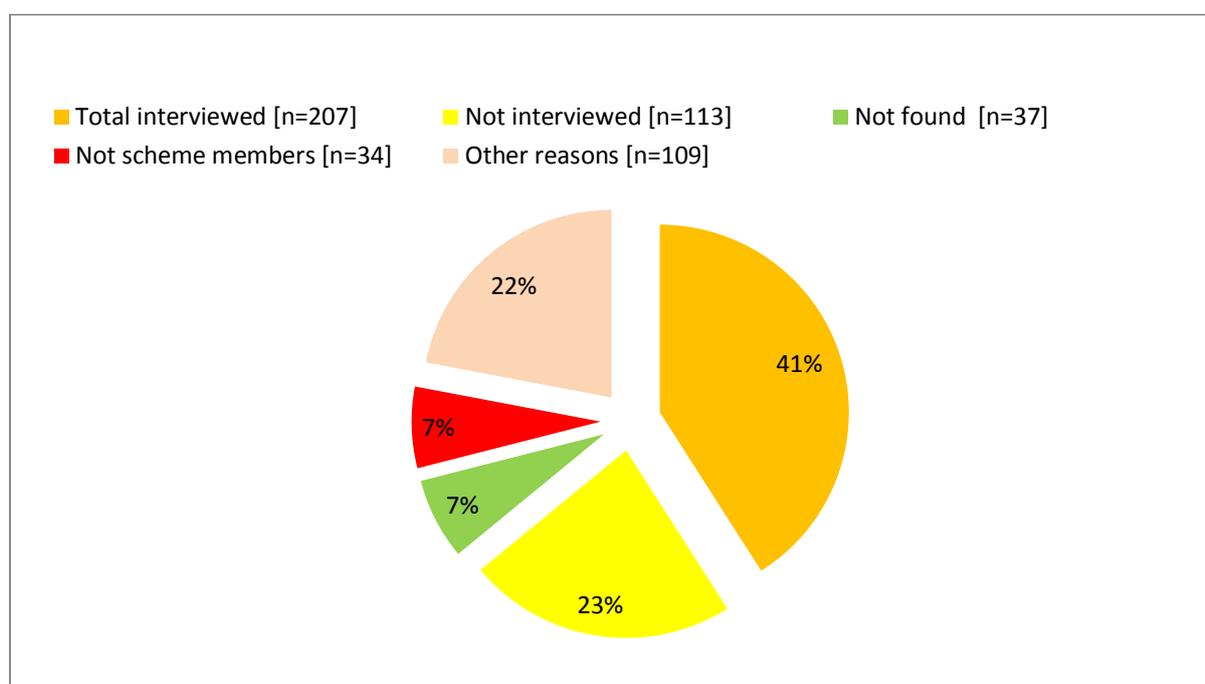
Facilities were randomly selected for the survey using a two stage sampling design to minimize travel costs. In the first stage, 25 districts were selected using probability proportion to size (where size was defined as the number of facilities with at least one provider participating in ZHWRS). In the second stage, ten facilities were selected using simple random sampling in each of the 20 selected districts. (In districts with fewer than ten facilities with ZHWRS participants, all facilities were selected). The final sample consisted of 134 facilities, of which ten were training institutions. Taking into consideration the number of health workers on the scheme per facility, employing this sampling strategy resulted in approximately 513 target respondents.

2.3 Achieved Sample

The team planned to visit facilities to interview a total of 513 health workers on the scheme for the survey. Of the 513, approximately 113 potential interviewees were not contacted because the facility was not visited during the survey due to flooding and logistical reasons (77 of 236 facilities), therefore leaving a total of 400 potential interviewees at the remaining facilities according to the original sampling frame. A sample of 400 respondents was deemed acceptable as it was 80% of the original target of 513 respondents.

The final number of surveyed ZHWRS members differed from 400 for two reasons. First, at facilities visited by the surveyors, many of the ZHWRS members were absent at the time of the survey. In some cases, ZHWRS members were absent due to scheduled training or vacation. In other cases, it appeared that the ZHWRS participants were scheduled to be working at the facility but had not shown up for work. Of 513 (100%) proposed sample, 207 (41%) were interviewed, 113 (23%) were not visited due to logistics/flooding, 37 had transferred (7%), 34 were not scheme members (7%), and the remaining 109 were not interviewed for other reasons (22%) (Figure 1).

Figure 1: Achieved sample of health workers for the ZHWRS Evaluation



2.4 Data collection methodology

Researchers conducted individual in-depth interviews (IDIs) using structured interview tools that consisted of 91 questions. IDIs targeted the in-charge of health facilities and tutors/principals at training institutions that employed ZHWRS members. Interviews were also conducted with DMOs as well as the MOH headquarters staff

responsible for operations and management of the ZHWRS. The purpose of the interviews was to gain in-depth insights on their perception, impact of the scheme, experience on the management of the scheme and challenges. Copies of the IDI tools can be found in Annex B and Annex C

In-depth interviews were not assigned by sampling within specific facilities; interviews were conducted with facility in-charges who were available. This resulted in interviews with the scheme management officers at MOH headquarters, eight DMOs, and 55 facility in-charges.

A second methodology, the ZHWRS Survey, used face-to-face interviews with health workers who were on the scheme in all the selected districts and facilities. A 91-question structured questionnaire was used to gather the following types of information from participants on the ZHWRS: background characteristics; work history; experience being recruited for and working on the ZHWRS; problems encountered with ZHWRS; knowledge of allowances, advances, and gratuity; and perceptions of ZHWRS effects. The questionnaire is in Annex D.

The survey sampling process used a list of current scheme participants, which totaled 1023 individuals according to ZHWRS records in December 2012. A target sample of 513 was calculated, but was reduced to 400 due to certain assumptions (see 2.2 *Sampling Design*). Prior to the interview, Human Resource Officers contacted interviewees by telephone to set appointments. ZISSP employed interviewers conducted the survey with 207 scheme participants in April – May 2013.

2.5 Research limitations

The review process experienced methodological challenges and data limitations, which hindered the ability to fully address the survey objectives.

1. The study had initially proposed to relate Health Management Information System (HMIS) data with information from the ZHWRS, to the extent possible, to explore potential effects of the ZHWRS on health service outputs (Objective 2). Two comparisons were proposed: time series before and after the start of ZHWRS, and a comparison between health facilities with and without ZHWRS. An analysis of this type would provide insight into changes which may be occurring, although would not allow for causal attribution of any observed changes in health outputs as a direct result of the ZHWRS.

