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RESEARCH ARTICLE

DELINEATING ACCESS TO SPECIALTY HEALTHCARE IN ZIMBABWE; A CROSS-SECTIONAL STUDY TO INFORM EVIDENCE-BASED PUBLIC HEALTH POLICY AND PRACTICE

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Abstract

The study investigated the determinants of access and utilization of specialty healthcare services in the case of public referral hospitals in Zimbabwe using the period post-independence in 1980s to 2018. This becomes an exciting period for the study as it presents the rise and fall of Zimbabwe's healthcare system. Although there are many specialists offering specialty healthcare, the study limited its focus on specialty care physicians operating at public health facilities. The study objectives were to identify the socio-economic and health behavioural determinants that could influence access to and utilization of specialty healthcare amongst different groupings in Zimbabwe. The study specifically examined the influence of household income, insurance, health information/ education, distance to the nearest health centre, waiting time and dual practice as a variable of interest on access to specialty care. The study utilized cross-sectional household data collected through a survey from April to October 2019. Out of the 40 selected districts from a cluster of 63 existing administrative health districts, 1000 households were randomly selected using one stage cluster sampling (probability sampling design). The study used the Logistic regression model to identify the determinants of access to and utilisation of specialty healthcare based on 653 households that had reported sickness of a member within the last twelve months before the survey. The study tested the hypotheses that dual practice does not affect the supply capacity at public hospitals hence does not reduce access and utilisation of specialty healthcare; household income does not increase the demand for specialized healthcare services and that the distance to the nearest health facility does not reduce the probability of seeking of specialty healthcare services. The Logistic regression results revealed that distance to the nearest health care facility, household income, health insurance coverage, presence of dual practice and waiting time all had a significant statistical relationship with access and utilization (demand) for specialty healthcare at public health institutions. However, the study found out that health information had negative effect though an insignificant variable. Distance to the nearest health facility and waiting time was found to negatively affect access

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(demand) to specialty healthcare whereas household income, dual practice and insurance coverage were found to positively influence access and utilization of specialty healthcare at public health institutions. The study established that, as there is an increase in income and insurance coverage, access and utilization of specialty care also increased. More households in Zimbabwe (71%) are not medically insured. The study found that the provision of specialty healthcare services is too centralized thereby patients are compelled to travel long distancesto metropolitan facilities where specialty health services are more concentrated. The study further established that dual practice affects the supply capacity in public hospitals. The constraining arrangement of management and teaching services at main teaching hospitals affects the supply of specialty services. Households tend to wait longer to consult specialists at public hospitals due to poorly regulated dual practice that induces long waiting times. Given the study findings, the study recommends health policy planners to adopt a balanced centralized and decentralized modelon access to specialty care, differentiating higher and lower tier specialty care facilities to address the geographic accessibility and availability dimensions and revisiting management of training and structuring of specialty teaching services. Other major recommendations of the study include the review of supply-side policies used to enhance access to specialty healthcare services. The policies may target at implementing a public sector 'National Health Insurance Fund', driven by the government of Zimbabwe offering realistic, acceptable and affordable premiums for vulnerable groups; and expanding the scope of participation in developing the policy regulating dual practice. The study also recommends the creation of Special Economic Zones (SEZ) for Specialty health riding on the existing Government framework on SEZs. The adoption of Strategic Specialty care Partnerships (SSCPs) can enhance access and institutional capacities in dealing with the expensive response to Non Communicable Diseases, which are the main drivers for households to seek specialty care. Zimbabwe through its national health authority needs to 'Reframe the Health Agenda' on specialty care thus initiate a national health action plan that will continue to drive to evidence-based health policy and practice.

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Introduction: -

Good health is an indispensable part of people's well-being and a crucial element of socio-economic development (Kaija and Okwi, 2004). In contrast, poor health and the incapacity to both access, utilize and the provision of healthcare can be damaging to wellbeing and development as it decreases production and income. Consequently, health systems need to guarantee accessible, acceptable, affordable and responsive healthcare as well as facilitating maximum utilisation of planned services in order to achieve meaningful health outcomes (Tsou, Hung et al. 2005). Understanding health-seeking behaviour and other socio-economic influences have become a central concern for health policy-makers in Sub Saharan Africa predominantly to various social groupings. In Zimbabwe in the recent years, there is an escalating call to provide for the health needs of the underprivileged community members within the theme of Universal Health Coverage. It is argued, the underprivileged groups are mainly vulnerable as they are more likely to face challenges to access and utilize health care services. (Odwee and Adebua, 2006).

Soon after Zimbabwe's independence in 1980, health adopted the Primary Health Care (PHC) approach following the Alma-Ata Declaration (1978) as a fundamental component of successful healthcare reform. The approachfavoured more participation of communities and strengthening access and utilization of health care for the disadvantaged communities. National health strategies have continuously supported the PHC approach; the same attention has not been given to specialty healthcare. As such, there is still low investment and effort to ensure

sufficient, comprehensive access to specialty care services at referral institutions due to the absence of evidence to support various policy initiatives.

Physical accessibility remains a significant factor that cannot be downplayed in reference to specialty healthcare. Initially, distance to the nearest health facility was one of the factors that may influence the decision to seek specialty healthcare services, but there are several other socio-economic and behavioural determinants emerging with considerable impact.The United States of America's Department of Health - Health Center Definitions (2015) assert specialty health care services are within the broad category of 'additional' health services, which are not included as required primary healthcare services. A 'specialist physician' specializes on a defined part of medicine to identify or treat certain types of medical conditions. In Zimbabwe specialty healthcare refers to expert health services provided by health professionals, Consultants in a focused medical area usually handling referred cases.Zimbabwe's public health services consist of tertiary and central level institutions meant to function as a referral chain offering specialty healthcare services (Zimbabwe National Health Strategy, 2016 – 2020). These constitute hospitals directly situated at rural provinces as well as central hospitals found at metropolitan status. Ideally, all referral healthcare institutions ought to be most accessible entities of the healthcare delivery system. The study was obsessed with examining empirical and theoretical findings that determine access to and utilization of specialty healthcare using a public sector lens. The research answers the question why does it remain challenging for the public to access major specialty care at public hospitals compared to primary care, despite massive investment in policy, capacity development in infrastructure, preventive and curative programs by the government of Zimbabwe. The research objectives were to;

Identify how income and insurance coverage as socio-economic (demand) factors influence access to and utilization of specialty healthcare amongst different groupings in Zimbabwe.

Examine the extent to which supply factors; distance, waiting times, health information and dual practice affect Zimbabweans in the access to and utilization of specialty healthcare.

The hypothetic assumptions for the study were as follows; dual practice does not affect the supply capacity at public hospitals hence does not reduce access and utilization specialty healthcare; Household income does not increase the demand for specialty healthcare services; and distance to the nearest health facility does not reduce the probability of seeking health care services.The authors strongly believed primary care remains essential for Zimbabweans and must not be downplayed. However, specialty care is equally important and has not been given due attention.Currently, not much evidence exists to guide and strengthen policy interventions in enhancing access and utilization of specialty healthcare at public hospitals. The study findings can be used by Advocacy groups in advocating for inclusive programmes offered by government specially designed to improve access to specialty healthcare for the minorities. Understanding the implications of dual practice by specialty physicians in the public health sector is crucial for the development and administration of policy on physicians Private Practice. Thus, recommendations from this study can guide development partners and stakeholders in coming with a prioritization framework on quick-win focus areas essential in enhancing access to specialty care given the resource constraints.

Crisis of specialty care in Zimbabwe:

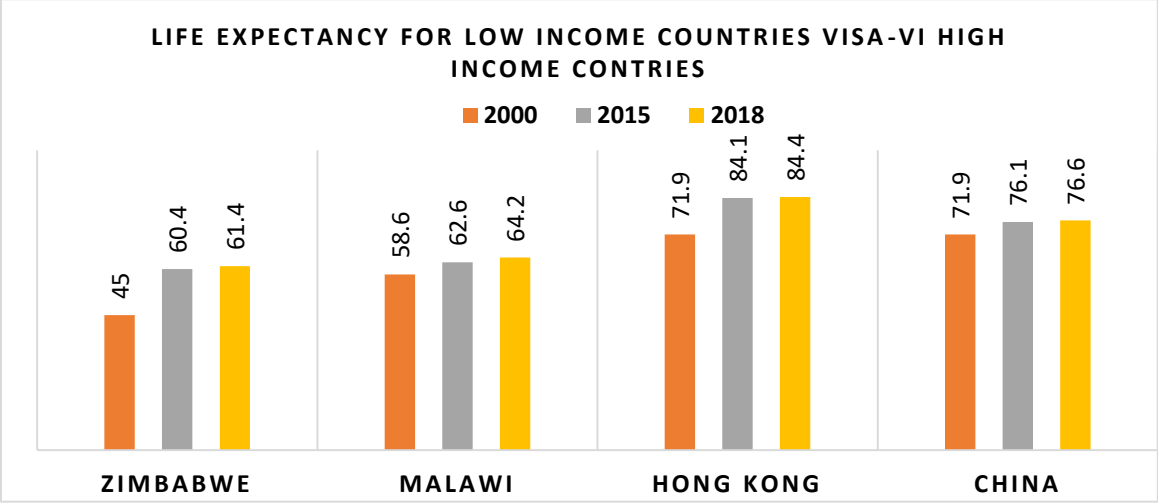
Zimbabwe hada population of over 16 million people (67% rural and 33% urban) as at 2017[①] with the country's two metropolitan provinces having high population densities compared to the eight rural provinces. Zimbabwe's healthcare system is built of the public sector (70 per cent), private sector and other health care providers (30 per cent). According to Zimbabwe's Constitution Chapter 4, Subsection 76 healthcare is a right of every Zimbabwean, and the permanent residents have the right to access to basic healthcare services including reproductive health (Zimbabwe Constitution, 2013) and other specialty healthcare services. Opposing to this, 68% of the healthcare delivery in the rural areas is from mission hospitals and clinics(World Bank, 2018), which do not have a wide coverage of specialty services. Access and utilization of specialty health services are mostly from 14% of the public health facilities situated in urban areas. The rural population is predominantly found in newly resettled land and communal lands where travelling is almost difficult. Therefore, physical accessibility to healthcare services is established as one of the challenges as the majority of the population travel distance of more than 10 kilometres to locate a functional health facility (Zimbabwe NHS, 2009-2013). The fundamental questions that haunts public health policy authorities in Zimbabwe;do we know and understand what influences the health seeking patterns for

[①]World Bank country profile for Zimbabwe 2016. from http://databank.worldbank.org/data/Views/Reports

households with specialty conditions in order to support comprehensive, accessible healthcare services within public facilities? Why Zimbabwe performs lower than other countries of similar low-income size in the region regarding health access and utilization?Regrettably, there are variations in household access and utilization of specialty healthcare aggravated unidentified factors from both the supply side and demand of the healthcare system.

When comparing with other similarlow-income countries in the sub-Saharan Africa, Zimbabwe's life expectancy at birth dropped from 58 years in 1990 to 45 years in the period 2000 and slowly rose to above 60 years in 2016[①] (World Bank Zimbabwe Country Profile, 2016). Figure 1highlights the existing disparity in life expectancy for benchmark countries.

Figure1:- Life expectancy between low income and middle – high-income countries



In contrast, Malawi's life expectancy shows steady growth from 58.6 years in 2011, at 62.6 years by 2015 and in 2018 it was higher than Zimbabwe at 64.2 years (WHO Data, 2018). In some nations with higher incomes per capita like China, life expectancy is ever improving from 76.1 years in 2015 to 76.6 years in 2018 increasing at an average annual rate of 0.21 %. Hong Kong, ranked number one in the world, has a life expectancy of 84.4 years (World Population Review, 2017). The life expectancy for a particular population group largely reflects on several variables such as lifestyle, economic status, improved healthcare and access to advanced healthcare, among others (Ananya Mandal, 2018). Therefore, Zimbabwe's status for healthcare access remains lower than other countries of similar size and is still far from reaching global health access standards.

The Non-Communicable diseases are extremely emerging as main causes of morbidity and mortality among both the poor and the rich in the country. Non-Communicable diseases had reached 31% of the disease burden (WHO NCD Report, 2014). The challenges are further made complex by shortages of critical health workforce with specialized knowledge and skills (i.e. specialty physicians). Table 1indicates the National Top Causes of mortality in all ages in Zimbabwe. The disease types indicate an increase in the need for specialty health to support the already overburdened primary care type of skills to deal with the disease burden.

Table 1:- National Top Causes of mortality in all ages in Zimbabwe 2014.

Rank	Name of Disease	Number of Deaths
1	ARI	2034
2	Certain Conditions originating in the perinatal period	1812
3	TB	1134
4	HIV	853
5	Meningitis	823
6	Diahorea and gastroenteritis due to infectious diseases	560
7	Heart failure	510

[①] http://databank.worldbank.org/data/Views/Reports/

8	Signs and symptoms, clinical abnormality	462
9	Anaemias	455
10	Malaria	441
11	Renal failure	439
12	Endocrine, vitamin, and nutritional deficiencies	403
13	Congenital infections and parasitic diseases excluding HIV	402
14	Diseases of intestines including peritoneum	337
15	Cerebral infarction, cerebrovascular accident - stroke	270

The level of health risks continues to rise amongst the economically active population. Although the country planned sufficiently for primary care conditions, the emerging trends on disease burden and demographic changes indicates the need for a shift of focus more toward specialty care. Public health planners now require more information and understanding to model relevant health policies that shall improve access and utilization of specialty healthcare by Zimbabweans.

