Staffing rural hospitals through Umthombo Youth Development Foundation (UYDF) in South Africa: Challenges and Opportunities

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Abstract

Despite the governments 'healthcare for all' focus since the country's first democratic election in 1994, many rural district hospitals in South Africa have struggled to find and retain adequate staffing levels in order to be able to deliver on the District hospital package of services. Many of these hospitals have relied on non-profit organisations and other privately owned institutions to assist them in improving their staffing levels and service delivery. Umthombo Youth Development Foundation (UYDF), a NPO's started in 1999 at one rural hospital in the Province KwaZulu-Natal, provides funding to youth from rural areas to study a health science degrees with the understanding that they will return to serve at their rural-based hospitals. This review describes the role that UYDF has played in assisting rural-based hospitals with recruiting and retaining staff, the relationship between UYDF and hospitals, the 'UYDF' model, as well as the challenges and opportunities presented through the partnership between UYDF and rural district hospitals. It aims to inform and contribute to health policy initiatives that can help rural-based hospitals to recruit, attract and retain staff. Using a case study research design, existing data was used to present a detailed descriptive analysis of the UYDF health education and employment model. The results from this research paper suggest that the model provides a solution which can address the problem of hospital staffing, and that if challenges are managed, other rural-based hospitals in the country could benefit from the model.

Background

The challenges of staffing rural hospitals are a global phenomenon with rural-based health care facilities the hardest hit by these challenges, which also negatively impacts the clinical outcomes of patients. According to the literature there are a myriad of challenges associated with the staffing of hospitals in rural areas specifically in the third world countries [1], and South Africa is not exception to these. Studies conducted in America,[2, 3], Europe [4], and Australia [5] reveal that hospital staffing remains a serious problem with low and middle Income Countries (LMIC) countries most affected with poor staffing adversely affecting service delivery and contributing to premature deaths.

In sub Saharan Africa, there is a need for almost 1 million additional health care professionals in order to realise the Millennium Development Goal (MDG) now Sustainable Development Goals (SDGs) health outcomes [6]. In comparison to global averages of 152 doctors for 100,000 population [7], in 2013, South Africa had only 60 doctors per 100,000 population. The large inequalities in the distribution of health personal resources between rural and urban areas exacerbate the shortage. Although the South African government has sought to address the poor staffing of rural-based hospitals, it is not easy to attract health personnel to rural areas for various reasons. The lack of social amenities is an important reason which makes it difficult for families to thrive in these settings. In addition, there is a tendency for government policy to focus on the provision of medical doctors, while other cadre of HCPs are neglected.

There have been many initiatives around the world to address this issue and to ensure that rural-based hospitals are able to recruit and retain healthcare professionals. Diverse models have been implemented. A study of the New Brunswick's initiative in Canada to improve the rural hospital's ability to recruit doctors and improve staffing levels based on minority language revealed that French speaking doctors with a rural

background were more likely to set up their first practice in a rural community than their urban counterparts (Beauchamp, Belanger, Schofield, Bordage, Donovan and Landry, [8]). Marchand and Peckham in 2017, [4] conducted a systematic review of literature looking at ways in which the crisis of recruiting and retaining General Practitioners (GPs) is being addressed in countries within the Organisation for Economic Cooperation and Development [OECD] and found that some of the most important determinants to increase recruitment in primary care were early exposure to primary care practice, the fit between skills and attributes, and a significant experience in a primary care setting. Factors that seemed to influence retention were subspecialisation and portfolio careers, as well as job satisfaction. There was also evidence to suggest that the most important determinants of recruitment and retention of staff in rural facilities were intrinsic and idiosyncratic factors, such as recognition, rather than extrinsic factors, such as income.

Numerous studies have identified rural origin students as more likely to return to work in rural areas where they originated from [9, 10, 11]. However widespread poverty, particularly in rural areas of South Africa has made it difficult to identify rural origin students who can succeed in obtaining a health-related qualification at an institution of higher learning. In a recent report, Statistics South Africa's (StatsSA) identified children (aged 17 years and younger), black Africans, females, people from rural areas and those with little or no education as the main victims in the ongoing struggle against poverty [12]. This problem of poverty is a key factor preventing young people from rural areas from completing their high school studies and being able to progress to the university.