Data required for the proposed analysis included:

- Historical data of staffing by facility over time
- Staff participation in the ZHWRS by facility over time
- HMIS data by facility over time
- Identification of facilities not participating in ZHWRS that are comparable to ZHWRS-participating facilities

After substantial efforts to locate the necessary information, the data was not made available by MOH Human Resource Department. Furthermore, the data was not collected and/or retained in such a way to make a detailed examination of to answer the specific objectives.

These limitations have greatly restricted the types of analysis and conclusions possible in the study. It has limited the ability to measure Objective 2: effects on health service outputs and outcomes which could be attributed to the scheme and Objective 3: effect of the scheme on the number of tutors or new health worker graduates. However, the information from the survey and IDIs do provide substantial insight from participants, DMOs, in-charges, and scheme managers on their views on these areas.

2. Human Resource Officers were not able to set appointments with all respondents selected for interview. The list of the participants on the scheme lacked important contact details and the list was not up to date. Some respondents were not at the sampled facilities due to transfer or school enrolment. As an inevitable result, the achieved sample size of 207 was lower than the original proposal sample of 513.

3. Approximately one-third (77) of sampled facilities were not visited by the interviewing teams due to logistical constraints and impassible roads as a result of flooding.
4. Very limited literature was available on the scheme implemented in other countries in the region.

Part 3: Demographics

3.1 Demographic Characteristics

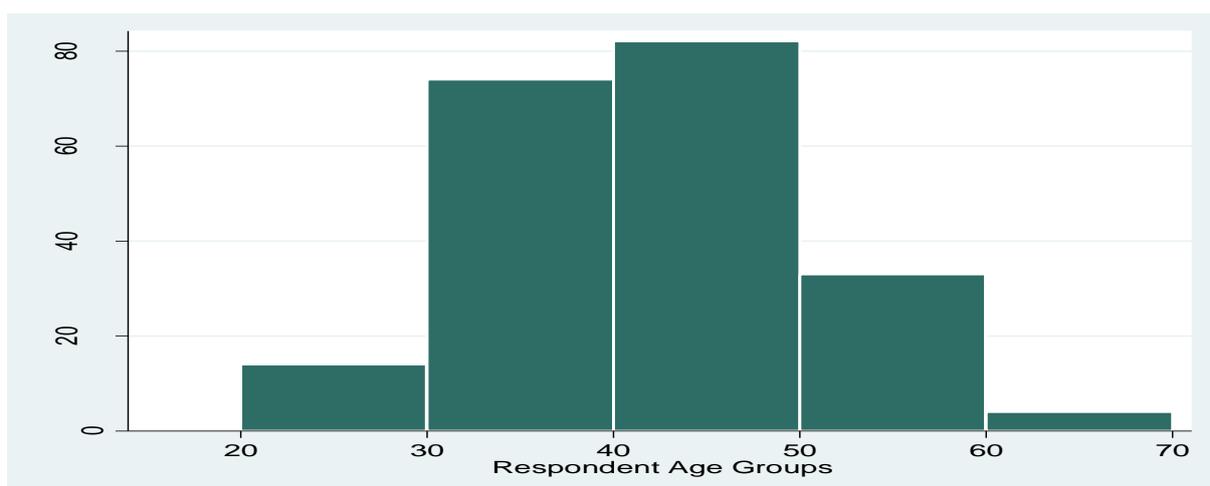
The 207 ZHWRS respondents to the survey are from the cadres presented in Table 2 below. Nurse tutors and lecturers make up a larger share of the survey respondents (39.6%), due to the higher number of respondents located at training institutions, as well as a higher response rate at the training institution locations, compared to the other locations selected in the sampling plan.

Table 2: ZHWRS Survey Respondent Cadres

Cadre	Number	%
Medical consultant	5	2.4%
Medical officer	30	14.5%
Medical licentiate	10	4.8%
Nurse tutor/lecturer	82	39.6%
Clinical officer	6	2.9%
Zambia Enrolled Nurse	29	14.0%
Zambia Enrolled Midwife	23	11.1%
Environmental Health Technologist	18	8.7%
Registered Nurse/midwives	4	1.9%
Total	207	100.0%

Figure 2 shows the distribution of survey respondents by age groups, with the majority being in the 30-40 and 40-50 age groups.

Figure 2: ZHWRS Survey Respondents by Age Groups



Part 4: Research Findings

4.0 Objective 1: Distribution and retaining of health care workers to the rural and remote areas of Zambia

One of the evaluation's primary objectives was to establish reliable measures of the extent to which the ZHWRS has managed to distribute and retain health care workers to the rural and remote areas of Zambia (Objective 1). The following sections provide an overview of the ZHWRS participants by location and cadre, compared against targets set forth in the scheme guidelines. Interview and survey results provide quantitative and qualitative information about distribution and retention factors.

4.1 Extent of health care worker redistribution

To measure the extent to which the ZHWRS has managed to redistribute health care workers to the rural and remote areas of Zambia, research team used a list of health workers currently on the retention scheme. This list had 1023 health workers, and was provided by the MOH through the Directorate of Human Resource and Administration (DHRA) (Table 3).

Table 3: ZHWRS Members by Cadre

Cadre	Number	%
Clinical Officer	44	4.3
Consultant	22	2.2
Environmental Tech (EHT)	146	14.3
Lecturer/Tutors	225	22.0
Medical Licentiate	53	5.2
Medical Officer	149	14.6
Registered Nurse	21	2.1
Enrolled Midwife (ZEM)	99	9.7
Enrolled Nurse (ZEN)	264	25.8
Total	1023	100

ZHWRS distribution reached all provinces of Zambia⁴ (Table 4). Six provinces each had at least 10 % of health workers on the retention scheme, while Copperbelt, North-Western and Northern Province had slightly less than 10 % (9, 8 and 9 % respectively).

⁴ The researchers did not have separate data for the 10th Province, Muchinga, as this province was newly created in 2012. Muchinga Province data is therefore included in Northern Province throughout this report.

Table 4: ZHWRS Members by Province

Province	Number	%
Central	138	13
Copper belt	94	9
Eastern	131	13
Luapula	143	14
Lusaka	104	10
North-Western	80	8
Northern	97	9
Southern	130	13
Western	105	10
Total	1023	100

The ZHWRS Guidelines provide the categorization of districts into four groups by less remote (categories A and B) to more and most remote (categories C and D). The scheme target is to ensure provision of care to patients in the more/most rural and remote areas and at the rural health centers defined as “hard to reach”. Close to 70 % of participants are located in C or D ranked districts (Table 5). This finding meets the goal of the scheme and can be concluded that the scheme has distributed health workers in the rural and remote areas.

