An Overview of the Distribution of HIV/AIDS Commodities in Zimbabwe

Tatenda, T. Chingono, Sebonkile, C. Thaba, Charles Mbohwa

***Abstract*— The research focused on the distribution mechanisms of the supply chains so as to strengthen the much needed service delivery and to also try and make sure that goods arrive where they are needed and in time. According to the United Nations Program on HIV/Aids UNAIDS (2002) report, since diagnosis of the first case of HIV infection in Zimbabwe in 1985, the epidemic has grown to about 2.3 million people infected of the country's total 12 million population. An estimated 34 percent of sexually active adults aged 15–49 years are infected with HIV. It is estimated that about 600,000 people have full-blown AIDS. More than 3,800 people are dying every week due to this epidemic, which has become the top killer disease in the country.**

***Index Terms*— Humanitarian aid, HIV/AIDS, Logistics and supply chain management and distribution mechanisms**

I. Introduction

In the field of Humanitarian aid in the form of HIV/AIDS commodities, most research has focused on trying to implement and introduce humanitarian logistics and supply chain management to Humanitarian organizations in trying to make their efforts quicker, efficient and cost effective such researchers include, [1], [2], [3], [4], and [5]. Some even further suggest Supply Chain Analytics for Humanitarian Logistics Transformation [6] focuses on the important role of humanitarian logistics, Networks for Africa in support for the implementation of the Millennium Development Goals.

Some research has also focused on comparing the lessons learnt from both humanitarian and private sector logistics and supply chain management. [4, 13, 17] Explore the way one such odd couple operates and earning from each other. Moving the World, a unique partnership between TNT, a global corporation specializing in transportation and logistics, and the U.N. World Food Program shows how two organizations can combine their core strengths to make a life-saving difference and increase a company's competitiveness and reputation [12], focuses his study on Zimbabwe, discussing the challenges, difficulties and problems faced by humanitarian organizations in running logistic systems. Case studies of humanitarian organizations were conducted. Logistics Performance measurements were also done for the World Food Program, the International Red Cross Society and the Zimbabwe Red Cross Society, the World Health Organization, the United Nations Children's Fund and the Zimbabwean Civil Protection Organization in Zimbabwe are discussed.

This research will take a different approach, it will focus on the distribution mechanisms of the supply chains so as to strengthen the much needed service delivery and to also try and make sure that goods arrive where they are needed and in time. According to the United Nations Program on HIV/Aids UNAIDS (2002) report, since diagnosis of the first case of HIV infection in Zimbabwe in 1985, the epidemic has grown to about 2.3 million people infected of the country's total 12 million population. An estimated 34 percent of sexually active adults aged 15–49 years are infected with HIV. It is estimated that about 600,000 people have full-blown AIDS. More than 3,800 people are dying every week due to this epidemic, which has become the top killer disease in the country. At least 70 percent of hospital beds in medical wards are occupied by patients with AIDS-related conditions. Life expectancy has fallen to 43 years, while infant mortality has more than doubled to 130 per 1,000 live births, [7] the global project report the increased morbidity and illness related to AIDS is stretching scarce health resources at a time when the country is facing enormous economic hardships, [8]. Antiretroviral therapy has substantially reduced HIV related morbidity and mortality worldwide. Although it is as such, access to antiretroviral therapy is still quite limited in Zimbabwe, with over 300 000 people still in need of Antiretroviral therapy. Zimbabwe is one of the 20 Sub-Saharan African countries having the highest unmet needs for antiretroviral therapy according to the Global AIDS Responds Progress Report (2012). Despite the good sign of decline, the double digit prevalence rate of 13, 7 percent is still unacceptable and high, thus much still needs to be done, [9].