With the sparse literature on hospital staffing in rural SA and limited reports on recruitment and retention strategies for HCPs, it was difficult to determine the effect of staff shortages on hospitals and patients' clinical outcomes. This study was conducted in order to describe the role that the Umthombo Youth Development Foundation (UYDF) has played in assisting rural-based hospitals with recruiting and retaining staff, the relationship between UYDF and participating hospitals, the 'UYDF' model, as well as the opportunities presented through the partnership between UYDF and rural district hospitals. The purpose of this research study is to inform and contribute to health policy formulation and implementation which could help rural-based hospitals to recruit, attract and retain staff.

Methods

We conducted a desktop survey to supplement the information that existed in the UYDF database. We used a descriptive research design to present a detailed analysis of the UYDF health education and employment model. The motivation to conduct this type of study was to present a summary of the model and the work that UYDF has achieved since 1999, when it was started. We also aimed to describe the relationship between the 16 rurally-based public healthcare facilities with UYDF in both KwaZulu-Natal and Eastern Cape provinces and the communities living in these rural areas. Hence, this research paper is a descriptive review of the UYDF project.

Descriptive studies are defined as studies that are not truly experimental [13], and which provide information about the naturally occurring health status, behaviour, attitudes or other characteristics of a particular group. Data in this study were gathered from existing documentation and information concerning the

current status of the model being described like “what exists, with respect to variables in the situation”. Therefore, this study followed the scientific application of the descriptive analytical research design which suggests that the environment should not be changed in data gathering, and that the researcher should not interfere, but conduct the study to support other research. In this way, we were able to portray the foundation in an accurate manner. More importantly, this literature review in this research paper is referred to as part of a post-hoc rationalisation of the programme design.

The UYDF scholarship scheme

The scholarship was started in 1999 in Ingwavuma, one of the most socially deprived and educationally challenged rural areas in the South Africa. The aim of the scheme is to address the shortage of qualified healthcare workers at rural hospitals through the training and support of rural youth to become qualified healthcare professionals. The scheme started by supporting four (n = 4) students and currently supports around 250 students per annum, studying across 16 health disciplines. To date, 336 students supported by UYDF have graduated in various health science disciplines since initiation of the scheme [9, 10]. The UYDF education and training process involves an integrated model of recruitment at school level, selection, support during education and training, employment, support and retention on return to the local rural workplace (table 1).

Table 1.

Rural hospitals are the ultimate beneficiaries of the UYDF programme. Students are recruited with the aim of addressing the health science disciplines that are lacking in hospitals, and are guaranteed employment upon completion of their training. The fact that the students have done holiday work every year at the hospital, and are well known by the hospital staff, facilitates the timely advertising of posts and their employment.

table 2.

Upon graduation and employment in rural-based hospitals, graduates have assisted to address staff shortages, and in many cases have established new services (see table below)

Figure1

Challenges to the UYDF

Graduates’ placements: UYDF depends on KwaZulu-Natal Department of Health (KZN DOH) for employment of the graduates, and if the Province cannot employ them, it creates a problem for the scholarship in fulfilling its objective of addressing the shortage of qualified health care professionals at rural hospitals. The greatest negative impact of this is the failure of graduates to serve the year for year

work back obligations and is a lost opportunity for the hospitals that require their services. Financial constraints experienced by the KwaZulu-Natal provincial Department of Health has negatively affected the employment of graduates in 2017 and 2018.

When starting their work back obligations, most graduates experience a lack of supervision at hospitals because existing staff are too busy due to staff shortages to provide the necessary supervision. Other challenges include the lack of hospital equipment. The National Department of Health [16] is aware of the staff shortages and overall shortages of HCPs countrywide. Moreover, the high staff turnover at participating hospitals makes the working relationship difficult since the hospital has a major role to play in student selection, and student support during holiday work [17].

Free education / fees must fall movement: With the introduction of free tertiary education in South Africa the organisation has the opportunity to strategically reposition itself and focus on the provision of mentorship to many more rural health science students, as its mentorship model has achieved exceptional results with rural youth. Although free education may negatively affect the UYDF scholarship scheme as many students may prefer the free education route to avoid the yearly work back obligation, it does create the opportunity for the organisation to expand the mentorship programme to non- UYDF funded health sciences students across universities in South Africa.

The introduction of free higher education poses a problem for raising top-up funding from corporates, and trusts due to the misunderstanding of the fact that comprehensive financial support is only available to students who entered higher education for the first time in 2018. Students who entered higher education prior to 2017 receive capped financial support and therefore there is still a need to provide top-up financial support to them.