The major achievement of the scheme is the placement of 1023 professionals on the scheme by December 2012. The result is that the scheme has distributed health workers outside the wealthiest districts (A and B). The proportional distribution suggest that the retention scheme has done rather well in getting health workers to work outside the very best-off (category A) districts.

Table 5: ZHWRS Members by Remoteness

District Category	Number	%
A	165	16.1
B	148	14.5
C	448	43.8
D	262	25.6
Total	1023	100

In terms of the cadre, almost all participants from ‘A’ districts were listed as tutors or lecturers; however 16 % were from other cadres including consultant, nurse/midwife, EHT, and clinical officer. In the ‘B’ districts, only 29 % of scheme participants were categorized as tutor/lecturer. The majority of ‘B’ district participants were nurse/midwife, while EHT, clinical and medical officer, consultant cadres were also present.

Despite the finding that the scheme has managed to distribute the health workers in the critical districts (C and D); it has not performed as well in terms of actual target by cadre. Table 6 shows the target enrollment numbers by cadre, as per the ZHWRS Guidelines, compared to the actual number of participants by cadre. The scheme targeted 1400 participants, but enrolled 373 fewer health workers than planned. Consultants and tutors/lecturers are very close to their target percentage. Nurses and midwives currently make up a much high percentage than planned, and Environmental Health Technicians (EHTs) are also a higher percentage. Medical doctors, licentiates, and clinical officers are all below their respective enrolment targets.

Table 6: Target and Actual Enrollment by Cadre

Cadre	Target	Target %	Actual	Actual %	Variance
Medical Consultants	30	2.1%	22	2.2%	8
Medical Doctors*	300	21.4%	149	14.6%	151
Medical Licentiates	100	7.1%	53	5.2%	47
Clinical Officers	120	8.6%	44	4.3%	76
Tutors and Lecturers	300	21.4%	225	22.0%	75
Nurses and Midwives	400	28.6%	384	37.5%	16
EHTs	150	10.7%	146	14.3%	4
Total	1400	100%	1023	100%	377

*includes: District Health Director, Executive Director, Medical Officer, Medical Superintendent, and Project Director

For a third of the respondents, their current facility was their first posting (Table 7). Of the 207 surveyed respondents, only 15 % reported having been given an opportunity when they were recruited to choose the facility they would like to work from. Of the 15 % given the option, nine out of 11 individuals received their choice facility.

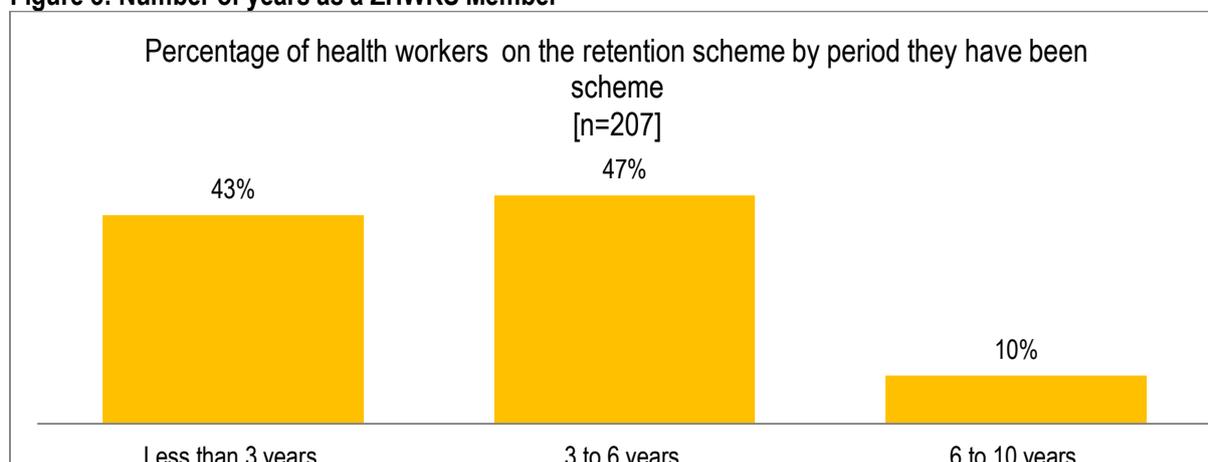
Table 7: Reason for current posting

	Number	%
First posting	62	30
Transfer on request	32	15
Transfer on promotion	35	17
Transfer	66	32
Other	12	6

4.2 Extent of health care worker retention

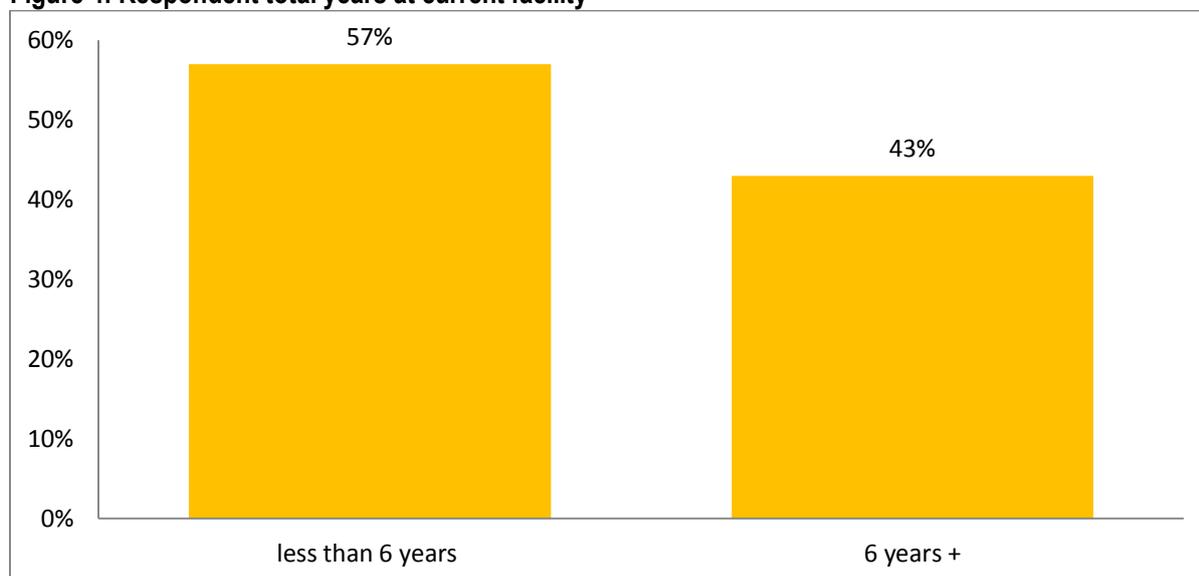
Surveys were able to capture retention data on the 207 health workers who were interviewed (and thus currently retained.) Respondents were asked how long they have been on the scheme. 57% of the respondents reported that they had been part of the scheme more than one contract, while the remaining 43% are in their first contract on the scheme (Figure 3). The 10% of health workers on the scheme longer than six years are assumed to be medical doctors, as the other cadres were not included until 2007.