Historical data on physician situation in Zimbabwe indicates there are still more gaps in specialty care compared to primary care. According to CIA World Fact sheet, Zimbabwe along with other SADC states, physician density① (physicians/1,000 population) in 2009 – 2011 was zero compared to other high, middle and low-income countries like Cuba 7; Greece 6; Switzerland 4; Libya 2; South Africa 1. The density of physicians in Zimbabwe falls below the WHO recommended a threshold of three to effectively deal with an ever-increasing burden of communicable and non-communicable diseases. Zimbabwe was at 1.6 physicians per every 10 000 people by 2015. The Zimbabwe National Health Strategy (2016-2020) states that presently every district has at least two physicians, which are fair enough to meet primary care needs, but tertiary and quaternary levels, on the other hand, are not able to cope with distorted referrals. The period 2007 – 2010 experienced a massive skills flight where the country's health referral system almost collapsed. The referral institutions now operate with a distorted situation where tertiary health institutions are overwhelmed by workload due to patients who seek healthcare services directly. Figure 2 demonstrates the magnitude of the disparities on access and utilization comparing a District in Zimbabwe and a district in Switzerland (the best model in the high-income world).

Figure 2:- A Comparison of access implications: District in Zimbabwe to Switzerland

Health Indicators point that the country's public health sector is deteriorating at alarming rates (Patricia Mudadigwa, 2016) with some hospitals having an unprecedented patient-doctor ratio of 1:25,000 as compared to the 1:600 set by the WHO and an ideal of 3 doctors per 1000 as recommended by United Nations.

In complimenting public sector in Zimbabwe, the private sector offers specialty healthcare services in the form of private surgeries, private clinics and hospital facilities charging market-related fees, which are too high and unaffordable to manypushingZimbabweans seeking specialty healthcare abroad. Zimbabweans have been eyeing outside their borders for specialty healthcare treatment, from countries such as India, Cuba, Malaysia, Singapore and South Africa, for surgery and expert services in areas such as cardiology, endocrinology, nephrology, and urology. These destinations are preferred, and perceived to be cheaper than local specialty services offered at public hospitals. For example, a specialty procedure of 'Total Hip Replacement' in 2019 costed US$ 11 000 in Zimbabwe while in India, it cost US$ 7 500 and a patient is likely to save US$ 3500 by going to India. In India, a coronary bypass operation costs between US$1 011 – US$1 445, compared to US$20 991 – US$20 405 in South Africa. A

①In this case physiciandensityrefers to thosewithspecialty care including General Practitioners

liver transplant in India costs one-tenth of that in the United States of America. Specialty care hospitals in India, each year, receive on average 50 000 patients from abroad. In 2013, foreigners who visited India on Medical Visa reached 56 129 and increased from 7 5671 in 2014 to 1 34344 in 2015 with the biggest number of patients is coming from Bangladesh and Zimbabwe. By 2015, the medical tourism sector in India recorded an estimated rise to have reached US$3 billion and projected to have reached $6 billion by 2018 (Ranbir Singh, 2016). Likewise, the kind of health investment used abroad could be tapped locally, if there is careful health economics understanding of access to specialty healthcare in Zimbabwe's public health institutions.

Zimbabwe poverty gap seems widening with the National Poverty Line (percentage) in 2018, at 72 % and about 21% surviving on less than US$1.90 a day prescribed by World Bank as the minimum measure of those living in extreme poverty. In 2019, Zimbabwe's unemployment reported being at above 90 per cent. Unemployment affects healthcare access and affordability as households can easily access primary care services (physicians) from public facilities at a low cost, but comparatively different when it comes to specialty care services. Table2show the average cost of specialty healthcare for a Zimbabwean compared to those in the informal sector in South Africa.

Table 2:- Consultation costs Zimbabwe compared to South Africa 2014 -2016.

Consultation	Zimbabwe US$ Rate	South Africa US$ Rate
General Practitioner	35	24
Specialty Physician (*Pediatrician consultation)*	120	33.60
Initial visit Surgeon	80	34
Consultation pensioner	N/A	3.8

Individuals dig deeper into their pockets to get specialty health services (physicians) at the public health institutions; hence, specialty healthcare now constitutes a significant portion of household expenditure. The USA Department of Agriculture report (1973) on the problems of health services pointed out urban population tend to enjoy more access to healthcare compared to rural population owing to deficiencies in specialized medical workforce, physical healthcare amenities and the capacity to meet the expense of the financial costs of illness (Aday and Anderson: 1974).

When benchmarking with international best practices, China achieved almost all of its Millennium Development Goals (MDG) by 2015① and made a leading influence to the achievement of the MDGs globally (World Bank, 2016). In the National Health Strategy for Zimbabwe (2009 – 2015), an analysis of the maternal mortality ratio trends recorded from the Zimbabwe Demographic Surveys in the past four years (1994, 1999, 2005 and 2006) indicates the maternal mortality levels increased, i.e. 283, 695, 612 and 960 maternal deaths per 100,000 respectively. According to the Institute of Health Metrics and Evaluation estimates on maternal mortality in 2016, Zimbabwe fell in the group of only 16 countries globally that have a maternal mortality ratio above 500.In Zimbabwe as at 2018, the maternal mortality ratio remained high at 651 deaths per 100 000 live births, and the under-five child mortality rate was 69 deaths per 1000 live births of which government hospitals are likely to account for the largest number of maternal deaths. The MoHCC staff establishment for specialists is not favourable in addressing effectively the problem of high child mortality rate experienced.
The Zimbabwe National Critical Skills Audit Report (ZNCSAR) of 2018 showed an overall 95% skills shortage in the specialty care disciplines classified as critical for the health sector. Table 3 and Figure 3 give a reflection of the readiness of the public healthcare system to deal with rising specialty conditions from a skills perspective.

Table3:- Statistics of registered Specialist Physicians as of March 2018.

Medical Area	**Deal by OECD Level**	**Available**	**Shortage**	**% Availability**	**% Skills surplus/ Deficit**
General Medicine	15 680	1925	-13, 755	12 %	-88%
Dentistry	10 640	366	-10 274	3%	-97%
Surgery	15 680	136	-15 544	0.87%	-99.13%

①The UN Report (2015) on China'sprogress on MDGs, recorded the success (i) in lifting over 439 million of the population out of povertyin period1990 to2011; (ii) Decreasing the under-five mortality rate by at least two-thirds: massivelycutting the maternalmortality rate by threequarters

Pathology	84	33	-51	39%	-61%
Specialist Anaesthetics	1 680	60	1 620	4%	-96%
Specialist Obstetrics And Gynaecology	2 100	89	-2 011	4%	-96%
Medical specialists	10 500	66	-10 434	1%	-99%
Specialist Paediatrics	2 100	39	-2 061	2%	-98%
Specialist Ophthalmology	4 060	35	-4 025	1%	-99%
Specialist psychiatry	2 380	18	-2362	1%	-99%
TOTAL PHYSICIANS	**59 360**	**2 834**	**-56 526**	**5%**	**-95%**

Figure2:- show the actual numbers available[①] and the deficit for specialty care physicians.

Figure2:- Zimbabwe Public health sector specialty care Physicians - Gap 2018

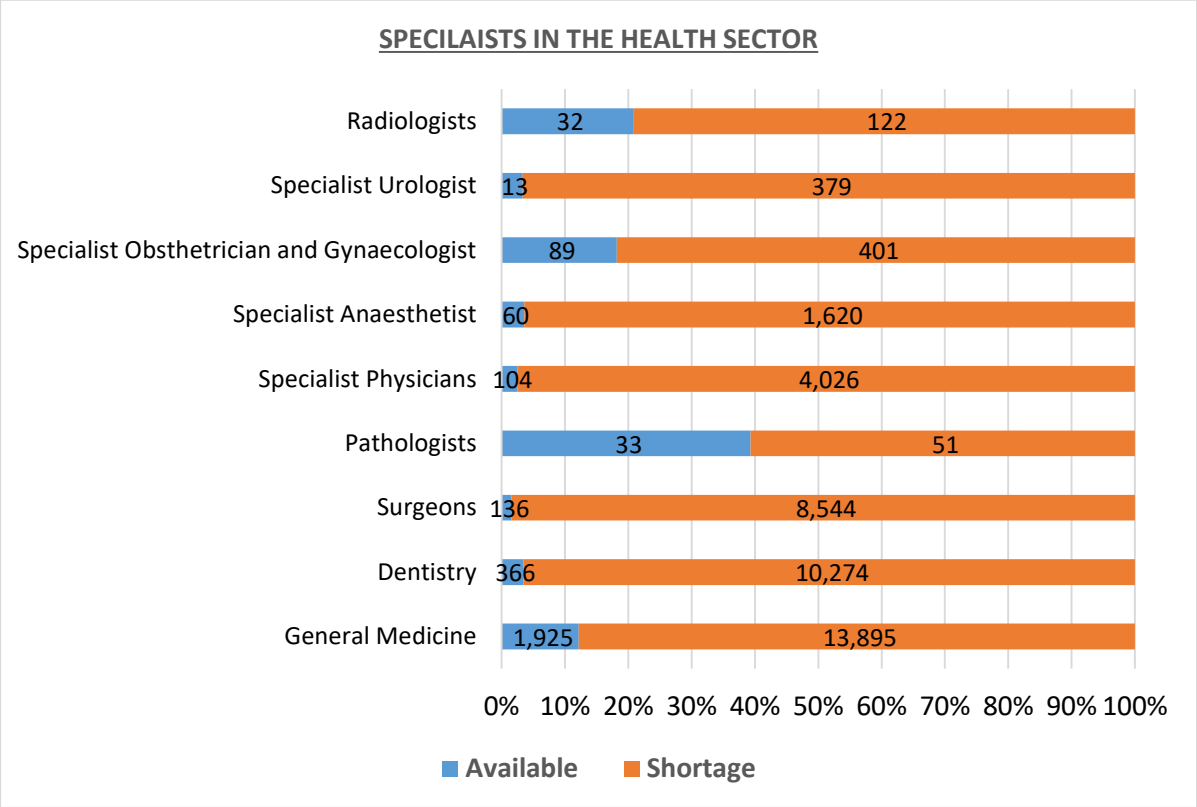
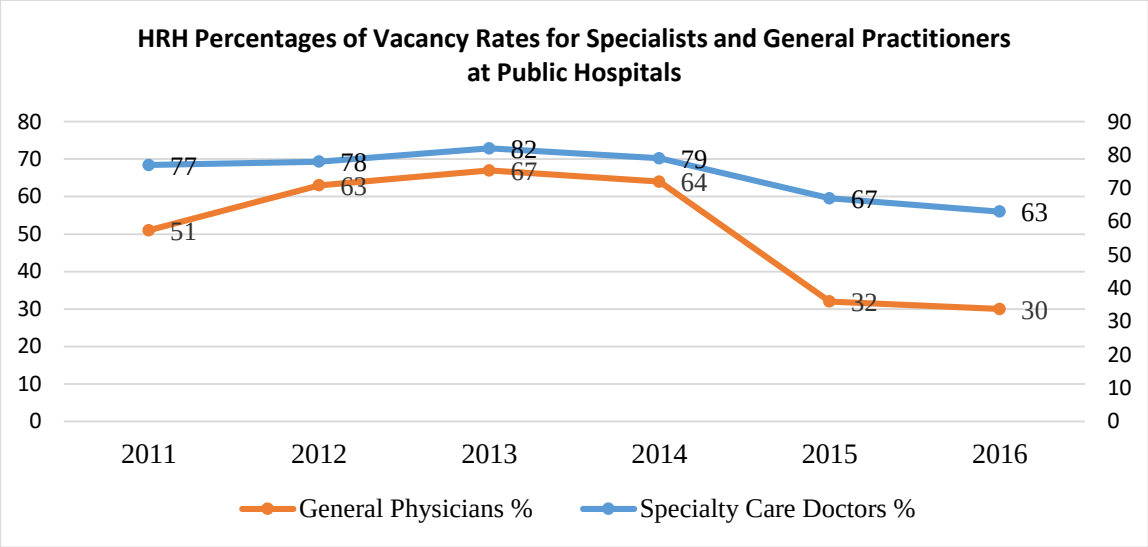


Figure3:- highlights the human resources for health staffing situation for primary care physicians compared tospecialty physicians practising at public hospitals in Zimbabwe.

Figure3:- Zimbabwe HRH vacancy rates for Specialty care Physicians and General Practitioners

[①]Statistics of 'available' specialistsisfromMedical Dental Practitioners Council of Zimbabwe for NCSAR purposesin 2018. The figure of availableincludethosepracticing in the privatesector.