These aspects listed above are the key challenges facing the UYDF. There is however a plan in place to continue fundraising to continue to support ±250 students a year, as well as provide top-up financial support to students who do not receive comprehensive financial support from government, as well as to provide the academic and social mentoring support which has been critical to previous students' success. Regarding the employment of graduates in the public health sector, graduates have been instructed to seek employment at one of the 40 district hospitals in KwaZulu-Natal, as well seek employment in other predominately rural Provinces like the Eastern Cape, Mpumalanga and Limpopo. Despite the challenge of not all UYDF graduates being employed at a rural hospital, the investment in their education that will lead to employment is still of huge value, especially in light of the very high numbers of neither in education, training or employment in South Africa.

UYDF opportunities 1999–2017

The opportunities created by the scholarship scheme include contributing to improving health care delivery in rural hospitals of northern KwaZulu-Natal and Eastern Cape, improving education by creating the hope for underprivileged youth, job creation for the youth, socioeconomic development and eradicating poverty in rural areas of South Africa. For example, since its inception, the scholarship scheme has supported the

training of a total of 651 (336 graduates, 252 studying, 63 drop-out) who have trained as health care professionals from 19 different fields of health sciences. Of these 336 have graduated and are working while 252 are at university (see table 3).

Table three

Of the total number of youth supported by the UYDF since its inception, three UYDF beneficiaries have died and a total of 63 have dropped out either due to various reasons such as, non-compliance or poor academic performance at university which led to their exclusion by both UYDF and Universities. Others failed to pass on one or more occasions and the scheme withdrew its support as per signed agreement. Of the total 336 graduates, over half of them (n = 192) are female.

Table four

To date, the UYDF is the only African model that focuses on recruiting, sponsoring, mentoring, and placing health care professionals in rural hospitals with the collaboration and support of provincial DOH. The Wits Initiative for Rural Health Education (WIRHE) initiated in 2003 within the faculty of health sciences at the University of Witwatersrand used a similar model as the UYDF and served only two provinces including Mpumalanga and the North-West provinces [20], which unfortunately has been discontinued. The KZN Department of Health has a provincial bursary scheme with similar objectives to UYDF. Unfortunately, upon graduation the majority of its graduates chose to work in urban areas or join the private sectors while others out-migrate to find well-paying jobs overseas [17].

Of the nine (n = 9) provinces in South Africa, only four are partially assisted by these initiatives. For example, only 17 hospitals are served in KwaZulu-Natal and 2 in Eastern Cape Province by UYDF. The problem of health care professional recruitment and retention remains a serious challenge and needs attention, and this can be achieved through the expansion of this model as evidence from South Africa which revealed that youth of rural origin are highly likely to return and serve their rural hospitals upon completion of their studies [21, 22].

As shown in the introduction, the health sector is severely affected by the shortage of HCPs, and this specifically in rural areas which is a home to 46% of the total South African population, yet it is served by only 12% of doctors and 19% of nurses. A Human Resource of Health (HRH) report suggests that in order to meet the Human Resource (HR) needs to provide services to the population by 2030, South Africa should train an additional 4000 doctors, 15000 nurses, 800 pharmacists and 4700 medical technologists (HRH, 2011). The supply of HCPs by the UYDF is one of the potential solutions to this challenge. The major challenge facing the wider health sector in terms of human resource recruitment and retention policies is the failure to implement strategies that would facilitate the retention of HCPs specifically in rural areas. For example, the report by (Econex, 2017) suggest that HCPs leave rural areas for urban areas in pursuit of safety, good schooling for their children and access to amenities. The same report suggest that many HCPs leave South Africa for overseas where the salary is relatively higher than their earning in the country of

origin. These issues in addition to the production of limited number of HCPs probably due to few medical schools in the country; negatively affect the staffing of hospitals located in rural areas.

Conclusion

Results from this descriptive analysis reveals that the UYDF model and any other NGO with similar focus, have potential to produce HCPs to address staff shortage in rural hospitals. Based on its critical components and the full financial assistance it offers to its students, and the mentorship to both health sciences students and graduates already working at different hospitals, the model is deemed appropriate to implement in other provinces of the country where hospitals face the same challenge of understaffing. The model creates not only jobs, but through employment, the lives of rural graduates are positively impacted both socially and economically. We conclude that with the support of other entities and the facilitation of the South African government, the model could be rolled out countrywide and improve healthcare service delivery through the staffing of rural hospitals as recommended by the human resources for health strategy, and this should ultimately improve the clinical outcomes of patients in rural areas.