Figure 3: Number of years as a ZHWRS Member



Over half (57%) of the interviewed ZHWRS participants had been at their current facility for six years or less (Figure 4). Most interesting is that, GRZ started to implement ZHWRS in 2007, which was 6 years ago and 43% were at their sites before ZHWRS started (6 or more years).

Figure 4: Respondent total years at current facility



The research process revealed that although 1023 health workers were officially listed on the scheme, not all were actively working at the assigned health facilities. In some cases the reasons were temporary, such as absenteeism on the day of the visit, vacation or attending training or workshop. However, in other cases the health worker was not at the site for an extended period, such as for schooling, permanently moved due to a transfer or not currently on the scheme. While tracking reasons for absence was not a goal of the survey, and this information was not systematically collected or independently verified, the findings provide insight into the degree to which enrolled health workers are retained in the sense of delivering health care in rural and remote facilities. During IDIs, MOH scheme management expressed difficulties in obtaining timely information on staff changes.

5.0 Objective 2: Measure the effect on health service outputs and outcomes

People who live in the rural and remote areas have difficulties in accessing healthcare needs. The primary aim of the ZHWRS according to the guidelines is to improve staffing levels in the rural and remote public health facilities with the aim to increase health care service delivery in those areas. One of key objectives of the survey was to measure the effect on health service outputs and outcomes. However, the evaluation was not able to access key information for this analysis, such as HMIS data by facility over time compared to staff participation in the ZHWRS at the facility. Therefore, less precise information was gathered through self-report of the respondents.

ZHWRS-supported health workers as well as facility in-charges reported that the ZHWRS payments – when paid on time – were motivating for the staff, and many noted that the additional motivation improved quality. The DMOs mentioned that the scheme had made more staff available and was a benefit to facilities and the community, while some also cited an increase in the quality of care provided as well as greater motivation for scheme participants. They found that the scheme had increased willingness of workers to be employed in the rural areas. According to a scheme manager:

“We are seeing a trend at the end of the day whereby we’re reducing the number of facilities being run by non-qualified staff. Qualified health workers are being posted to rural areas and they are agreeing to that.”

In-depth interviews revealed that managers of the scheme as well as some training institution in-charges believed that the scheme had a positive effect on the staffing of tutors/lecturers.

The respondents were asked what effect the ZHWRS had on service delivery. Two-thirds of survey respondents reported that they believed the scheme had increased quality of service provided at facilities. Slightly less than half thought that it had increased the quantity of services provided. The evaluation concludes that these assertions are not backed up with evidence, and further interrogation of this perception is necessary.

The seven DMOs interviewed responded that the program was effective in increasing utilization of health services by the community and in reducing referrals. Some of the respondents also stated that it was effective in improving quality. The vast majority of facility in-charges responded that the ZHWRS has been effective in increasing the utilization of health services as well as reducing referrals from their facilities. Additionally, most believed that the scheme has been effective in improving the quality of services provided at their facilities.

When asked to describe the changes brought by the scheme, the most commonly-mentioned changes were an increase in the number of staff available, an improvement in the quality of care provided at the facilities, as well as more motivation of the scheme participants. A majority of respondents believed that the ZHWRS had increased the capacity of the MOH by increasing staff willingness to work in rural areas.

6.0 Objective 3: Measure the extent to which the ZHWRS has increased the number of tutors and students graduating from the training institutions

The second main objective of the ZHWRS was to increase the production of health workers. To achieve this objective, ZHWRS placed tutors and lecturers at health training institutions in zones A, B, C and D. One of the main objectives of the survey assessment was to measure the extent to which the ZHWRS has led to an increase in the number of tutors and health workers graduating from the ten training institutions that were part of the evaluation.

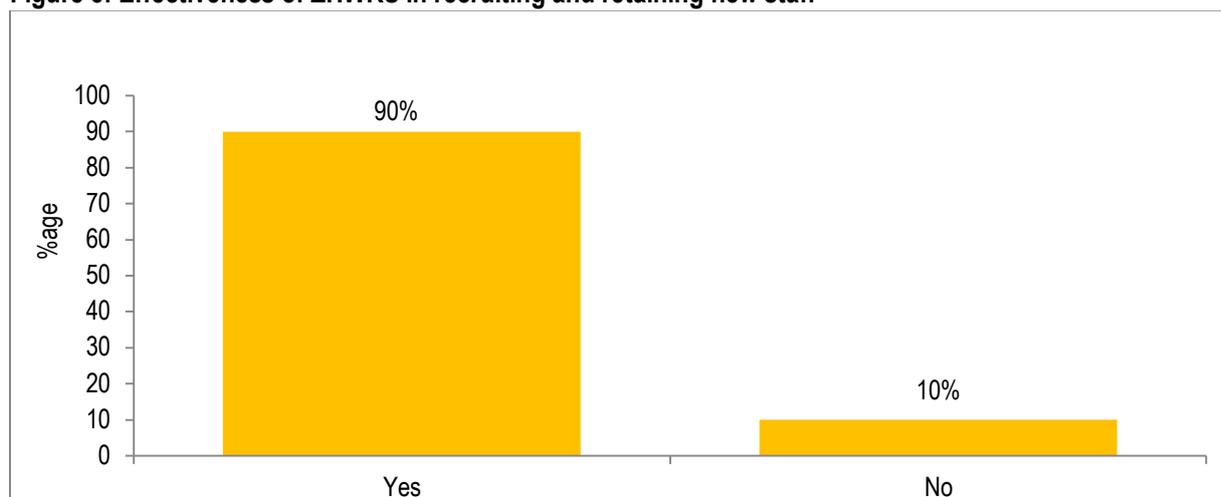
Almost all of the ten training institute in-charges interviewed indicated that the ZHWRS had been effective in recruiting and retaining lecturers. While this does not provide direct evidence of impact of the scheme, the in-charges predominately reported that, in their opinions, the scheme was a benefit to the institution as well as to the community.