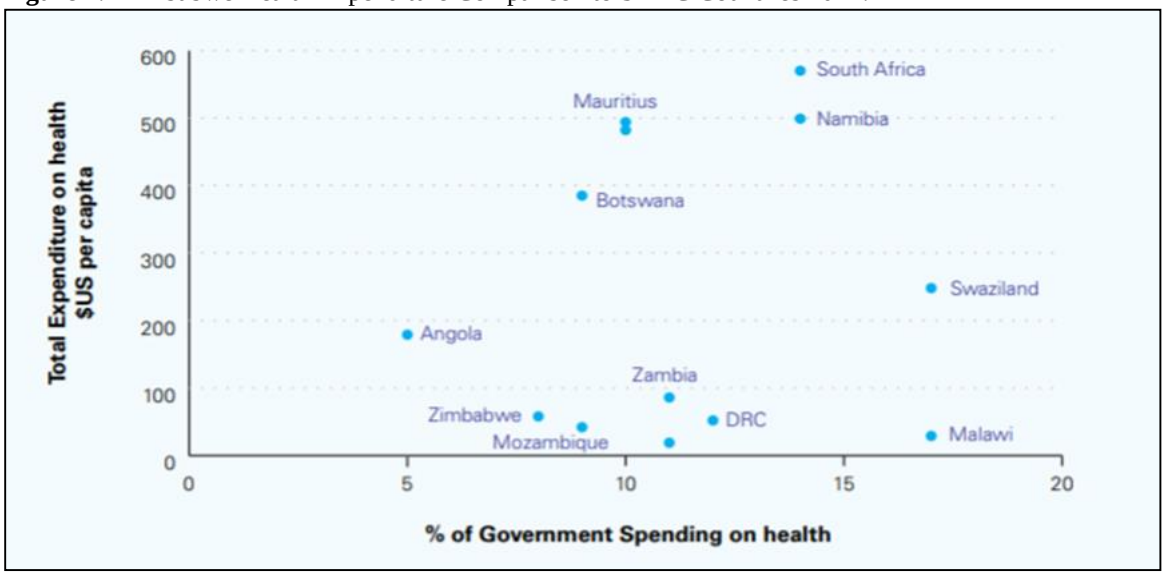
Source Health Service Board Annual Staff Returns 2011 – 2016

The Figure 3 reflects that although Zimbabwe overally faces a shortage of doctors, from the past years, it has recorded a higher percentage of vacancy rates on Specialty care physicians compared to General physicians. Further analysis suggests patients with special or complicated illnesses tend to wait longer, opting to spend months in the hospital waiting list for operations because they cannot afford millions of dollars (fees) being charged by private physicians both locally and abroad.

Zimbabwe's social and economic status on specialty care:

Adding to the challenge of access and utilization of specialty healthcare services, the majority of Zimbabweans depends on public healthcare at the moment when it is underfunded and receiving about 8, 3 per cent of the national budget over the years. In 2015, the government allocated USD$301 million to the health sector for a nation with a population with about 13.5 million by 2015 (World Bank, 2015). The government intended to spend on average, about $22 on an individual on healthcare compared with $650 for South Africa, $390 Botswana and $200 Angola. Figure 4. shows that Zimbabwe is still trapped in the bracket of those countries whose healthcare is underfunded and the underprivileged households rely on out-of-pocket payments to access expensive specialty healthcare.

Figure 4:- Zimbabwe Health Expenditure Comparison to SADC Countries 2017.



While the 2019 Budget allocation was 8. 6 per cent, it was still lower than the 15 per cent Abuja Agreement (2001) and moreover less than the sub-Saharan countries average share of 11, 2 per cent. Worldwide, health expenditure per capita has been increasing over the years. In China, it was US$64 in 1995 to US$731 in 2014, India from US$60 in 1995 to US$267 in 2014 and South Africa from US$555 in 1995 to US$ 1 148 in 2014. For Zimbabwe the per capita health expenditure in 2017 was only US$24 down from US$115 in 2014, US$24 in 2016 rising to US$31 in 2018 and US$41 in 2019 in contrast to US$7 285 for the United States of America and US$593 for South Africa. Zimbabwe's per capita allocation is remarkably lower than its regional counterparts whose average is US $146. This variation has a bearing on access and utilization of specialty services for Zimbabweans. If the government were to address the perceived gap, policymakers would need to appreciate the extent to which economic factors such as household income and insurance coverage influence how masses access specialty healthcare from public institutions.

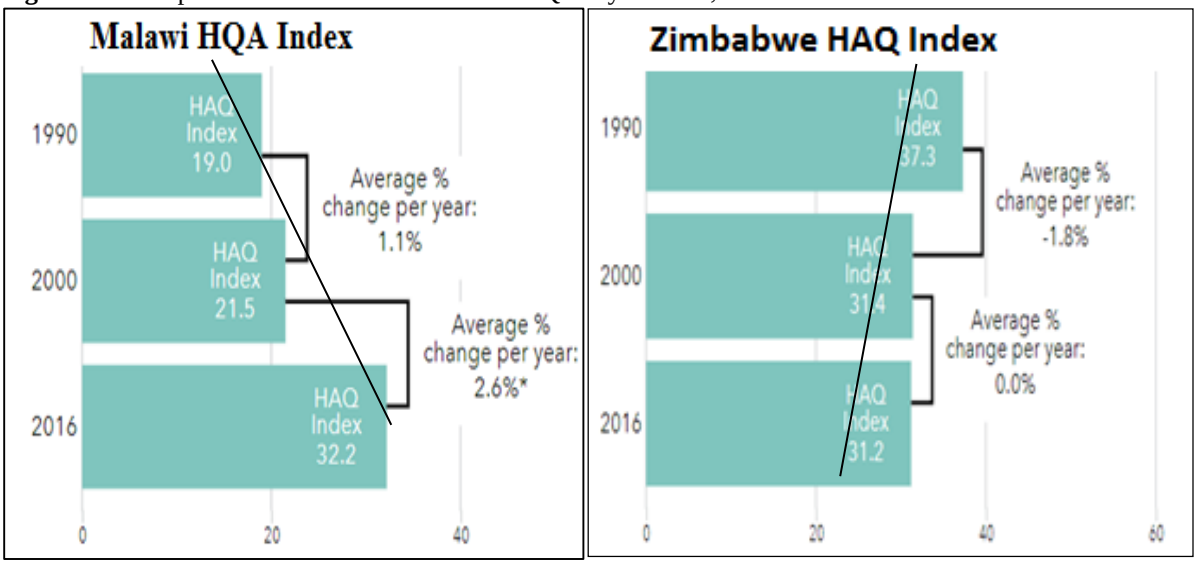
More than 90% Zimbabweans, representing 11 million of the population have no access to medical aid and insurance schemes (Zimbabwe Health Fact Sheet, PIP15) compared to other countries of similar low-income size. Zimbabwe has no inclusive national health insurance system running for the benefit of all social groups despite promises by the Government to come up with one. Amongst African countries Rwanda, emerge as the only country with wide health insurance coverage of the poor households. According to Lave and Peele (2002), all developed countries, except the United States of America, have implemented financing programmes to ensure that the majority, if not all, of their citizens, have access to healthcare services without the burden of having to fork out some money from their pockets to access health services. In Zimbabwe, there are higher chances that the majority of socially vulnerable groups would find it very difficult to access specialty healthcare services if they would have to use out-pocket payments. If a patient is a beneficiary of private healthcare insurance providers, he/she should be able to consult a specialist physician quickly and easily, while for specialist services attained from public hospitals, waiting times can be prohibitive.

Health access indicators in Zimbabwe: Comparative review to China and Malawi:

Specialty care services in Zimbabwe are perceived as inaccessible, inadequate and unaffordable. Given the ambiguity of the term 'access' in explaining specialty healthcare in Zimbabwe, it is, therefore difficult for public health policy planners to talk about comprehensive, accessible healthcare without drawing implementable lessons from a comparative approach. The Healthcare Access Quality (HAQ) Index offers a "summary measure of healthcare access and quality for a known location. This measure is constructed on risk-standardised mortality rates or mortality-to-incidence ratios from causes that, in the existence of quality healthcare, must not result in death – also acknowledged as amenable mortality" (Institute for Health Metrics and Evaluation, 2018). HQA reflects aspects like the number or causes of death, which would be preventable with effective primary care and equally strong and reactive specialty public healthcare system.

The HAQ Index can offer a dynamic measure for both informing and monitoring the policy effects and successes on healthcare access and quality, a strategic component of attaining universal health coverage. In order to hasten progress in the realization of the Sustainable Development Goal era, now is the period to align investments for improving access and quality of specialized healthcare. Zimbabwe Healthcare Access and Quality (HAQ) Index in 2016 showeda recession, compared to other countries with low income. The HAQ Index score of 31.2 for Zimbabwe in 2016 was below the international average healthcare quality and access score of 54.4. Despite the efforts by health planners to increase access to healthcare, in Zimbabwe, the outcome is going unexpectedly. The Figure 5 illustrate the direction of access and quality averages for Zimbabwe and Malawi from 1990 – 2016.

Figure 5:- Comparison of Healthcare Access and Quality Indexes, 2016.

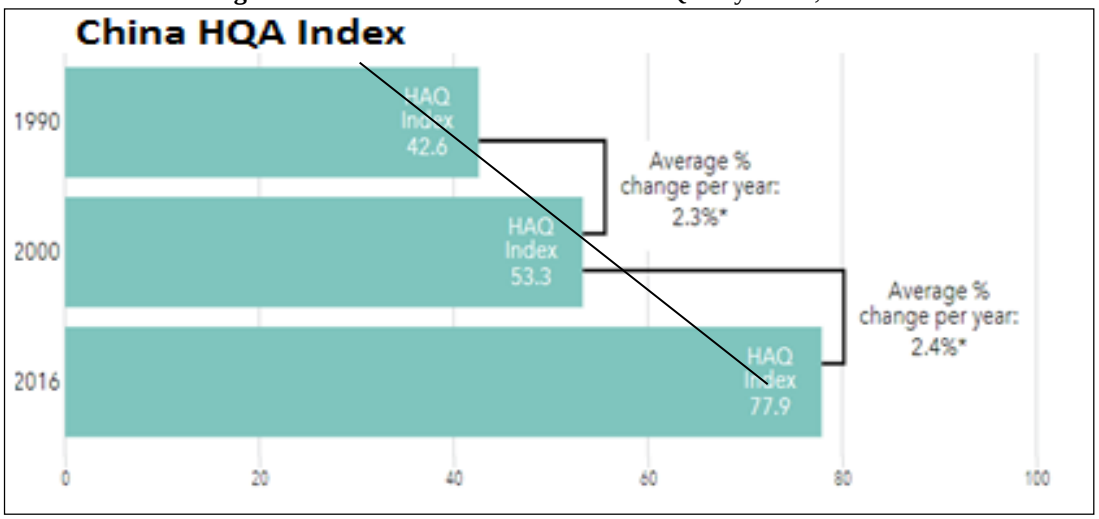


Although Malawi is among countries with poor healthcare access and utilization, it has a national healthcare service which is government subsidized, and free to all Malawians at the point of supply, to accomplish universal free access to quality health care regardless of the capacity to pay. This arrangement distinguishes Malawi's healthcare access contributions as higher when compared to Zimbabwe. The two countries face more or less similar challenges of HIV/AIDS burden, malnutrition, water and sanitation, lack of specialist physicians amongst many. However, Zimbabwe still has lower diminishing health access and quality average. Despite Government efforts to increase access and utilization of health services, the masses continue to face the challenge of long distances and high out-of-pocket costs for accessing specialty healthcare from public institutions.

Along with inspirations to strengthen public healthcare, the quest for Universal Health Coverage centres upon improving both worldwide access and quality and consequently entails assuming a more comprehensive view and the provision of quality specialty healthcare for all populations. Zimbabwe's access and quality status are close to states with lowermost healthcare quality and access scores; Somalia (19.0), Central African Republic (18.6), Afghanistan (25.9), Guinea-Bissau (23.4) and Chad (25.4). The HQA Indexes could be a reflection of misdirected investment and effort as there is no evidence to guide interventions. When comparing Zimbabwe with middle-income counties like China, HAQ Index shows, a wide gap and an increasing trend while, at the same period in Zimbabwe, healthcare access is declining.

China has made substantial steps towards providing universal healthcare coverage to the population, which can be a great lesson for low-income countries aspiring to make meaningful changes in healthcare access. Beginning of the century, merely one in every five Chinese had some form of healthcare coverage compared to a decade later, with nearly 95 per cent of the population (around 1.25 billion people) covered (Hai Fang, 2015). China's health insurance is publicly financed thus covers primary, specialist and emergency department healthcare. Although China does not have universal coverage, it has a lower uninsured rate than the United States (China Power Team, 2019).

Figure 6:- China's Healthcare Access and Quality Index, 2016.



Despite its healthcare access challenges, in 2016 China was amongst the 48th out of 195 nations in terms of ranks of healthcare access and quality with healthcare access and quality Index score of 77.9 (Lancet, May 2018). Some other nations in the top with highest healthcare access and quality levels in 2016 were Iceland (97.1), Luxembourg (96.0), Norway (96.6), the Netherlands (96.1) and Australia with 95.9 (Fullman N, 2018). The arrangement of health facilities in China passed the initial struggle of offering public specialty healthcare during day hours to its population. The Chinese government, despite facing the challenge to strengthen rural healthcare, from the rural township hospitals, urban secondary and tertiary hospitals departments /emergency rooms are readily available with both primary care doctors and specialty physicians, lessening the necessity for walk-in after-hours care centres. The Village doctors reside in the same residential locality as patients, and they voluntarily offer care services after-hours whenever needed. Thus, China offers itself as a model for aspiring low-income countries on the role of the state and the pace required in implementing health reforms.

Literature Review:-

Even though 'means to pay for health care services' is a foremost leading debate topic on the reform agenda of the health care delivery system, disparities in the distribution of services, structural elements of the delivery system have also been highlighted amongst factors directly affecting access and utilization of healthcare (Nuwer 2008, Nuwer 2008). Notwithstanding its rank as a human right, access to healthcare is uneven. Vladeck noted, "Thousands of occasions in which people who need medical care fail daily to receive it primarily because of financial blockades, transportation problems, racial or ethnic discrimination, or just the unavailability of services" (Vladeck 1981, 77).