Abbreviations

DOH: Department of Health

GP: General practitioner

HCPs: Health Care Professionals

HRH: Human Resources for Health

KZN: Kwazulu-Natal

LMICs: Low and Middle income countries

MDGs: Millennium Development Goals

OECD: organisation for economic cooperation and development

SDGs: Sustainable Development Goals

StasSA: Statistics South Africa

UYDF: Umthombo Youth development Foundation

WIRHE: Wits Initiative for Rural Health Education

Declarations

Ethic approval and consent to participate

Not applicable

Consent for publication

All the authors read the final version of this manuscript and approved it for publication.

Availability of data and material

Data used in this research study are available at the UYDF and accessible upon request.

Competing interests

We declare that we have no conflict of interest in and for this manuscript

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We received no external funding for this study.

Authors Contributions

GZ designed the outline of the manuscript and conducted the literature surveys, gathered all necessary data which contributed to the writing of the first draft. GM provided NGO and content-based perspectives on the paper in addition to corrections and editing of and formatting of the figures. AR did the proofreading and edited several sections of the paper. All the authors approved the final version of the paper.

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Tables

Table one

The Components of the Umthombo YDF Model

a) Identifying sufficient youth with potential	
i) Marketing to Schools in the area	This entails making pupils aware of health sciences as career opportunities, the subjects and grades required to study different health sciences, the university application procedure and closing dates. Pupils are also made aware of the scheme, mainly its commitment to fund youth from rural areas who want to study health science courses, and that to be considered for support, pupils must have applied or obtained places at any public South African university to study a health Science degree. Pupils are also made aware of other funding opportunities such as KwaZulu-Natal Department of Health Provincial Bursary Scheme and the National Student Financial Aid Scheme (NSFAS) and other available funding including non-health related. They are also informed about the Hospital Open Day where they will be able to obtain more detailed information about the specific health science discipline which they are interested in and will have an opportunity to meet graduates of the scheme. From 1999 to 2007, the marketing to schools was done by the students and graduates of the scheme and from 2008 till to date, UYDF has employed a dedicated person who does the marketing at schools and who uses different strategies which includes using unemployed youth, UYDF students and graduates, Career Expo's organized by Department of Education or referrals from community members who had some information about UYDF. The main focus of the marketing is on grade 9, 11 and 12.
ii) Hospital Open Day	Each participating hospital has at least one (ideally two) Open Days a year, during which the pupils who majored in mathematics and physical science and who have an interest in studying a health science degree, visit the hospital to learn more about the field of study of their choice. Part of the Hospital Open Day involves a tour through the hospital, where all the departments are visited. Various related presentations such as the University application process, how to apply for different types of bursaries are also given on the day by the graduates from each department.
iii) Voluntary Work	Pupils who are interested in studying a health science degree, and who have applied to University, and who would like to apply for UYDF scholarship, are required to do at least one week's voluntary work at their local hospital in the relevant Department. The voluntary work gives the pupil a more detailed experience of the work in the health science discipline they wish to pursue, so that can make an informed decision about the chosen careers and enable them to make a change before incurring any costs, as well as showing their commitment and initiative as they need to make their own arrangements to do voluntary work. This also gives the hospital an opportunity to assess the candidates' interest and enthusiasm.
iv) Local Selection Committee	Applicants are required to be interviewed and selected by a local committee consisting of hospital representatives, a representative from Education, District health office representative, a community representative, an UYDF representative and where possible a local business representative. The selection criteria are: 1) they must come from the area 2) they must have applied or been accepted to study a relevant health science degree at a South African university 3) they must have done at least one week's voluntary work 4) they must be financially needy 5) they must be chosen by the local hospital selection committee and 6) they must agree to sign a year-for-year work back contract.
b) Provision of Comprehensive Financial Support	
This a full costs bursary which includes tuition, accommodation, books, food, minor equipment and incidental expenses based on the student's needs. This allows the students to focus exclusively on their studies and to improve their chances of success see, [14,11].	
c) Comprehensive Students Mentoring Support	
From 2008 a full time Student Mentor was employed to ensure that this essential support was provided consistently to all students. In 2010, in addition to the full-time mentor, a network of local Mentors, was established throughout the country to strengthen this critical component of the programme. This entails meeting with students on a regular basis to assist them in solving their academic and psychosocial issues. For more on mentorship component see [10].	
d) Holiday work	
All students supported by the scheme are required to do a minimum of 3-5 weeks holiday work at their local hospital each year. This allows them to build relationships with the hospital staff and get exposure to the world of work, as well as identifying and understanding where they will be working when they qualify. This also gives students an opportunity to complement their theory with practice, as they learn and practice under the supervision of the hospital staff, and gain experience and confidence in dealing with patients.	
e) Graduation, Employment and Work back	
Upon completion of degrees, some health disciplines require the graduates to undertake a compulsory internship training at an approved regional or tertiary training hospital. Once training is complete, graduates are employed at a rural hospital in order to honour their yearly work back contracts. The employment of graduates is the responsibility of the participating hospital, the graduates, the Districts and the Provincial DoH. UYDF informs the responsible stakeholders by April every year of the number of students expected to graduate so that they can start the process of employment. Since inception of the scheme until 2009 the employment of graduates was based on an informal agreement with the KwaZulu-Natal DoH. This process was strengthened in 2010 when a Co-operation Agreement was signed between the UYDF and DOH [9].	
f) Support of Graduates in the Workplace	
The UYDF provides financial support for graduates and other hospital staff to acquire additional clinical, or procedural training through the attendance of short courses or distance learning to ensure that HCPs are able to continue to provide quality health	