The vast majority of respondents stated that the design of the ZHWRS program was sound in terms of being able to reach the goal of recruiting and retaining new lecturers and tutors into health training schools. One interview participant stated,

“I would say that it is very beneficial, because our lectures have been getting an extra incentive apart from the salary that they get from the government; as a result we haven't had any of our lectures leave for greener pastures.”

Key informants agreed that staff recruitment and retention were positively impacted by the scheme. The figure below (Figure 5) shows that among the entire respondent who were asked if the ZHWRS program design was effective in increasing new staff on the scheme (regardless of cadre), the majority answered “yes”.

Figure 5: Effectiveness of ZHWRS in recruiting and retaining new staff



It was more common for training facility in-charges to mention effects of the ZHWRS rather than new recruiting. Interestingly, the combination of the financial and non-financial incentives as also believed to be having an effect. From another training facility:

“To some extent it has benefited training institutions because... tutors are retained in the training institutions because they are getting something so the retention scheme has helped to retain the teaching staff who would have loved to go out, who would have loved perhaps to join other organizations...”

In-depth interviews revealed that managers of the scheme as well as some training institution in-charges believed that the scheme had a positive effect on the staffing of tutors and lecturers.

“We have quite a number of tutors coming to the training institutes due to the scheme and others are even coming on board on contract and we’ve introduced them on the scheme.”

From an interview at a training facility:

“We have witnessed an increase in terms of the enrolment ratios at schools because we have tutors who are qualified, and the ministry is appointing them deliberately so they can lecture and bring about an increase in the number of graduates ... and there are also other deliberate policies like the direct entry midwives, which government brought in, and we have also seen other private sector institutions coming on board. So in terms of output of staff we see each year more and more graduates. And these graduates every year we are also posting them.”

The scheme management officers at the MOH noted that in their opinion the ZHWRS had brought positive benefits. They perceived there to be an increased number of staff volunteering for rural posts, which they believed lead to increased capacity at facilities.

However, difficulties with the scheme were also mentioned when interviewees were asked whether it had an effect due to the delays in adding members to the scheme as well as delays in payments. For example, one training facility manager noted that an application for the scheme had been submitted three times over approximately a year and a half, but the individual had not yet been added to the scheme.

Objective 3 also aimed to analyze if participation in the ZHWRS scheme would enable training institutions to produce an increased number of graduates at training facilities (and therefore produce more qualified health workers). The evaluation looked at the number of graduates per year at training institutions. However, training institutions did not increase their enrolment capacity as a result of employing ZHWRS tutors and lecturers, and therefore were only able to graduate up to the maximum capacity limit.

7.0 Objective 4: Review the cost implications of the ZHWRS

The survey sought to review the cost implication of the scheme on Government. The evaluation did not undertake a systematic assessment of value for money. Instead, the evaluation focused on delivering simple analysis of cost in terms of relevance, efficiency and effectiveness.

7.1 Relevance

Relevance in the survey was measured in terms of the scheme addressing part of HRH problem of human resource in rural area. An analysis of the distribution of the staff on the scheme was used while several other questions were asked to the respondents to measure.

As earlier alluded to the previous section of the report, close to 70% of health workers on the scheme were located in C or D ranked districts. If over two – thirds of the participants on the scheme are in C or D ranked districts, then it can safely be said that the scheme is relevant as it has managed to distribute the health workers in the relevant district. 65% of the respondent indicated that the scheme was very relevant as it managed to retain the health workers in the different challenging districts, while 57 % said, the health workers on the scheme improved services delivery, served the community, reduced referral and increased the number of health workers.

Furthermore, the relevance the scheme cannot be over emphasized because nearly all (99 %) of the respondent indicated that they applied to be on the scheme. 65 % of the respondents indicated that they applied to be on the scheme because of the benefits it offered while 19 % indicated that it offered a good opportunity.

7.2 Efficiency

ZHWRS provides significant allowances, end-of-contract bonuses as well as other material incentives for participating health workers so that health workers can deliver services at their post. The evaluation examined whether the cost of paying additional money to health workers was effective in terms of increased availability of health services. This included compliance to the guidelines with ZHWRS requirements, frequency and length of time that scheme members have been out of the work station; amount of time spent doing administrative duties, and whether the staff is part time or full time. The measure of efficiency also considered timeliness in management of the different processes of the scheme, such as the time between recruitment and when they started receiving allowances.

The ZHWRS guidelines note that the purpose of the scheme is to support provision of clinical care, and calls for participants in the categories of medical consultants, medical officers, and medical licentiates to only spend 10-15% of their time on administrative duties (Table 8). When asked, approximately half of all respondents reported spending 15% or more of their time on administrative duties. Of the 42 respondents who were in these three cadres, approximately 60% reported spending more than 15% of their time on administrative duties.

Table 8: Percentage of time spent on administration by Medical Consultants, Officers and Licentiate Respondents

% of Time	Number	%
Less than 15%	17	40.47%
16-30%	11	26.19%
31 to 45%	3	7.14%
46 to 60%	8	19.05%
61 to 75%	1	2.38%
76% or more	2	4.76%
Total	42	100%

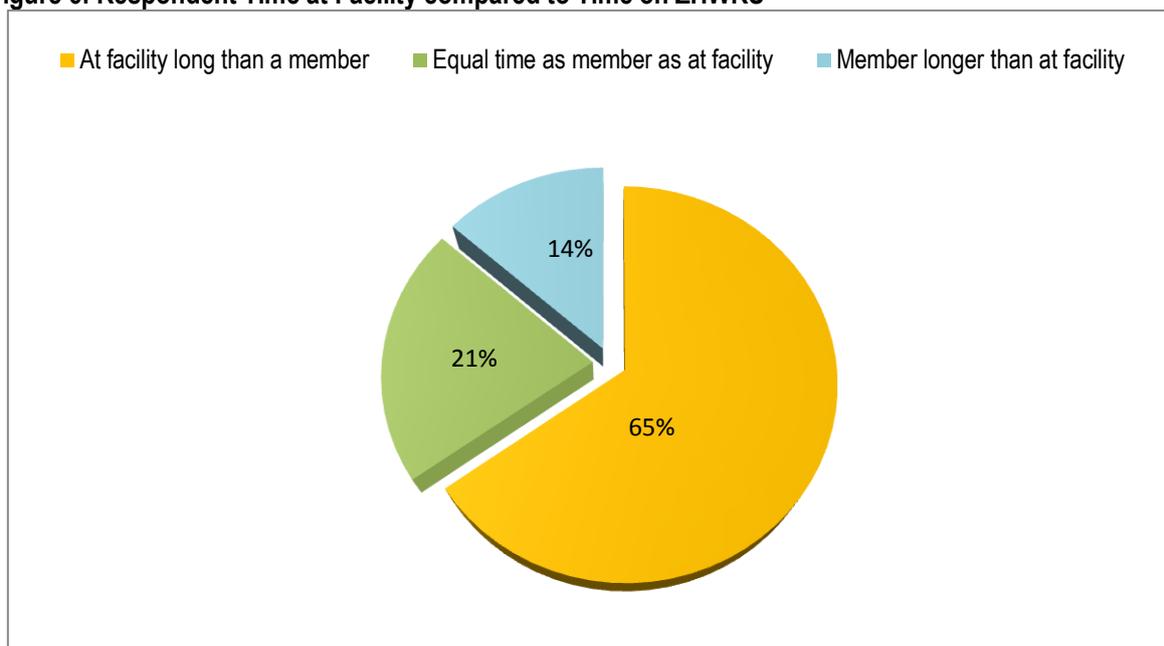
The ZHWRS guidelines instruct that only scheme participants who are medical consultants, officers, or licentiates are eligible to receive a one-time housing renovation payment and vehicle/property loans. The majority of scheme participants in the qualifying cadres were aware of the benefits, with fewer aware of the vehicle or property advance than the housing allowance. Only seven of 43 respondents in the qualifying cadres reported utilizing the housing allowance, while 15 reported having utilized the vehicle or property advance.