The term access in health is used ambiguously and in most cases refers to different meanings within the health domain (Sibley and Weiner, 2011).Access tend to be a noun suggesting the possibility for healthcare use, furthermore a verb referring to the act of utilizing or receiving health care. Thus, this leads to mystification between aptitude to get care, the act of seeking health care, the actual deliverance of care and indicators thereof (Guagliardo 2004). The America Institute of Medicine, (1993) defined healthcare access "as the timely use of personal healthcare services to get the best possible health outcomes". In George and Uplekar (1994) "theoretically speaking, access to healthcare would depend on accessibility to, availability, affordability and awareness of healthcare services". They further elaborated that determinants of access to healthcare can be easily understood from two main categories namely; factors relating to the users and those about the providers of health care services.Several barriers can hold back the movement of healthcare from the potential to realized health access. Potential can be defined when a disadvantaged population co-exists in space and time with a prepared and capable health care delivery system. On the other hand, 'realized' healthcare, at times referred to as actualized care and is born out when the entire barriers to the provision of health care are surmount (Guagliardo, 2004).

Kelly and Hurst (2006) brought a different dimension to understanding accessibility and argued that it is the simplicity with which health services are reached. Therefore, healthcare access need to be apprehensive with the association between need, provision and utilisation of health amenities(Aday and Anderson 1981). Penchansky and Thomas (1981) offered the thought of fit between clients and the system when they benchmarked access using the

five elements of access namely; availability, affordability, accessibility, accommodation and acceptability.Differences in access stand alleged to influence greatly patient satisfaction, provider practice patterns and service utilisation; these outcomes are interrelated. In their framework, Penchansky and Thomas referenced patient satisfaction as main indicator for attainment of the planned dimension in the five access elements. Pechansky and Thomas (1981) supported that access describes "the degree of fit between consumers and the existing health system".In their conceptualization the dimensions influence access and could be interconnected and mutually dependent. For instance, improving affordability through the provision of health insurance might not raise access and utilization if the other dimensions are not undertaken.

Kullgren et al. (2011) carried out the primary study using the Penchansky and Thomas model to investigate the prevalence of barriers to health care in a population.Using a countrywide representative sample (n=15,197), the researchers searched affordability and tendencies in non-financial obstacles to care (accessibility, availability, accommodation, and acceptability). The most common reasons for not accessing health care were associated with affordability barriers (18.5%). Nevertheless, collectively, non-financial barriers were mainly repeated reasons for not accessing health care (21.0%) that included amongst other reasons, inability to secure an appointment when fitting, long waiting times and transportation challenges. Marquis et al. (1985) utilized a small sample and conducted a longitudinal study that surveyed the probability of patients to change their public health care provider due to dissatisfaction. They established that 66 per cent (n=279) of individuals who were discontented with their provider at baseline changed their usual health care provider within twelve months (Allyson Ross Davies, M. Susan Marquis, and Ware, 1983).

The Behavioural Model of Health Care Access and Utilization framework developed by Andersen, in the late 1960s, and improved by Aday in 1990s proclaims access to healthcare depends on predisposing, enabling and need factors. Predisposing features describe the natural tendency of people to use health services; they comprise demographic variables such as age, ethnicity, marital status, race, gender, social networks and occupation(R. M. Andersen, 1995). The enabling factors refers to the required resources in the use of health services; they include income, insurance coverage, educational attainment and geographical site. The 'need factors' refer to health status or illness, which warrants the utilisation of health services (R. M. Andersen, 1995 and Ketts and Goldsmith, 2005). Aday and Andersen proffered an access framework that recognizes first the health policy objectives as fundamental to support or discourage for access and utilization of public healthcare services (Karikari-Martin, 2010; Banerjee, &Hagigi, 2008; R Andersen et al., 2000; Hargraves & Hadley, 2003). Ricketts and Goldsmith's (2005) observes that health access is not a fixed experience whereby an individual seek health care, and simply receives that care or does not receive. People's involvements during the interfaces within the healthcare system, and thus entails their perceptions of the healthcare system differ leading to variations in the way they receive or access health care. Ricketts and Goldsmith incisively referenced, "the changes that individuals go through resulting from using health services, or seeking to use them, should be the central aspect of an access theory" Ricketts and Goldsmith's (2005).

ChirembaTafara in June 2013 conducted an empirical study on the determinants of demand for healthcare services for the rural people using household data from Bikita District in Masvingo Province in Zimbabwe[①]. The study used householdsurvey data based on illness, using a binary dependent variable. A set of socio-demographic, and economic variables ; age of the household head, household size, education of household head, sex of household head, religion, household income, and distance to the nearest health care facility, consultation fees, number of drug types accessible and access to village health workerswere used as independent variables. A Logit model regression results showed the significance of education of household head, household income, household size, and distance to the nearest healthcare facility had a significant statistical association with the demand for healthcare services.

In his study, education of household head and household income had a positive effect on the demand for healthcare services. On the disagreeing side, household size and distance had an opposing relationship with the demand for healthcare services (probability of seeking treatment from health facilities). However, the results of the study discovered no significant relationship between age of household head, sex of the household head, religion, access to village health workers and consultation fees and the likelihoods of seeking health care. His study was relevant to this research in understanding the determinants of specialty health access from a demand-side perspective.

[①]Refer to the academicpaperunpublished Masters UZ" StudyEconomics for Demand for Health at Masvingo in 2013"

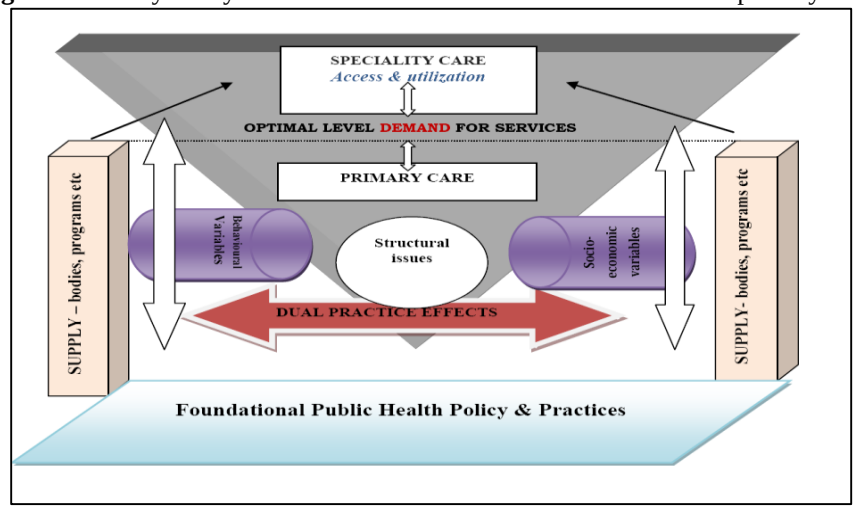
Using the regression in one of the studies, Hutchinson (1999) in Uganda established out that distance is the major influence that results in low utilisation of healthcare services in rural areas. The study used household Survey data from rural areas to model micro-econometric work on determinants of health care access in Uganda. In their study, majority rural residents walk to the nearest health facility because there is lack of readily available transport. The study found out that for each extra one kilometre travelled to the health unit; access fell approximately by 1%. In the same study, other factors, found to affect healthcare access, were income, household size, age and an individual's level of education. K. Udupa, (1991) observed Varanasi amongst residents of Uttar Pradesh, alertness about the primary health centre (PHC) declined as the distance between the facility and the respondent's parish increased. In a different study, Khan *et al.* (2001) outlined an effective planning method on the geographic distribution of health facilities to maximize the social benefits attainable from the investment in Bangladesh. It turned out that the expenditure incurred by households, counting the costs associated with maternal morbidity, tends to rise with a growing radius of health facilities catchments area.

Frederickx (1998) carried out a study on the contributing factors of healthcare demand and health care choice in rural Tanzania expending logistic regression. The objective of the study was to observe the elements influencing health care utilisation for households living in rural areas of Tanzania. Rural household data was used in selected districts from Tanzania Human Resources Development Survey of 1993 and 1994. The independent variables included age, household income, household head education, household size, sex of household head and distance to the nearest health facility. Healthcare expenditure per capita in each respective community referred to as a proxy for quality of healthcare services. The results proved that household head education, household income, household size had an association with demand and health care utilisation for households living in rural areas of Tanzania. The study results stand out to be credible given the fact that the results have been taken from a reasonably large sample size encompassing several rural districts.D Sanders, M Mckee and J Kravitz, S Lewin (1998) in their article "Zimbabwe's hospital referral system: Does it work?" attempted to explain the manifestation of long waiting times as a feature of Zimbabwe's referral hospitals. However, the study limited itself to two rural districts adjacent Harare city, about two common indicator disorders: malaria in adults and pneumonia in children. Paulo Ferrinho et al. (2004) in their HRH journal article, reviewed dual practice in the health sector across the regions. Although research has been done, the existing general knowledge on effects and manifestation of dual practice by physicians remain a researchable area in Zimbabwe's public health sector.

Theoretical perspective on specialty healthcare:

In order to achieve accurate predictions, the research study improved this Behavioural Model of Healthcare Access and Utilization (Andersen,1968)framework by suggesting the inclusion of dual practice by specialty care physicians as a new key variable of interest in the modelling and analyzing health access. Dual practice' is used to designate a physician combining clinical practice within the formally defined public sector job with some extra health related activities such as teaching, research, or management in the private sector setting (Ferrinho et al., 2004). In reviewing structural factors on specialty healthcare services, the study used Penchansky and Thomas' Access framework. The Figure 7 shows thestudy analytic framework.

Figure 7: - Study Analytical Framework on Access and utilization of Specialty Care.



A functional public health system must be founded on sound public health policy and practices tokeep the supply of specialty care services at optimal levels. Deliberate public health policy must be designed to ensure adequate supply (in terms of type and numbers) of both primary and specialty care physicians, both in the short and long term. Public health policy should support a 'bottom-up triangular tie system' (Figure 7) in the planning and supply of health services. Although primary care is essential and needs to be planned for, the provision of specialty care services ought to be equally broader to match primary care referrals.Dual practice, on the other hand, affects the supply; hence, its effects must be addressedfrom the policy perspective in orderto ensure a functional health service delivery system. The ability of the public health delivery system to operate at an optimal level largely depends on the extent the public sector manages the manifestations of dual practice. Dual practice is likely to continue exerting pressure in meeting the minimum quantities of both specialty and primary care at any given time. The framework strongly argues that dual practice affects positively or negatively the physicians' individual preferences and perceptions of the entire health system.

The structural variables like waiting times, hours of opening consulting rooms, an assortment of specialty services need to be cultured from strong professional clinical standards and practices always emphasized by the employing Agent. The effective provision and the utilization of specialty healthcare services at public health institutions should be maintained far above optimal levels to be able to respond adequately to the prevailing demographic and epidemiological changes. Access and utilization of specialty healthcare services are assumed to reach maximization if supply is maintained above optimal level thus demand for healthcare in turn positively increases.

Methods and Materials:-

Study population , sample size and procedure:

This study investigated the determinants of access to and utilization of specialty healthcare services at public hospitals in Zimbabwe using household data collected through a survey from the population N=1000,including all vulnerable social groups i.e. those in the child bearing age, the pensioners, the elderly above 55 years who receive medical treatment at government hospitals, rural and urban. However, the study did not include the children under the age of 16 years even though these essentially require specialty healthcare.Although the private sector also provides specialty healthcare services, for this study, the focus was on public health institutions with functional departments and offering specialty healthcare. The study used a sample of n =653 households who utilized public health facilities in need for specialty healthcare in the past twelve months prior to the survey. In calculatingsample size, study observedthe degree of confidence 90% (alpha error of 0.1).

The study first divided the population area into the existing country's 10 provinces as initial step to define the sample.The study used one stage cluster sampling (probability sampling design) to select only 40 health districts from a cluster of 63 existing administrative health districts for the surveyinclusive of metropolitan zones. Out of these 40 selected districts, the study randomly selected and interviewed N=1000 households. The sampling frame also considered the distribution of the tertiary and quaternary health institutions where specialty doctors are offering services. At least 250 households were interviewed at tertiary level.The study also used a sample (n= 75) of Specialty care physicians employed by government and providing services at central and provincial hospitals to assess involvement in dual practice and their feelings on the subject matter. In examining the theory and existing literature on various aspects of interest, the study focused more on the period from post-independence (1980s) to 2018as it presents exciting features of the rise and fall of Zimbabwe's healthcare system.

Data sources and collection methods:

The study utilized cross-sectional household data randomly collected through a survey conducted from April to October 2019across the country's ten provinces. The survey relied on the assistance of twelve trained Research Assistants (RAs) hired from Ministry of Health former running project personnel who were not engaged at the time of conducting fieldwork.

The study used a self-administered questionnaire in the collection of data from households with pre-coded structured questions dealing with aspects of specialty healthcare. The data collection tool used both open and closed questions. Closed-ended questions had all likely answers pre-specified such that the respondents made their choices from the answers provided. The data collection tool covered four sections namely demographic, socio-economic information of the household, structural elements of healthcare, and questions on policy. A desk review of more than 100 publishedarticles on determinants and utilization of health access assisted to develop the theoretical framework and policy-focused discussions on study variables. Other questions asked healthcare seeking preferences between public

and private providers and questions about the household's income specified over a period of 12 months preceding the survey. Household income measure used both income in-kind and cash income. The data collectors conducted interviews at the household place of residences. In order to obtain a high response rate, the enumerators went back several times to the household before randomly selecting another household in the same area if no response became difficult to attain.

The study used structured interviews with senior public health managers in the verification of the study results.In coming up with policy interventions by the government, the study relied on key informant respondents limiting to members holding keypositions in government from the past three years in servicewith vast health experience.As a data quality control measure, the questionnaire was pre-tested to establish the reliability and validity of the instrument. The actual survey commenced after pre-testing the tool to test for the clarity of questions, instructions and to identify any other possible ambiguity in the questions. All the necessary adjustments were effected before using the data collection tool.