Just as the science of logistics and supply chain management has become critically important for private sector logisticians, so too is it becoming more important for humanitarians. Not until these recent years, humanitarian logistics was a back-office function that was not given proper attention and logistics skills remained underdeveloped. Change is coming but slowly, as logistics

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has started to be recognized as integral to any relief operation. This was mostly aided by the Indian Ocean Tsunami disaster which moved logistics to center stage. [10] Unfortunately, disaster relief is and will continue to be a growth market. Both natural and man-made disasters are expected to increase by five-fold over the next fifty years due to environmental degradation, rapid urbanization and the spread of HIV/AIDS in the developing world. According to the Munich Reinsurance group, the real annual economic losses have been growing steadily, averaging US$75.5 billion in the 1960's, US$138.4 billion in the 1970's, US$213.9 billion in the 1980's and US$659.9 billion in the 1990's. [10] Thus the logistics and supply chain management systems of humanitarian agencies such as Natpharm need to be constantly monitored and strengthened.

Stakeholders agreed that, notwithstanding the declining HIV and AIDS prevalence rate, the prevalence rate was still too high and Zimbabwe still faces enormous challenges in the fight against HIV and AIDS in all the key programme areas of prevention and care.
As such, medical services are experiencing growing demand because of HIV and AIDS and hospital services are increasingly strained owing to escalating cases and continued budget reductions because of the unfavorable economic situation Zimbabwe is facing. It is therefore in against this background that Non-Governmental Organizations in support of the distribution.

II. LITERATURE REVIEW

Humanitarian supply chain refers to the network created through the flow of supplies, services, finances and information between donors, beneficiaries, suppliers and different units of humanitarian organizations for the purpose of providing physical aid to beneficiaries. [11] Humanitarian supply chains might include functionalities which may not typically fall into the field of humanitarian logistics. Managing relationships with donors, performing needs assessments, planning for supplies required and monitoring and evaluating the impact of distributed supplies, are usually the responsibility of non-logistics program units. [10] Humanitarian supply chains include units implementing programs, managing grants with donors, controlling budgets and monitoring activities which must coordinate with logistics units. Humanitarian supply chains cannot be built by solely increasing the capacity or responsibility of individual units, but are formed by the creation of stronger links between units within the supply chain. Humanitarian logistics information systems can improve the flow of information with other units, in a mutually constructive manner, improving the effectiveness of the humanitarian supply chain.

Several Non-Governmental Organisations are in support to providing the ARVs in aid to the needing people of Zimbabwe. Some of the NGOs include Medicines Sans Frontiers (MSF),DART(Annexe) Parerinyatwa, to mention just a few. The distribution of ARVs by NGOs is generally governed by the Ministry of Health and Child Welfare and the Medicines Control Authority of Zimbabwe .Most of the NGOs distribute the drugs to the countries' district and provincial hospitals and clinics. Patients would then collect the drugs from these hospitals and clinics. But recently MSF has started providing the drugs to some needy individuals directly through the clinics and hospitals. MSF in particular is one of the leading organisations in support of the ARV distribution program with projects in Bulawayo, Tsholotsho ,Buhera ,Gweru ,Epworth and Beitbridge. MSF is ensuring medical care to more than 35000 HIV patients out of whom more than 16000 are receiving Anti-retroviral therapy.

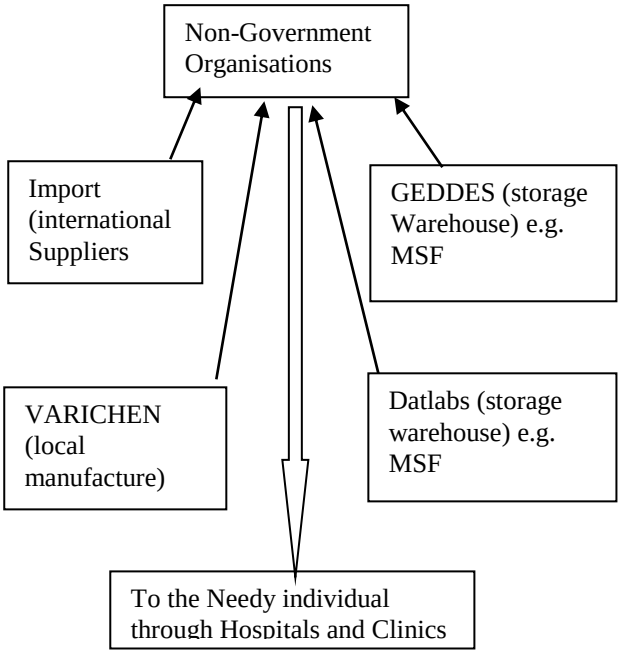

Fig.1 Humanitarian supply chain of medicinal drugs

III. METHODOLOGY

The research was conducted in Zimbabwe, 150 questionnaires were distributed. 105 responses were recorded. At most locations short interviews were also held with various stakeholders including government, NGOs and Embassy officials that assisted in filling in the research instruments.