One tutor/lecturer reported having received the housing renovation payment. It is not known if the individual was perhaps also one of the qualifying cadres, or if that person should not have received the housing allowance as a tutor/lecturer. None (165) qualifying participants reported receiving a vehicle/property advance.

As noted in the methodology section, approximately half of expected interviewees were not available at the facilities at the time of visit. This information provided a general overview that a substantial number of health workers are never at the facility which is against the scheme guidelines.

Based on the amount of time respondents reported having been at their current facility and amount of time on the ZHWRS, approximately two-thirds of all respondents had been at their current facility prior to being added to the scheme (Figure 6). As those workers were already at their facility, it may be concluded that those individuals were not recruited by the scheme and perhaps would be at the facility regardless of the ZHWRS. In these cases, it might not have been cost-efficient for GRZ to enroll them on the scheme.

Figure 6: Respondent Time at Facility compared to Time on ZHWRS



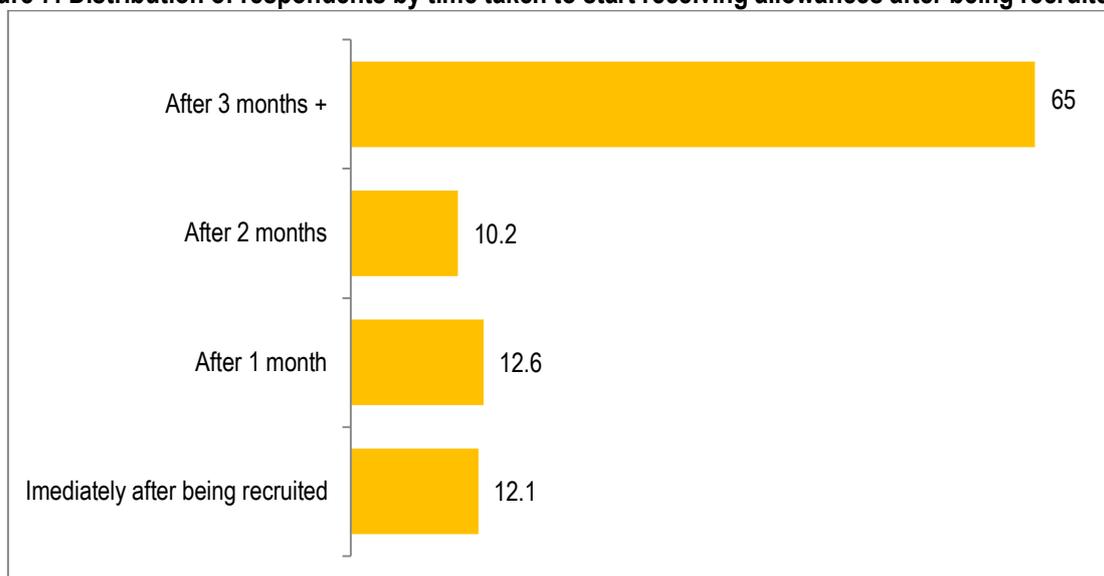
7.3 Effectiveness

To measure effectiveness, the survey assessed the management of the scheme in terms of timely initiation and ongoing payment of allowances and the general management of the scheme.

The ZHWRS survey asked respondents if they have ever experienced any delay in the monthly payment of ZHWRS allowances. The majority (94 %) indicated that they have experienced some delay in receiving the monthly allowances. Of those who experience delays in receiving monthly allowances, 90 % indicated that they have experienced delays at least three times.

In terms of time they started getting the allowances, the majority (87 %) of the respondents indicated that they did not receive allowances immediately after being recruited (Figure 7). Sixty-five % indicated that they started receiving their allowances three or more months after recruitment.

Figure 7: Distribution of respondents by time taken to start receiving allowances after being recruited



Timely processing of loans was also measured as sign of effectiveness in the management of the scheme. According to one of the managers of the scheme, if all the required loan application documents are available and clearly filled, and if the funds are available, the loan should be processed within three months. Of those who applied for a loan (170), only 35 % received their loan within the recommended three-month period while 65 % received their loan after four months or more. It is unclear what mechanisms are in place to recover these loans.

Table 9 below provides a hypothetical picture of the amount required to be spent on the retention scheme per month if the target of 1400 were met. However, with the current status of funding, this figure is a cause for concern moving forward.

Table 9 Achievable target vs. Cost per month

Cadre	Target	Monthly Allowance*	Payable per Month
Medical Consultants	30	6,732.69	201,980.79
Medical Doctors	300	5,480.77	1,644,231.00
Medical Licentiates	100	3,024.00	302,400.00
Clinical Officers	120	1,600.00	192,000.00
Tutors and Lecturers	300	2,646.00	793,800.00
Nurses and Midwives	400	1,600.00	640,000.00
Environmental Health Technologists	150	1,600.00	240,000.00
Total	1400	22,683.46	4,014,411.79

**the maximum allowance payable to each cadre was used for calculation*

8.0 Objective 5: Review the implementation of the retention schemes in the region and those by GRZ

The evaluation reviewed various retention schemes in the Southern Africa region for lessons applicable to ZHWRS implementation. The review analyzed published evidence on the use of incentives in South Africa, Lesotho, Botswana, Malawi and Swaziland. As stated above in Section 2.5: Research Limitations, no documentation was available on other retention schemes used by GRZ.