Data analysis:

In generating meaning,summaries of descriptive data, cross tabulations and logistic regression were performed to analyze the relationship between study variables explaining the demand for specialty care.A univariate analysis was performed to define the distribution of the dependent variable and explanatory variables through the chi-square test for categorical variables, and the Hosmer- Lemeshow to test overall goodness of fit for the entire model.The study used the logistic regression model as a technique of estimation for a samplen =653out of the population (N) =1000 households that reported having sought specialty carefrom public health facilities (presenting 65% as the response rate).The description of access to specialty healthcare services became the probability of seeking health care services from a hospital conditional on illness in the household. Either once a household member has fallen ill, treatment can be sought from a public health facility or be self-treatment. Therefore, the study utilized the Probitmodel given that the dependent variable is binary.

The model took the following functional form;

$$H_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots\ldots\ldots\ldots + \beta_6 X_6 + \delta Z_i + e_i$$

Where H_i is the dependent, binary variable, which took the value of one when a sick household member sought specialty treatment from public healthcare facilities and zero was assigned in case of self-treatment. The independent variables x_{1i} is **incom**e, a categorical level of income perceptions, x_{2i} is **insurance**coverage is binary variable to reflect whether person covered by public insurance scheme or not, x_{3i} is **health information** is a dummy variable signifying that the respondent has received health information on specialised healthcare in the past 12 months or not. x_{4i} was **distance** travelled to the nearest Health facilityof respondents whether it is below average or above. x_{5i} denotes **waiting Time**, categorical variable where 1 – 3 was allocated to differentiate whether the respondent waited a short period, average and or longer than expected time to see the specialist doctor. x_{6i} is the **dualpractice** reflecting whether consultants are available when an average number of patients sought care. β_0 is a constant and β_i are coefficients of the respective x_i variables, ε_i is the residual or error for the individual *i*.The data analysis was done using the Statistical Package for Social Sciences (SPSS) version 20 according to the study dependent variable. The significance level was at <0.05.

Ethical Considerations:

In accordance with acceptable standards, the researchers established clear agreements with the participants including the key informants involved. The study also clarified both the researcher's role and participant role in the research process. The researchers in this study sought the consent of the participant, established a protocol for maintaining confidentiality and outlined procedures for ensuring full disclosure of the nature, purpose and requirements of the research.

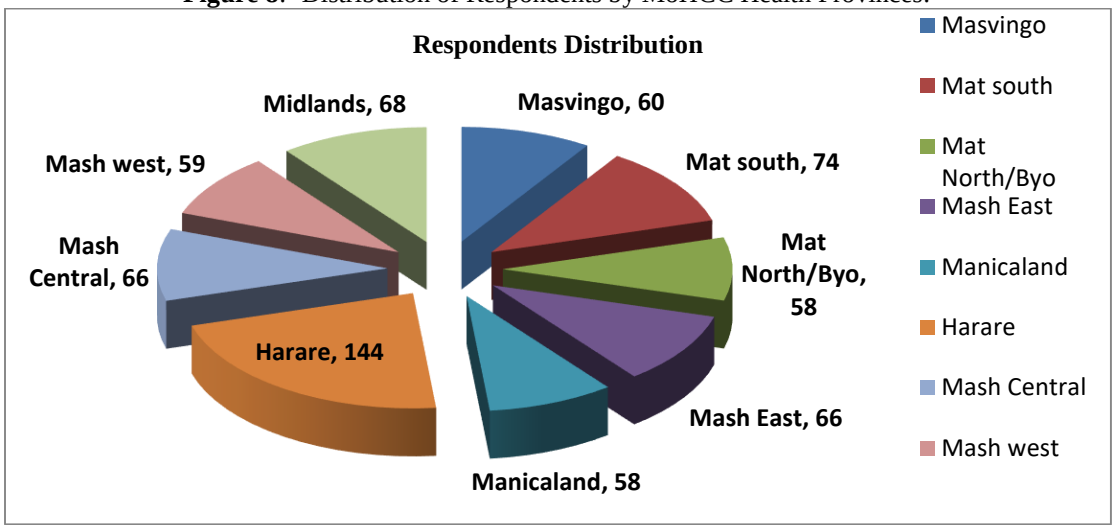
The findings of the research were also discussed with the participants to assess and evaluate the data and possibly ask for exclusion of certain confidential information. In addition, participants were given the free will to stop the interviewing process or to withdraw at any stage of the research. The participants were also given opportunities to ask their own questions and their names protected to avoid physical and emotional harm and to avoid subsequent lawsuits and litigation that might ensue after the publication of the project.

Results And Discussion:-

Descriptive Statistics:

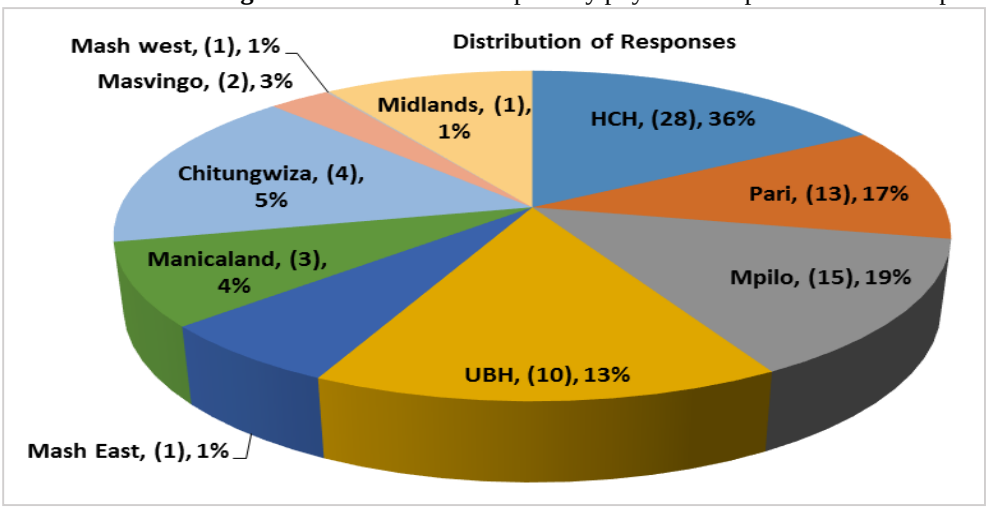
Out of the N=1000 households targeted in the survey, the study used a sample of size n=653 households, who reported having a sick member within the last twelve months before the survey. Of the 1000 households, 347 reported not having a sick member within the last 12 months before the survey. The pie chart below shows the distribution of respondents by provinces.

Figure 8:- Distribution of Respondents by MoHCC Health Provinces.



The study used specialty physicians drawn from those employed and practising in the public sector. Figure 9below shows the distribution of the physicians who participated in the survey by the institution.

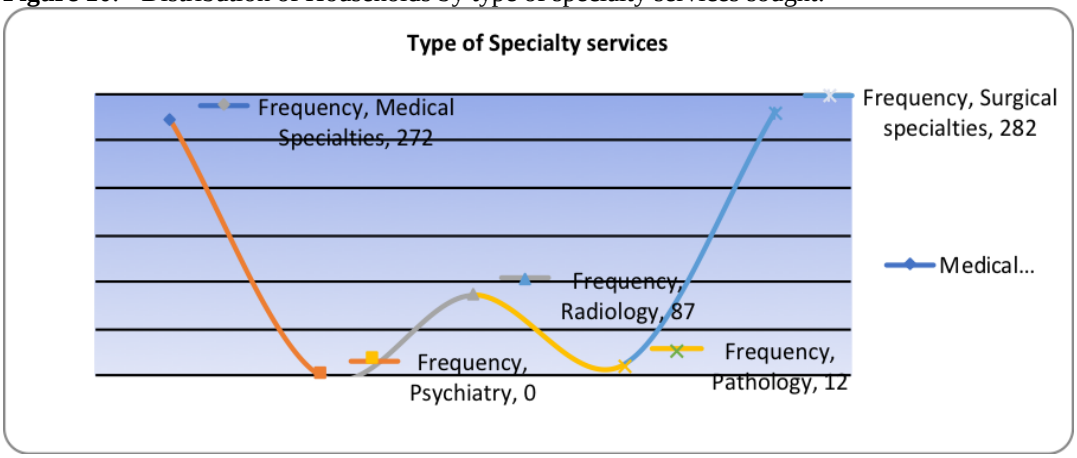
Figure 9:- Distribution of Specialty physician respondents on Dual practice.



Distribution of Households characteristics:

The data showed the average age of the household head within the 20 >39 years range and calculated to be 34 years. Few (about 7%) of the household members sampled were below <19 years. The distribution suggests that specialty healthcare from public hospitals is mostly sought by the middle-aged group of 20 – 39 years amongst all age groups used in the study (about 61%). Those in age40>59 constituted 26% and those >60 -79 age group who sought specialty healthcare services were about6%. Households sought various specialty healthcare services from public hospitals based on an illness that occurred in the last twelve months before the survey. The Table below outlines the distributions of households by broad categories or type of services sought.

Figure 10: - Distribution of Households by type of specialty services sought.



The descriptive statistics showed that more households sought surgical specialty services (43.1%), followed by medical specialties (41.6%), radiology (13.3%) and pathology services being the least sought (1.8%) from public hospitals across the country. No one sought psychiatry services from public hospitals. The unavailability of psychiatric consultants/ speciality doctors at most referral institutions distribution is likely to have affected the distribution despite having qualified and trained psychiatric specialists offering services.

Data showed that of the 672 male-headed households interviewed, 414 had experienced at least one sick member in the past 12 months. Of the 313 female household heads, 237 experienced at least one sick member in the same period. Out of the 653 that reported illness in the last twelve months before the survey, males and females represented by 66% and 34.6% respectively.

Descriptive data showed that of the 653 households, 423 earn $0 – $200 per month as their household income. One hundred and seventy-nine (179) households earn $201 – $500 and 73 earns above >$500. More people lie within the middle-income group although the numbers dropped when relating to the utilization of specialty healthcare services by the same group. There is a decrease in the number of those with income above >$500 and thus may confirm that in Zimbabwe, there are less of the households falling above the National Poverty Datum Line ofZW$3650 for an average household of 5 (ZIMSTATS, 2019).

The distribution presented that of the 653 households who reported having a sick member within the last 12 months before the survey, 536 (i.e. approximately 82%) acknowledged seeking healthcare while 117 (i.e. approximately 18%) reported not seeking medical attention. Hence, data show that more people are utilizing public health facilities seeking specialty healthcare services. The reflection is consistent with conclusions by many authors who claim that in most developing countries, the public tends to rely on public health facilities, owing to affordable healthcare costs compared to private providers.

Of the distribution, one hundred and ninety (190) households sought specialty healthcare and were covered by health insurance. Of those covered by health insurance, 159 sought healthcare services while 31 did not. Three hundred and seventy-seven (377) had no medical cover. More of the households are not covered by an insurance; hence common theory suggests that they are likely to have challenges in meeting healthcare costs from their out of pock payments The results, therefore, do not suggest that an increase in medical insurance cover increases demand for healthcare.The distribution supports the claim by Timothy (2007) that generally, low-income households do not have enough extra income to put aside for paying insurance premiums for less frequently occurring events such as illness. For low-income earners and those without constant sources of income, good insurance is treated as a luxury good, in most cases, they look up to Government and Donors subsidise them or to bail them out especially in times of catastrophic health expenditure(Timothy, 2007).

Statistics showed that of the 653 households on any previous visit taken to see the specialty care physician, 13% took 0– 2 hours to see the doctor, 17.9% took 2 – 24 hours to see the doctor and 69.1% took more than a day to see

the doctor. These visits were not confined to the twelve months before the survey. The study used >24hrs as the reference category in estimation. Generally, the public is waiting longer (69%) at service queues to consult specialty physicians. A considerable number of households wait more than a day to contact a specialty care physician from the time they demand treatment at public hospitals. The descriptive data is close to support the conclusions reached by Humphrey and Russell's study (2004), which reported that a number of the interviewed physicians engaged in dual practice accepted the blame that physicians let their waiting lists to increase to more extended periods in order to raise demand for the private healthcare.

Datarevealed that of the 653 households, 20.3% have received information on specialty healthcare in the past 12 months, while 84.4% did not receive any information. The outcome of the survey suggests that households do not know about the specialty health services offered at public hospitals. Probably it was by chance that those who visited the public hospital after falling feel ill were treated. Therefore, a suggestive scenario is presented on the possibility that access to specialty healthcare is curtailed by a reduction in health education given.

The distribution of Households by distance to nearest specialist Hospital pointed that there are more households (approximately 73.7%) who travelled shortest range distances between 0 – 99 km to seek specialty healthcare services compared to longest range of +200km (about 4%). The number of those seeking specialty care gradually dropped as distance was >100km (n=105) and further plunged down (n=44) when distance was above >150km. The distribution seems to confirm the hypotheses that as distance increases, there is a reduction in the demand for specialty healthcare. The cross tabulation tests showed 388 households travelled a distance of less than <100 km to the nearest specialty healthcare facility. Only 19 households had travelled more than >200 km. The data indicate that, as the distance from specialty healthcare facility increases, the number of those that travel longer distances seeking health care decreases. Thus, the association suggest that there is less likelihood for those travelling longer distances seeking specialty healthcare.