services to their underprivileged communities. This financial support provided by UYDF is a first, with the graduates contributing a third and the hosting institution a third [15].

table two

Training costs and estimated lifetime earnings of graduates, zar (2015 prices)

Disciplines	Graduates	Total cost	Lifetime earning	Cost per individual
1 Occupational Therapy	5	3,384,293	198,093,126	676,859
2 Radiography	20	13,537,171	798,263,387	676,859
3 Pharmacy	19	12,860,312	1,497,155,785	676,859
4 Biomedical Technology	14	8,047,815	542,987,675	574,844
5 Nursing	32	21,659,474	980,647,587	676,859
6 Physiotherapy	20	13,537,171	798,263,387	677,510
7 Medicine	79	69,590,138	7,539,302,053	880,888
8 Dental Therapy	9	5,173,595	329,530,887	574,844
9 Dietetics	8	5,414,868	320,499,764	676,859
10 Optometry	12	8,122,303	479,754,305	676,859
11 Speech Therapy	8	5,414,868	320,499,764	676,859
12 Social Work	14	9,476,020	431,033,007	676,859
13 Psychology	7	4,738,010	578,601,746	676,859
14 Environmental Health	1	676,859	39,980,080	676,859
15 Nutrition	1	676,859	41,804,317	676,859
16 Clinical Associate	1	574,844	37,667,577	547,844
17 Dentistry	4	3,115,493	380,556,795	778,873
Total	254	186,000,091	15,314,641,244	

Source: (MacGregor, Zihindula, Chola & Ross, 2019).

Table three

Number of students funded from 1999-2017

Total graduated	336
currently studying	252
Total drop outs	63
Total supported	651

Table four

Place of work of UYDF graduates at December 2017

All Graduates		Graduates without work back obligations	
187	Rural	91	
46	Public	28	
42	Internship		
26	Private	14	
11	Specialising	4	
8	No Post Private/Locum		
8	NGO	8	
4	Studying		
2	Unemployed		
3	Deceased		
337		145	

Figures

<p><u>Case study1:</u> One of the first UYDF graduates, a Physiotherapist, started a therapy department at Hlabisa District hospital in 2005. Upon establishment of the physiotherapy unit, speech therapy, audiology and occupational therapy successfully followed.</p>	<p><u>Case study2:</u> the Mosvold hospital in northern KwaZulu-Natal, had no optometry services until in 2004 the first UYDF graduate was placed there to work as an optometrist. He established the eye clinic at Mosvold hospital, including securing equipment needed. At the same time he ran clinics at the other hospitals in the district, until he was able to facilitate the establishment of services at each of the four hospitals.</p>	<p><u>Case study 3:</u> Another UYDF graduate joined Hlabisa Hospital in 2008 as a qualified biomedical technologist. The hospital's laboratory was unable to do CD4 and viral load diagnostic tests, critical for HIV detection, and thus all blood samples were sent to Albert Luthuli hospital in Durban. Results were only available after six weeks. This graduate instituted these tests at Hlabisa hospital and results are now available within 24hours.</p>
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Figure 1

A highlight of some changes made by the UYDF programme to rural hospitals.