The health worker crisis in the Southern African region is characterized by common challenges, including inadequate numbers of workers, poor distribution of the health care workers, and attrition.⁵ Health workers experience low salaries; poor, unsafe work environments; a lack of defined career paths; and poor quality education and training. In addition to these problems, there is an ever-higher demand for the availability and retention of health workers. Failure to retain staff results in losses that primarily disadvantage poor, rural and under-served populations⁶. Incentives are used to overcome inequities in supply of and access to health services. Countries in the Southern African region have implemented the retention scheme through the provision of financial or non- financial incentives. Most countries have both their government and multiple donors supporting the scheme program.⁷

All five countries reviewed provide rural allowances as a financial incentive (South Africa, Swaziland, Malawi, Botswana and Lesotho). Lesotho also provides mountain allowances. Health workers in the above countries are also offered a variety of non-financial incentives. These include distinctive training and career development incentives such as professional development, opportunities for higher training, scholarships/bursaries, early promotions, and research opportunities. Other countries have implemented the scheme through addressing social needs, i.e. housing and staff transport in Lesotho and Malawi; childcare facilities in Swaziland; and employee support centers in Lesotho.⁸

Other non-financial incentives offered include either improved working conditions or plans to improve working conditions, e.g. offering better facilities and equipment and providing better security for workers. Most countries which offer incentives have developed or are developing human resource management (HRM) and human resource information systems (HRIS). These systems have been instrumental in improving motivation of health workers through better management.⁹

Lack of formal monitoring and evaluation (M&E) of the incentives implementation, lack of periodic reviews (including performance appraisal) and non-availability of a sustainable strategic plan for the scheme affected the management of the scheme programs. Two countries are using HR planning based on sound HRIS data (Botswana and Mauritius). Another positive trend is the move towards country-owned, rather than donor-driven, programs. There is need for a wide consultation with all stakeholders, including with health workers and financing agencies, to make the incentives both acceptable and sustainable. Other than this, periodic reviews of the incentive schemes, at least annually, to monitor the impact of the scheme and document successes, failures and problems associated with implementation will improve the management and implementation of the scheme. This practice will address the changing expectations of health workers and suggest areas for timely corrective action.

9.0 Objective 6: Review the implementation and management of the scheme

A common problem mentioned by respondents was a lack of updated information about the scheme. Two-thirds of respondents reported that they had not received any orientation to the scheme, and approximately the same amount stated that ZHWRS staff had not provided them with any information regarding the scheme.

⁵ Yoswa M Dambisya: Padarath et al, 2003; Ntuli, A review of non-financial incentives for health worker retention in east and southern Africa; 2007

⁶ Ibid

⁷ Ibid

⁸ Ibid

⁹ Ibid

Most facility in-charges do not conduct any awareness activities for the program, while some mentioned that it may be discussed in meetings and that they provide information about the program when asked. None of the facility in-charges were aware of the facility-level incentive, and only one of seven interviewed DMOs was aware. Lack of information and transparency in scheme management was noted by a number of respondents, as were requests for more information and clear procedures for claiming benefits.

When asked to share the perceptions of workers on the scheme regarding its management, responses centered on perceived problems in management relating to the irregular and late payment of benefits. Some noted a concern over whether the scheme will continue, as well as difficulties in receiving feedback and recruiting new staff to the scheme. DMOs gave several suggestions for improving the scheme; the most commonly-mentioned ones were to pay benefits regularly and to increase the number of individuals participating in the program. Improvements in facilities and equipment, staff housing, and increasing the benefit amount were also mentioned.

Table 9: Have contacted ZHWRS		
	Number	%
Yes	176	85.02%
No	31	14.98%
Total	207	100%

The intended implementation practice for the scheme is for the members to receive a monthly allowance to their bank accounts separate from their standard salary. The majority of the respondents had previously contacted someone regarding the scheme, with the primary reason for contact being problems with receipt of their monthly benefits (Table 9). The vast majority of respondents reported having

experienced delays in the monthly payment of their scheme allowances. Approximately two-thirds reported that they had such delays with their monthly allowances more than four times in the previous twelve-month period.

As over half of the respondents had been part of the scheme for four or more years, many had received or were due to receive an end-of-contract bonus. Difficulty in receiving the gratuity was mentioned as a problem by a large number of respondents. According to the scheme guidelines, the end-of-contract bonus is equal to nine months' worth of the individual's monthly ZHWRS allowance to be paid if the member had worked the full three-year period without breaks. Most scheme interviewees were aware of the end-of-contract gratuity, with approximately one-fifth of them having received it previously. However, a majority of respondents were not aware of the value of the gratuity they would be eligible for, and a large number were not aware of the process for receiving it.

One training facility manager noted that an application for the scheme had been submitted three times over approximately a year and a half, but the individual had not yet been added to the scheme. Generally, respondents felt that the design of the program was working especially with respect to providing extra monetary incentive to program. However, poor implementation, management, lack of transparency in the recruiting process and delay in payment of monthly allowances were the commonly mentioned problems.

Part 5: Discussion

Challenges and lessons learnt

The primary challenges facing the facilities (according to the in-charges) include lack of adequate staff housing, understaffing, and attrition, lack of equipment and poor infrastructure. Communication and lack of transport to the closest referral center were also mentioned as challenges by two facility in-charges.

Training facility in-charges listed multiple items when asked about the main challenges facing their facility. Staff housing was the most often mentioned challenge, with human resources, inadequate infrastructure, facilities and office space also listed among the primary challenges. Echoing the information provided by the scheme participants, the facility in-charges universally mentioned the problem of irregular and late payments when asked to characterize the perceptions of lecturers on ZHWRS of the program's management. A few mentioned that there were concerns as to whether the scheme will continue as well as the delays in adding new recruits to the program.

The primary challenges cited by the DMO respondents continued to be staffing and staff retention. Staff housing, transport and communication were also listed as primary challenges faced in their districts. When asked to describe specific challenges regarding the scheme, a majority mentioned the problems with late and missing benefits payments, as well as the scheme not being managed effectively. Difficulties with the long length of time to add new recruits were also mentioned as well as lack of transparency in the recruitment process. A number of individuals recommended sending scheme payments with the regular salary in order to increase regularity as well as provide a record of the payment on a pay slip.