Data on MoHCC's Mandate of the provision of 'accessible' healthcare:

Part of the policy agenda for the Zimbabwean health programmes is to provide comprehensively equitable, accessible, appropriate, affordable and acceptable healthcare services to Zimbabweans. Given the ambiguity of the term 'access', policy planners and implementers are often presented with difficulties when it comes to evaluating the effectiveness of initiatives undertaken towards enhancing health access. Therefore, the study assessed the percentage response ratings on whether MoHCC achieves its mission to provide comprehensive, **accessible**, affordable health services and care to Zimbabweans using interviews of (n=43) health leaders and managers. The study targeted interviewees from the employer, health institutions and Ministry's top management. The descriptive data response ratings are outlined in Figure 11

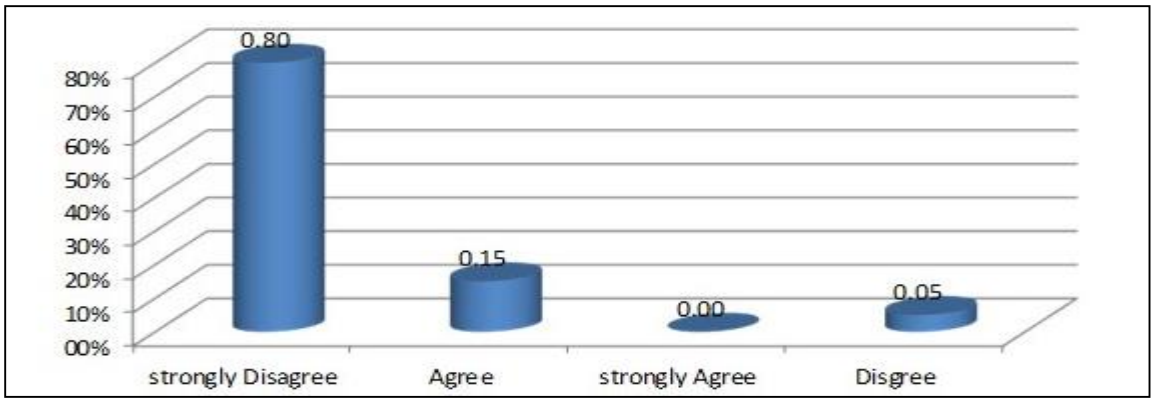


Figure 11:- Response ratings on whether MoHCC achieves its mission to provide 'accessible' healthcare services.

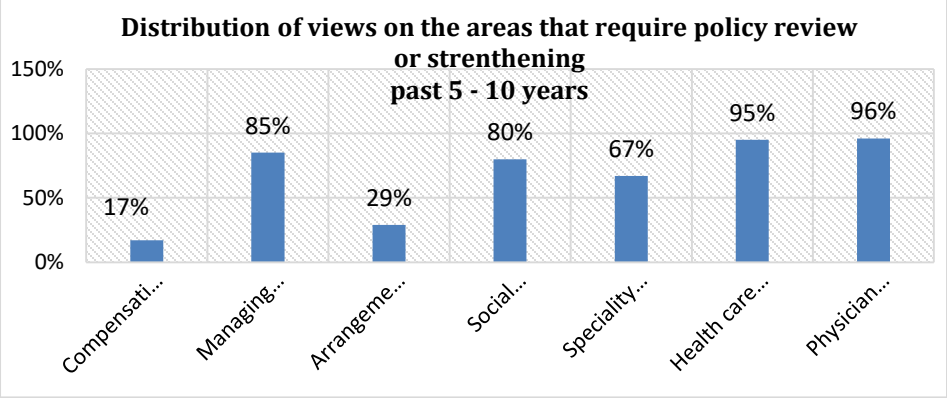
From the Figure 11, about 80% of the interviewees strongly disagreed to the view that the Zimbabwe MoHCC effectively and relevantly achieves its mandate especially when it comes to "accessible dimension" of health care while 5 % disagreed to the view. The statistics suggest that the MoHCC might not be satisfying the tenants of its set mission from the supply perspective. The opinions confirm the regressive average scores in the Health Access Quality Index of 31.2 in 2016, which dropped from 37.3 in 1990 when compared to other low-income countries, i.e. Malawi recorded an increase from 19.0 in 1990 to 32.2 by 2016. However, 15% of the respondents subscribed to the

view that MoHCC achieved health access in the past 5 – 10 years, of which the study drew most of the respondents from senior serving health leaders/managers who have been in the policy system for more than five years. The percentage suggests that part of the leadership have confidence in the policy initiatives undertaken by the Ministry in the past years although these constitute the minority.

Data on policy and practice aspects for specialty healthcare:

The study used primary data to assess which areas would require policy review or strengthening based on the views from households. The views were verified using interviews from policy planners, implementers and management teams in the public health sector. The interview process sought clarifications from respondents and directed them to refer to a period in the past 5 – 10 years. The summary of descriptive data is below.

Figure 12:- Distribution of specialty health care access areas requiring policy review or strengthening



Ninety-five per cent (about 96%) of the respondents (n=620) suggested physician dual practice as one of the areas that require policy strengthening in addressing the challenges in accessing specialty healthcare at public hospitals in Zimbabwe. Currently, there exist undocumented policy agreements that permit specialists to engage in dual practice during working hours. However, the study results pointed out that the arrangement has not considered the demand side perspective on effects of dual practice on access and utilization of specialty care by households. The majority of households (about 95%) perceive the cost structure for specialty care as unaffordable and perhaps require policy review. There are high chances that the households might be falling prey to the cream-skimming effects of dual practice; hence low-income households end up directed to consult the targeted specialists but from the private practice. Affordability aspect of specialty care from public hospitals could be compounded by the fact that several households do not have health insurance schemes covers. Of the 653 households studied, 190 (approximately 29%) reported that they have healthcare insurance compared to 463 (approximately 71%) who reported that they have insurance coverage. Still, the same target group, 80% of the respondents (n=522) believed the area of social security – health insurance coverage needed policy action. As unemployment is high (above 90%) in the country, those unemployed cannot afford to purchase the prevailing employer-driven Medical aid schemes. It remains good evidence for policy planners to utilize in coming up with measures that would cater to unemployed rural households who tend to be more vulnerable to accessing specialty healthcare.

Although the study results from the model showed waiting time with a statistical significance to access and utilization of specialty care, the respondents do not feel, the arrangement of specialty care services at institutions is that much of a problem. Only 29% of the respondents (n=198) suggested policy review and strengthening concerning the arrangement of specialty care at hospitals. The arrangement of specialty services includes the sequencing of consultation hours, appointment schedules, coverage of off – hours, waiting times and the distribution of types of specialty services by the providers (Iversen, 1997). Households are prepared to wait longer perhaps because they have a limited choice, as they cannot afford to meet the cost of specialty care from private surgeries.

The management of training and the structuring of specialty teaching services was suggested as one of the key (n=555) areas that would need policy review and strengthening if the government of Zimbabwe is to enhance access and utilization of specialty healthcare from public hospitals. The study results suggest that the arrangement where specialist physicians who are offering teaching and supervision services might be giving divided attention to patients. This also confirms the views given by many households on the fact that they travel long distances to see a

designated specialist with a good reputation, but only subjected to consult trainees who are directly under the supervision of the respective Consultant. This might be the case with central hospitals as most of them are also teaching institutions. The health planners are having the dilemma of perhaps creating a service establishment and a separate teaching and supervision compliment to enhance continuity of services as the consultants manage different firms and trainee specialists. The study results may suggest a deliberate policy review to increase training and development output of specialists in various disciplines envisaging the long-term needs of the communities. Thirty per cent (30%) of the interviewees (n=13) from the management level interviewed confirmed the above results pointing that it is expensive for health professionals to pay their tuition fees at training colleges thus making it impossible for those aspiring to train as specialists to pay from their lowest salaries paid by the government. Therefore, health planners need to develop a training plan that would support both teaching and supervision. The study further verified this observation on teaching and supervision by analyzing the teaching staff establishment at leading teaching central hospitals. The verifications reflected that some areas, like Pathology, Emergency and Accident Care and Orthopedics do not have any lecturers. Therefore, the Ministry relies on those students output who by any chance get a scholarship to study in any of these respective areas outside the country. It is interesting to note that 5% of the respondents highlighted that there is a possibility of poor planning by HRH teams at Ministry level leading to an unbalanced staffing scenario for specialty care disciplines.The study results suggest that policies to do with compensation and benefits would not be of much concern and influence to enhance access to and utilization of specialty healthcare services from public hospitals. Out of the 653 respondents, 17% were of the view that the compensation and benefits area needs policy review and strengthening. Although conditions of service for all physicians remain lower compared to regional counterparts, improving the compensation packs and benefits might not yield immediate improvement in enhancing access to specialty care.

Association of independent variables to Access (demand) to specialty care:

The cross tabulation for income and specialty health access*(Hi)*showed that of those who visited the hospital, 347 had a household head, who earned a monthly salary of $0 – $200. One hundred and forty-three (n=143) participants earned $201 – $500 while n=46 earned >$501. The cross tabulation showed that as income increases, those who require specialty healthcare and visit the public hospital decreases. The relationship supports the assumption that the more the income, the more the public healthcare is substituted for private healthcare. In the study, the distribution poses a suggestion that supports the assumption as the number of households dropped for those with high income. However, the distribution does not tell whether income increase or decreases health access as the regression model will need to prove that influence. The cross-tabulation of household income with the demand for specialty healthcare supports the assertion by Morga and Xavier (2001), where high-income group tends to have increased motivation to seek treatment from private providers to recoup from their high insurance premiums. Those with high income are mostly likely to be lured to seek services at private surgeries hence benefiting the specialist physicians practising dual practice.

This distribution also suggests the service effectiveness and quality effects on specialty healthcare services offered at public hospitals, which could be pushing away those with alternative higher savings/income to seek health care services outside using out of pocket payments. The numbers of those with high income decreased as the relatively rich possibly avoid discomfort from long waiting hours spent by public patients to see a specialist physician. In the analysis, specialty physicians could extend this from the effects of dual practice, as high-quality healthcare and short waiting times are associated with physicians on private practice.

From the cross tabulation, 98 households who sought specialty healthcare had received specialty health knowledge in the last 12 months before the survey. Four hundred and forty (440) households had received no knowledge in the past 12 months. The data reveal more people who visited the public hospital for specialty healthcare had received no knowledge on the subject matter of specialty healthcare in the past 12 months. The tabulation thus does not reveal that an increase in information on specialty healthcare increases the demand(*Hi*). The data pattern could also be an indicator of the less extent to which the preventive programmes of the Ministry are affecting the households on demanding specialty healthcare.

When testing relationship between waiting time to see a specialist and demand for specialty Healthcare (*Hi*), three hundred and eighty-five (n=385) households reported having waited more than a day to see the specialty healthcare doctor they preferred compared to (n=151) that took less than a day. The datareflect people are waiting longer than they should access specialty healthcare but regardless of this, they still wait. Thus, this showed us the willingness of patients to seek treatment despite having to wait for more than they should for healthcare attention from caregivers.

The study outcome agrees with Morga and Xavier (2001) on waiting times when they revealed that long waiting lists in government health facilities are owned and directed by the hospital specialty physicians who are directly liable for treating patients on waiting their lists. In such a situation, the prospect to provide private healthcare services by physicians practising dual practice may perhaps, create a perverse incentive to treat a smaller number of patients to enhance the demand for the private healthcare services.

Physicians not being present means that at the time they were supposed to be at work, they were engaging in other personal activities, which in this case assumption is working at another private hospital/surgery (dual practice). One hundred and ninety-six (n=196) patients who visited the hospital for specialty healthcare treatment reported having seen the qualified physician. Three hundred and forty (n=340) reported having not seen a specialty physician but saw another doctor present other than the specialist, perhaps a trainee. The data gives a strong reflection to suggest that dual practice is prevalent at a public hospital and may have an influence as more people continue demanding healthcare*(Hi)*.

The survey data from specialty physicians who participated showed, out of 75, n=63 specialists were involved in dual practice for various reasons like of maintaining particular clinical expertise, increase income and desire to serve the nation. The data confirms that dual practice by specialty physicians exists and might have some impact on access and utilization of specialty care from public hospitals.

Statistical analysis of the study variables:

The descriptive data of the study variables indicate that the mean responses of *Hi* were 0.1 with a standard deviation of 0.38. The skewness for the responses for *Hi* was 1.67. The study checked for a correlation between the independent variables first using Pairwise correlation coefficient test and all values were below 0.5, indicating they were not highly correlated to each other thus, all these variables could be included in one model.

Table 4:- Multivariate Logistic Regression of independent variables covariates of access to specialty care (*Hi*).

Dependent Variable: HEALTH_ACCESS				
Method: ML - Binary Probit (Newton-Raphson / Marquardt steps)				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
INCOME	0.1942**	0.0896	2.1680	0.0593
INSURANCE_COVERED	0.3210**	0.1475	2.1761	0.0295
HEALTHINFORMATION	-0.0085	0.0880	-0.0962	0.9234
WAITINGTIME	-0.2469***	0.0867	-2.8476	0.0044
DISTANCE_TO_HOSPITAL	-0.0953*	0.0709	-1.3452	0.0667
DUALPRACTICE	0.3728***	0.1483	2.5145	0.0119
C	-1.5821***	0.4497	-3.5183	0.0004
McFadden R-squared	0.052425	Mean dependent var		0.179173
S.D. dependent var	0.383791	S.E. of regression		0.377879
LR statistic	26.04914	Avg. log likelihood		-0.450191
Prob(LR statistic)	0.000218			
Obs with Dep=0	536	Total obs		653
Obs with Dep=1	117			

*Significant at ***1 % level Significant at **5% level. Significant at *10%.*

The study tested regression for robustness for detecting influential observations. The robustnesstest indicated there was no much difference in the behaviour of the variables after testing for robustness. Therefore, there is no influential variable or an outlier, likely to change the results.The Prob (LR Static) of 0.0002 at the whole model is statistically significant at 1 %.McFadden's pseudo R-squared measured the model's goodness of fit and study model found it at 0.0523 which is substantial when using cross sectional data hence the model is capable to correctly predicts each observation.

Income:

There was a positive association between the income of the person and visiting a specialist (p=0.059) as the socio-economic variable was significant. The coefficient of this variable applied in the study was statistically significant at 5% level of significance. The econometric results established that household income had a positive relationship with the demand for specialty healthcare services. Thus, income had high coefficient size when compared to health information (non-significant) coefficient. The results illustrate that a unit raises in household income enhance the probability of accessing and utilizing specialty healthcare services by 0.19. The study affirmed the positive influence of household income on demand for healthcare as forecasted by Grossman (1972). In another study, Fredrickx (1998) also established that rural households are restrained by low levels of income to seek healthcare from facilities like access to healthcare services incorporate both direct and indirect costs. The results from Logistic regression confirm the theory that as income increases; the more likely the person is to seek healthcare based on the principle of affordability. Therefore, the study thus proves wrong the hypothesis that household income does not increase the demand for specialty healthcare services.

On average people, who earn less or unemployed have less capacity to seek healthcare at any time they feel like. To them seeking specialty care becomes difficult and many at times is done as the last choice after household would try to raise funds to meet costs associated with, i.e. transportation and medical bills. In Zimbabwe households with income, levels of less than ZW$3000 are in the bracket of those technically poor considered. This could be explained by the reason that most of the people in Zimbabwe now leave below the Poverty Datum Line that was estimated to be about ZW$3650 in 2019 for an average household of 5[7] (ZIMSTAT, 2020) hence their demand for specialty care though a necessity, will not be consistent.

In low-income countries where the infrastructure is deficient, and where the large share of the population lives below the poverty line, the cost of healthcare access is a critical determinant of whether healthcare is sought or not. The underprivileged tend to suffer from ill health conditions largely yet use health services to a lesser extent than richer households. Moreover, resources in public sector health facilitate are commonly concentrated on tertiary and quaternary hospitals mainly found in urban areas or the metropolitan, so health access becomes easier for urban households, who face lesser healthcare costs than for rural households. At the same time, urban households similarly tend to have higher incomes than rural households do. This kind of unbalanced resource allocation leads to skewed consumption patterns in the sense that wealthier households enjoy easier access to healthcare than poorer ones.

This data does not conclude that persons earning more are visiting the public hospitals but simply points that they have higher chances of seeking care from any healthcare provider, public hospitals included. Therefore, the high-income bracket has a positive association with the demand for specialty care at public hospitals. In Zimbabwe, generally, this constitutes the formally employed households who generally can afford to meet their minimum health care needs.

Insurance coverage:

Insurance coverage has a positive association between visiting a specialist and whether one is insured on medical or not (p=0.0295) as it was significant at 5% level. An increase in premium insurance coverage of a person increases the probability of seeking specialty healthcare from public health facilities by 0.32. Thee coefficient size of 0.32 reflects a substantial size with a standard error of 0.14 big enough suggesting the coefficient can be trusted. As there is an increase in the number of those insured, there is a likelihood of an increase in numbers seeking specialty healthcare. The results support the claim by Timothy et al. (2007) in their journal article on demand for insurance that low-income households do not have enough extra income to put aside for paying insurance premiums for less frequently occurring events such as illness. The households who are insured have higher chances of visiting a specialist compared to those who are not insured.

[7] The PDL figures varies according to various sources, but the figure isguided by Zimbabwe National Statistics Agency

In low-income countries, wide income disparities are leading to catastrophic health expenditures largely experienced by poor households. This occurs once out of pocket expenses cross some threshold share of household expenditure (Curatio International Foundation, 2012). Therefore, there is a high probability that those who are affected by non-health insurance coverage are those technically poor. The distribution of descriptive statistics on ratings of views of respondents on areas requiring policy review confirms this result as n=522 (80%) rated area of social security-health insurance coverage highly.

Health Information/Education

The variable of receiving health information on specialty healthcare had no statistical significance as was shown by the p-value of 0.923. There was no association between visiting a specialist and whether one received specialist healthcare information; as it was not significant at all levels. As the health information about specialty care decreases, there seems to be no reduction of those seeking specialty care. Instead, the probability of seeking health care remains high.

The results of the predicted probabilities showed that as health information of a household member decrease, the higher are chances of seeking specialty health care services. The coefficients value showed that health information hada negative relationship with the demand for specialty healthcare services. The result suggests the existing weak health promotion programmes on specialty care offered to the communities. Perhaps, the ongoing investment in promoting health information on specialty care is limited to a few areas and does not reach every targeted person. Those residing in rural areas could not be receiving adequate coverage compared to those in urban metropolitan provinces where instruments like media promoting free health information on emerging specialty conditions are prominent. Although result proved heath information/education as insignificant, health promotion remains essential in dealing with risky behaviours that tend to exert pressure on demand for specialty healthcare.

Distance:

There was a negative association between the distance travelled to the nearest specialist health service and the probability of seeking specialty care (p=0.0667). Distance had a statistical significance in explaining the probability of household member is visiting a public health facility for specialty care as the model show at 10 % level of significance. The more the distance from the specialty health care facility increase, the less likely that one can visit a specialty physician/healthcare services. The marginal effects outcome establishes that an extra kilometre to the nearest specialty healthcare facility reduces the prospect of seeking health care services by approximately 0.09. The relationship illustrates that households who resides far from the specialty healthcare facilities have a less probability of seeking health care services than those who stay close to health facilities.

The study results established similar results to studies by Hutchinson (1999) who examined the determinants of health care access in Uganda and found out that distance is the major influence that results to low utilisation of healthcare services in rural areas. In his study, for an each extra one kilometre travelled to the health unit, health access fell approximately by 1%. An extra distance away from the nearest health care facility implies that households have to incur costs to access specialty health care services in the society including transportation costs. Subsequently, those under privileged families may opt for self-treatment. Therefore, the hypotheses and that the distance to the nearest health facility does not reduce the probability of seeking health care services wasrejected.The study believes distance is one of the leading barriers to utilisation of specialty health care services in Zimbabwean communities compared to primary care services. Likewise, the results from the study are sharing the same viewpoint with K. Udupa, (1991) who observed that in Varanasi households in Uttar Pradesh, alertness to the primary health centre services declined as the distance between Primary Health Centre and the respondents increased.

The study showed that significant variances exist between rural provinces and urban metropolitan provinces when it comes to distance to the nearest referral specialty health care facility. Sixty-six (66) per cent of the households who strongly agreed MoHCC was failing on delivering accessible services further commented that distance to referral health facilities was perceived as a hindrance for seeking specialty healthcare, especially in rural provinces where specialty care facilities are nonfunctional. This was considered a higher percentage compared to households in the metropolitan provinces where only 9% perceived distance a foremost problem. A disadvantage for those in rural provinces is that travelling often takes longer per kilometre than for those residing in the urban metropolitan province. The poor state of infrastructure in rural areas and the absence of effective transport systems at the referring centres contributes to the variance. Too often, the only way to get to the health care facilities is to walk, making time spent going to the facility much longer than for households living in urban metropolitan districts, even if the distance

is the equivalent. If the distance to the nearest tertiary and quaternary health care facility could be used to measure access to specialty care between urban and rural provinces in Zimbabwe, then clearly access to specialty healthcare can be said to be imbalanced.

Waiting Time to see a specialist physician

There was an association between the time taken to see a specialist doctor and demand for specialist services (p=0.0044) as this was significant at 1 % level of significance. The coefficient sign proves that there is a negative relationship between the demand for specialty healthcare and waiting time. As the public wait longer at public hospitals, the probability of seeking specialty healthcare would decrease by 0.25. The results confirm that generally, the public is waiting longer at service queues to consult specialty physicians. A considerable number of households wait for more than a day to receive physical contact with the specialty physician from the time they demand treatment from public hospitals.

The results of the predicted probabilities indirectly confirm similarities to Rust et al., (2008) who conducted a related study with 23,413 respondents. The conclusions from their investigation proposed no relationship between socio-economic status and the probability of patients to use the emergency room when healthcare access is not accommodating. Due to the critical shortage of specialty care doctors in Zimbabwe, patients with special or complicated illnesses tend to wait longer to consult a specialist at Government hospitals. The charges levelled by public health institutions for specialty healthcare services are affordable; hence, that creates pressure at public hospitals triggering long waiting times for the public to consult a specialty physician. In some cases, patients opt to spend months in the hospital while on the waiting list for operations because they cannot afford the millions of dollars (fees) charged by private specialty care doctors both locally and abroad. Households, who reside far away from metropolitan provinces where assorted specialists are found, are at bigger disadvantage point and if they predict that they will wait longer at a public hospital, usually they foresee it might be costly, as they will have to spend the extra dollar for their upkeep. The ultimate choice is to either seek self-treatment or sacrifice their assets and go to private providers.

Dual Practice:

There was a positive association between a designated specialty physician being present at the health facility and an individual deciding to seek healthcare (p=0.0119); thus dual practice is significant to specialty healthcare access. The variance was statistically significant at 1 % level of significance and in the model dual practice exhibits highest coefficient value of 0.37 giving stronger evidence that dual practice effect to the decision of whether a person goes to the hospital or not. The positive coefficient sign shows that as physicians engage in the dual practice, households seeking specialty care also increase by 0.37. An increase in the demand for specialty care despite dual practice, indicate that specialty care is an essential need; hence households continue to seek healthcare regardless of long waiting times. Dual practice in public hospitals result from varying motivations amongst the financial push and pull factors. The study results suggest that as specialty physiciansengagein dual practice, public hospitals become a hunting ground for potential clients in their private practice. Therefore, they prefer to serve at fulfil their schedules at public hospitals to source potential clients whom they can refer to finalize treatment from private surgeries. The suggestion we are raising Gonzalez (2004) raised, that a physician who has earned a good reputation while practicing in the public sector has greater influence on the number of clients from private as well as the profits that comes with the private practice as the clients would follow the physician all the way and all the time.

The results estimated in model also pointed to workload pressure and the establishment challenges at public hospitals where few physicians are practicing in the public sector. The fact that numbers are inadequate at any given time, households wait longer at public hospitals thus will continue coming to hospitals because they constantly fail to get a physician. The inadequate numbers of specialists within the public sector staff establishment creates a monopoly behaviour amongst specialist resulting in detaining patients longer at hospital consulting departments while specialists are engaged in dual practice. Therefore, dual practice yieldsinincreased turn-ups or visitations because physician specialists are always away from hospital and visitations keep on postponed to later dates. Therefore, dual practice presents strongly negative effects felt mostly by those households who travel from afar, as they meet higher transportation costs on repeated visits in search of specialists who are hard to find as they are engaged in dual practice.

The research findings present key information to health planners as it suggests dual practice is on increase despite continued efforts by employers to retain specialists at public hospitals. The increase in dual practice suggests the

existence of push factors on physicians as they engage in dual practice for reasons of sustaining their low salaries. Repeatedly Zimbabwe recorded doctors engaging in illegal collective job actions resulting from collapsed collective bargaining agreements. The fact that the employer is not able to remunerate specialists adequately, it may be difficult to regulate their engagement in dual practice hence dual practice remain a growing feature as demand for specialty health also increases. The suggestion confirms the theoretical findings by Jumpa et al. (2007) that due to the extremely low salaries in the public sector, physicians are repeatedly caught up in manifold job holding of more three or four formal clinical jobs. However, the challenge of poor remuneration must not be over emphasized because still low salaries do not permit the specialty physicians to engage in unregulated dual practice. The study results actually support the observation on absence of strong and effective policy on regulating dual practice in Zimbabwean public sector.

The results also suggest that households have no choice but to visit public hospitals for specialty care shunning higher costs charged at a private practice. This might be true for those with less income that they feel forced to seek healthcare from public hospitals, which is likely to be affordable to them given the fact they have less out-of-pocket power to meet medical care costs at private physicians. The other contributing factor for the increase of the number of households in need of specialty care while there is an increase in the number of physicians engaged in dual practice may be fashioned by the need to consult reputable specialists practising at public hospitals at an affordable consultation cost. In most cases, famous reputable specialists become easy to find from public hospitals at lower costs compared to when they are at their private surgeries. Humphrey and Russell (2004), in their study also established that a number of the interviewed physicians engaged in dual practice accepted the blame that physicians let their waiting lists increase in order to raise demand for the private healthcare services. Therefore, at times, physicians lure patients to join the waiting lists as a way to create artificial demand for their private practice. Therefore, as a dual practice by targeted specialist physicians increases, there would also be an increase in the number of households is intending to access care from public hospitals.

However, the existence of physician dual practice in the public sector settings is largely dependent on the type, arrangement of public health policy.

Conclusions and Recommendations:-

Although the study found the information as an insignificantvariable on access specialty care from public hospitals, health information remains an essential determinant not to be thrown out of the puzzle; hence, the study was hesitant to disapprove it. The descriptive data used in the study indicates that middle-aged group of 20 – 39 years amongst all age groups, largely sought specialty healthcare services. This constitutes an economically active group, which is highly mobile and as part of preventive measures, health information/ education is essential to direct healthy behaviours. Therefore, we conclude that although health information was statistically insignificant in the model, further research would be required to establish what type of health information does not affect access given a strong belief that health promotion programmes are fundamental in promoting healthy communities.

The (82.2%) distribution from survey of householdsnot received health information on specialty healthcare help us conclude there is generally a lack of awareness on specialty healthcare services offered at public hospitals. This is despite the huge investment in policy on offering specialty health care service, numerous ongoing preventive programs, infrastructure and technical equipment sourced from abroad by the government of Zimbabwe for dealing with specialty conditions.