Facility in-charges had a number of suggestions for improving the scheme. The most-often mentioned recommendations were for the scheme benefits to be paid regularly as scheduled, for additional members to be added to the program, and for the value of the benefit to be increased. The need for promoting improved facilities and equipment was also noted by a lot of the respondents, including the need to have equipment to fully utilize the skills of new scheme staff members. Increasing knowledge of the scheme as well as improving staff housing options was also mentioned, and a number of respondents recommended sending scheme benefits with the regular salary payments.

Other notable challenges with the administration and implementation of the retention scheme included late submission of contracts for new entrants and renewal; poor communication for transfers; lack of cooperation towards the management of the scheme by field HRMOs in the districts; under- and over-payments due to transfers or movements for scheme members; and potential loss of funds paid wrongly to staff that leave their stations and remain unreported.

The most commonly suggested ways to make the program more effective were to ensure that benefits are paid on schedule and to increase the amount of benefit provided to scheme participants. When offered the opportunity to list the changes, training facility in-charges felt the most common changes were that more staff were available and that the scheme increased staff motivation, although one in-charge specified that staff were already motivated, and therefore the scheme did not cause any change.

The scheme managers noted the challenges faced in implementing the program, which resulted in the difficulties faced by the scheme members. The primary challenge identified was that the funds were not always available from the Ministry of Finance at the time they were needed so that timely benefits payment could be sent to scheme participants. One manager stated, "At the end of the day, the money that we receive is not enough to cater for the scheme incentives."

They acknowledged that at times the scheme may owe arrears to individuals, but it can only pay if the money is available. However, to their knowledge, there has not been anyone who has left a position because of lack of on-time payment from the scheme. Instead, individuals have left the scheme if they transferred somewhere which doesn't qualify or if they returned to school.

Additionally, they noted the challenge of using management officers who also have other responsibilities competing for their time, with the recommendation for having staff dedicated full-time to the management of the scheme. Another challenge was receiving feedback and data requested by HQ from districts when needed, and scheme members are not always reported by the districts in cases where they have left facilities, gone to school, etc.

Sustainability

The core issue of the scheme is to provide incentives to health workers so that they can be retained in rural and remote areas of the country. The incentives are provided either as financial or non-financial. This section tries to address sustainability of the ZHWRS. Generally, it is proving to be a challenge to sustain the retention incentives because of lack of funding, weak management and lack of a strong monitoring mechanism. Non-availability of funds and a poor condition of services and working environment prevailing in the rural and remote areas further possess a challenge in sustaining the scheme.

Under these challenges, it appears that developing a strong management and implementation plan of the scheme, which acknowledges the paucity of available resources and considers non-financial incentives, may prove to be the best approach to sustain the scheme. A closer consideration of non – financial incentives (such as approving of the appointment of suitable staff that have been in acting capacities as early as possible, early confirmations, early advertisements of position, filling of positions, staff housing, improved infrastructure, improve staff conditions and equipping the health facilities) may be more sustainable than financial incentives. These actions have proved to motivate staff and help to retain health workers. Evidence suggests the successful application of non-financial incentives is associated with:

- Proper consultative planning
- Long-term strategic planning within the framework of health sector planning
- Sustainable financing mechanisms, for example national budget

The evaluation recommends that these factors be interrogated in a Sustainability Strategy.

Part 6: Conclusion and Recommendations

- The scheme is below its target enrollment and the percentage of each cadre enrolled often does not align with the targets. If funding cannot be obtained to fully implement the full scheme targets, the MOH should evaluate its target enrollment levels by cadre, given its current and projected funding levels, and manage the scheme so that the targeted cadres are represented in the scheme as desired. This may happen over time as individuals leave the scheme by replacing those spots with individuals from underrepresented cadres.
- Non-financial incentives should be strengthened in view of inadequate funding to currently meet the monthly payment of allowances.
- 57% of the respondents reported that they had been part of the scheme more than one contract and reported that they were already at their facility when the scheme was introduced. It may be concluded therefore, that those individuals were not recruited by the scheme as they had been in their facility for years already, including before the scheme started. The remaining 43% are in their first contract. Further, the evaluation found that two-thirds of respondents plan to stay at their location after retention scheme ends. Consequently, there is a need to review the eligibility criteria for scheme membership by cadre and health facility to ensure that the scheme remains relevant.
- Approximately half of expected survey respondents were not available at the facilities at the time of visit. Almost 20% of these were either no longer at the facility or not on the scheme and the majority of the non-available staff had other or no reason recorded. This suggests that a more robust tracking system as well strengthening the coordination between the MOH Headquarters, the districts and the facilities is required. MOH Headquarters needs to know when staffs are transferred or away on study leave so that they can be removed from the scheme if needed. In addition, a further analysis is required to find out the reasons why scheme members leave their stations.

- Scheme members and managers at district level reported to have insufficient knowledge of the ZHWRS operations. Therefore, there is need to decentralize the management of the scheme to the district levels for improved communications with facilities on the scheme.
- The ZHWRS incentives should be facility-based and paid through GRZ payroll to ensure transparency.
- The selection criteria for training institutions on the ZHWRS need to be redefined.
- A sustainability strategy of the ZHWRS should be developed.

Recommendations from scheme managers included the following:

- Ensure sufficient funding.
- Work with the districts on management practices.
- Update the list of facilities which qualify for the scheme regularly, as new health facilities are opening around the country.
- Pay scheme allowances through the payroll system in the same way that rural and remote hardship allowances are paid, as a means of streamlining the payment process.
- Increase the retention allowance and extend other incentives to cadres beyond doctors.
- Include infrastructure improvements to rural health centers.

Part 7: Annexes

Annex A: Districts by Remoteness Level

A	B	C		D
Chililabombwe	Chipata	Chadiza	Mpungu	Chama
Chingola	Choma	Chibombo	Mumbwa	Chavuma
Kabwe	Kapiri Mposhi	Chinsali	Mungwi	Chiengi
Kafue	Kasama	Chongwe	Mwinilunga	Chilubi
Kalulushi	Mansa	Isoka	Nakonde	Gwembe
Kitwe	Mazabuka	Itezhi Itezhi	Namwala	Kabompo
Livingstone	Monze	Kalomo	Nchelenge	Kalabo
Luanshya		Kaoma	Nyimba	Kaputa
Lusaka		Kasungula	Petauke	Kasempa
Mufulira		Katete	Samfya	Luangwa
Ndola		Kawambwa	Serenje	Lufwunyama
		Lundazi	Sesheke	Lukulu
		Masaiti	Siavonga	Luwingu
		Mbala	Sinazongwe	Mambwe
		Mkushi	Solwezi	Milenge
		Mongu		Mporokoso
		Mpika		Mufumbwe
		Mpongwe		Mwense
				Senanga
				Shangombo
				Zambezi