The research found the more the distance from the specialty care hospital increases, the less likely that the households would plan to visit a specialty care physician/healthcare services. Thus helps us to disapprove the hypothesis that the distance to the nearest health facility does not reduce the probability of seeking of healthcare services. The provision of specialty healthcare services by government is currently too centralized thereby compelling patients to travel long distances to metropolitan facilities solely providing certain specialty health services. For example, dialysis patients from all over the country travel to Parirenyatwa Group of Hospitals for dialysis services because no other functional referral facility offers a particular specialty service. Therefore, the study concludes that households residing in rural provinces have more challenges of accessing specialty care as they have larger transportation costs compared to those at metropolitan provinces. The findings confirm that specialty care services in Zimbabwe are skewed to the urban wealthy households leaving the poor rural households vulnerable as most of them are unemployed thus find it difficult to raise their medical care costs.

Based on the study results, we found that dual practice by speciality physicians is prevalent at public hospitals. Even though specialists are engaged in dual practice, households have no choice but continue to seek healthcare from public hospitals. However, the fact that the study established that the households tend to wait longer to consult the specialists, points to the conclusion that dual practice affects the supply capacity at public hospitals. Although demand for specialty care remains high, access and utilization of specialty healthcare is difficult for vulnerable or socially disadvantaged groups. Having done the verifications, the study foundthat dual practice tends to be induced by non-regulatory measures implemented by the Zimbabwean health authorities; hence, in the long run, has affected waiting times at public hospitals. There is no policy in Zimbabwe that fully regulates dual practice in the public health sector. Therefore, the study concludes that the existence of dual practice many at times is as a result of the absence of implementation of restrictive policy measures to manage dual practice by physicians due to conflict of interest. Some of those participating in the development of policy measures are conflicted because they are engaged in dual practice. Most critics of public sector health care pointed out that the Ministry of Health in Zimbabwe is too medicalized, concentrated with doctors at management and policy level, hence creating an imbalance in the development of effective policies.

The survey confirmed there are more households (82%) seeking specialty health care services at public hospitals are waiting longer (69%) at service queues to consult specialty physicians. There is evidence the considerable number of public waits more than a day to receive physical contact with the specialty physician from the time they demand treatment at public hospitals. The study found as the public wait longer at public hospitals, the probability of seeking specialty healthcare would gradually decrease.

The study suggests more intervention measures should be fashioned towards reducing waiting times for the public to consult specialty physicians. Patients opt to spend months in the hospital while on the waiting list for operations because they cannot afford the thousands of dollars (fees) charged by private specialty care doctors both locally and abroad. However, the study also concludes that long waiting times have a connection to the prevalence of dual practice by physicians. Although Zimbabwe is still a developing country, when compared to middle-income countries like China where specialists are fully dedicated to sole jobs, Zimbabwean presents a compromised situation as specialists hold multi tasks during their daytime while expected to provide full-time service to consulting patients.

The study also found the arrangement of specialty teaching, and supervision programmes at main teaching hospitals grossly affect the structural delivery of specialty healthcare in Zimbabwe. Most main public referral hospitals are teaching hospitals at the same time have the highest concentration of specialty services in the country. That arrangement presents specialists who are practicing at the same time directly or indirectly engaged in teaching services or supervising trainee specialist physicians. Households travel long distances to be subjected to consult trainees who are directly under the supervision of the respective Consultant. This might be the case with central hospitals as most of them are also teaching institutions. Although supervising trainee specialists is a role that cannot be undermined, the arrangement largely presents opportunities for specialists to spend more time in dual practice. There is a need to come up with supportive training plans that ensure continued specialty care services are accessible at any given time. In the long term, government alternatively might establish separate medical teaching hospitals from specialist care hospitals.

Household income had a positive association with the demand for specialty healthcare services. The results prove that a unit rise in household income sharply increases the probability of access and utilization of specialty healthcare services from public hospitals. On the other hand, the study found that an increase in insurance coverage of persons increases the probability of seeking specialty healthcare. Therefore, the study concludes that there seem to be an indirect association between income and insurance coverage vis -a-vis increasing access to specialty care. The study revealed that those with increased income can afford seeking specialty care; hence, the same group can purchase high health insurance premiums. As there is an increase in income and insurance coverage, access and utilization of specialty care are also increased. Therefore, the study concludes that income and insurance are central determinants for access and utilization of specialty care.

The majority of Zimbabweans living in rural provinces live below the US$1.90 per day, mark as prescribed by the World Bank for purposes of distinguishing poverty, hence fall within the bracket of those technically poor and cannot meet the costs associated with accessing specialty healthcare compared to counterparts in the metropolitan provinces. Households in the metropolitan provinces have increased capacity to buy high health insurance premiums

compared to the rural poor because most urban residents have formal employment. The study presents key indications that there is a skewed access graph biased to the urban rich groups when it comes to specialty healthcare. The study leads us to answer our study question why Zimbabweans are still facing difficulties in accessing specialty healthcare at public hospitals despite huge investment in policy, capacity development, and infrastructure by the government.

The study recommended the following intervention approaches; the adoption of a balanced centralized and decentralized Modelin the delivery of Specialty care. The balanced centralized and decentralized model entails carefully planning a model of care that protects highly technical specialty procedures at central facilities while the rest of specialty consultancy services are decentralized. Health planners could centralize specialty services within the health network but only applied to high-risk operations that contribute a small portion of the procedural caseloads at most public hospitals. However, the bulk of specialty care maybe offered using a decentralized specialty care model. This specialty model of care can help to manage distinct demand streams that require demand/supply balance to realize optimal system performance. Arrangement of services must be in a manner that allows patients not to spend much time in waiting queues. A sound policy on regulating dual practice by specialty physicians needs to support equally the functionality of a centralized model for specialty care, as there is a high tendency of disruption on continuity of services at public hospitals.

Access to specialty care across hospital networks can also be improved by decentralizing full complement of specialty expertise where regional facilities are equipped with appropriate resources and adequate personnel, and the surrounding lower centres are technology empowered to benefit from the in-network of expertise. Establishing better-staffed bordering specialty health facilities addresses the geographic availability and the accessibility dimensions by bringing health services closer to the intended target group. In Zimbabwe, the arrangement of healthcare supports the implementation of the model as already quaternary level facilities are offering but limited specialty care. If specialty care is decentralized efficiently, there is a perspective to shift complex care to lower-cost settings while dropping the financial load on the public purse. In implementing the decentralized model, the leadership need to make strategic capital infrastructure investments to enhance the capacity of patients in accessing specialty care and to contribute to research trials. However, relatively rare and resource-intensive services will have to be kept at a single central hospital. By regionalizing these important specialty services to several sites, more patients will have access to consultations without the burden of travelling long distances. The implication of this model on the government's role in health sector financing is that various players have a part to play in health care financing.

Differentiating higher and lower tier specialty care facilities or services:
Considering that there exist income disparities in Zimbabwe where the gap between the poor and the rich is wide, it would be ideal if health planners would come up with a tier health system, which will cater to different income brackets and abilities for households, in the process protect the poor from competing with rich on specialty care expenditures. First, to provide premium specialty care serviceswith competitive charges offered at un-subsidized prices to those who feel they can afford to pay higher cost without having to wait longer. The facilities in the higher tier specialty care would need to provide private wards to those patients who can afford to pay an extra dollar for their care. Allowing facilities to charge market prices, would help them to compete with private sector services hence even discourage physician dual practice as there will be more similarities in the type of specialty care provided between the public sector and private. Although this may be dangerous in widening the class differentiations if not carefully planned, it can reduce pressure at hospitals thus afford a chance to those households who are a disadvantage to compete on their own but at a lower tier level specialty care facility. If the government were able to create these types of specialty care departments or units offering equally competitive specialty care services, there would be a reduction in the number of medical tourism is flowing out of the country to countries like South Africa for specialty care where households are forking out vast sums of money for care.

The second tier of providing specialty care will be where the disadvantaged low-income earners can access their specialty care services from designated facilities, departments or units with subsides for the disadvantaged groups, where those without any medical aid or unemployed afford a chance to consult specialty care physicians. Once the classification comes to effect, low-income households would need to choose where they could afford to pay, but at any given time, the type of specialty care should be able to cover basic diagnosis and treatment. Obviously to develop this system may take longer especially identifying and classifying households but at least there is no chance for pushing for a rise of health care costs if the already defined facility exists. There is also need for the public to

understand that the lower tier specialty care facilities are nothing less to quality health services, but the difference would be on subsides that ought to assist the low- income groups to have some form of access to specialty care. The classification would assist enhance access to specialty care in the absence of the long-awaited health insurance schemes driven by the government.

Revisiting management of training and structuring of teachingservices:
In order to deal with challenge of long waiting times, health planners need to create a balance between study and specialty service delivery, thus creating a separate establishment for teaching purposes only and for those specialists who would be fully dedicated to offering specialty healthcare services fulltime at public hospitals. The creation of a stand-alone service establishment and a separateteaching and supervision compliment will be a gradual process but when implemented will enhance continuity of specialty services while the consultants continue to manage different firms and trainee specialists. Achievement of the policy approach cannot be in the short run, but efforts should begin starting with increasing training and development output of specialists in various disciplines envisaging the long-term needs of the communities. Health planners need to develop a training plan that would support both teaching and supervision. The study further verified this observation on teaching and supervision by analyzing the teaching staff establishment at main teaching central hospitals. The verifications reflected that some areas, such as Pathology, Emergency and Accident Care and Orthopedics do not have any lecturers yet the need for such specialty services remain high.

Reframing the Health Agenda on specialty care:
Given the rising costs of managing Non Communicable Diseases (NCDs) for low-income governments, adoption of a deliberate shift in focus and emphasis on specialty care is essential and unavoidable. Without changing the primary health care approach that currently drives health interventions, health planners need to equally raise specialty healthcare agenda loud and clear in all platforms. The health agenda must prioritize specialty health in all programmes, conceiting all sectors to consider the specialty health impacts of their policies and practices. Once emphasis in dealing with rising cost from NCDs is fully embraced in all platforms or sectors, health authorities will find it easy to increase the scope of providing specialty care even to the remotest districts of the country thus access would be enhanced.

Creation of Specialty Health - Special Economic Zones (SHE-SEZ):
The concept of special economic Zones (SEZ) in Zimbabwe is not new, however its extension to specialty health domains would be a novel approach that can solve access and utilization challenges currently affecting rural health provinces. In 2018, government selected the board of the Zimbabwe Special Economic Zones Authority (ZimSeza) and gazetted the Statutory Instrument 154 of 2018, thereby presenting a framework in which health authorities can ride on targeting specialty health. SHE-SEZ would demand planners to identify special economic zones where investors are incentivized to invest on specialty health projects but outside the metropolitan provinces. Diversifying investment into SHE-SEZs will not only benefit investors, but will increase access to specialty care for those outside metropolitan provinces where distance and costs are major challenges.

Demand and supply-side approaches to enhance specialty health access:
Delivery of specialty health information to lower levels, including their availability, purpose associated costs, and difficulties associated with lack of such information on healthcare package or the providers (availability). Although this will not mean access is enhanced, there are greater prospects that an educated public will end up practising healthy behaviours which in turn will lead to reduced hospitals.

Running integrated specialty care outreach services tackles the issue of the location of the healthcare provider and the associated household transport costs (geographic accessibility) and can increase availability dimension, though the variety of specialty health services provided during outreach would be restricted.

The Government through its health planners, need to adopt Strategic Specialty care Partnerships (SSCPs) towards enhancing institutional capacities in dealing with the expensive “medical-industrial complex” response to Non Communicable Diseases. Both the rich and low-income households are likely to benefit from such investments, as the SSCPs investments in turn reduces difficulties in the supply of specialty care.

The Zimbabwean health authorities needs to create a public National Health Insurance Fund driven by the Government of Zimbabwe that offers realistic, acceptable and affordable premiums to cater for vulnerable groups.

Health planners must develop packages aimed at extensively reducing specialty healthcare out of pocket costs thus covering various categories depending on severity of vulnerability. Zimbabwean Government must critically assess the role played by diverse institutions amongst others, on health financing such as Premier Service Medical Investments, Premier Service Medical Aid Society and National Social Security Authority, identifying how these can be infused into the NHIS.

Dual practice by specialty physicians ought to be regulated and managed effectively to reduce long waiting times experienced by households seeking specialty care at public hospitals. Public health authorities need not to restrict dual practice given the staff establishment shortages on specialty care disciplines,instead, focus must be on expanding the scope of participation in developing the policy of regulating public health sector dual practice. There is a need for involvement of all stakeholders with both the demand and supply side view to curtail the existing conflict of interest in implementing restrictive policy measures. In addition, there is a need for a policy that shall regulate the use of public facilities by specialty physicians while servicing private patients as this arrangement would enhance physical availability of specialty care physicians at public hospitals.

The national planning health authority needs to initiate a national health action plan that will drive to evidence-based health policy. Increasing awareness on the need for evidence-informed health policies entails health research playing a progressively more important role in fashioning public health policy in Zimbabwe.

Given the availability of adequate resources, data from more specialist groups for various households within the entire provinces maybe analyzed in future studies to makericher conclusions.

Ethics and consent to participate:
The research authorization was obtained from the, Zimbabwe Health Service Boardas the public policy apex body. All interviewees participated after signing an informed consent form. The data remained anonymous. No ethical issues arose during the study, as all the data remained anonymous with no identifying personal data.

Competing interests:
The authors declare that they have no competing interests.

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