IV. RESULTS

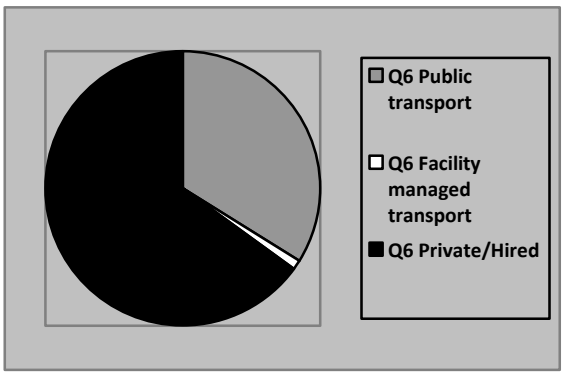

Fig.3 Mode of Transport

Figure 2. Pie Chart showing proportionate percentage distribution of respective types of transport that are used. It is evident that most facilities use their own transport which they can easily manage and thus reliable. Some to the lesser

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extend (more than a quarter) relay on private or hired transport. This can bring about problems as it cannot be fully managed/controlled and terms/conditions can easily change, thus reliability is questionable. This was evident in some of the clinics/hospitals visited (mostly government, and a few private)

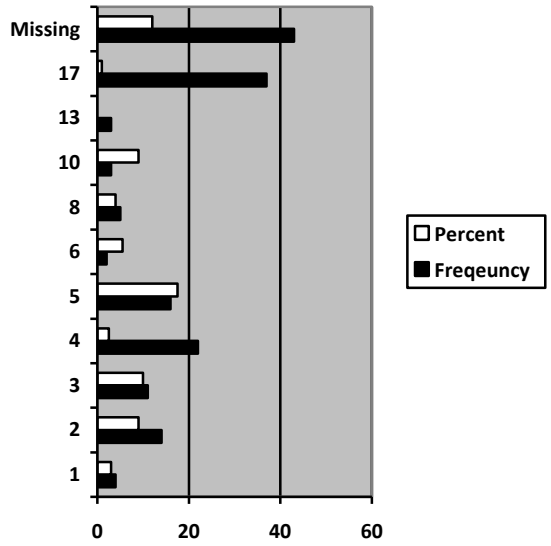

Fig 3: Bar graph depicting number of carriers managed in relation to percentage

Table I. Statistics for number of carriers used.

Mean	5.529411765
Median	4
Std.Deviation	4.25907336
Range	16
Minimum	1
Maximum	12

Fig 3, above show the relative percentage of carriers used per organisation. It is complemented by Table I, showing that most organisation relay on an average of 4 carriers. This can be a challenge when operating countrywide operations (4 carriers cannot cover all 7 provinces, thus the probability of delay in service provision is also higher). Hence there is a need for to equip these organisations with more vehicles.

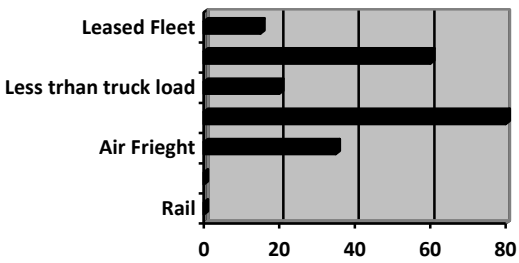

Figure 4: Percentage of relative transport used.

The bar graph depicts that most organisations use their own fleet and there also deliver a truckload. Rail and Ocean transport are not used at all as they are usually slower when compared to the others.

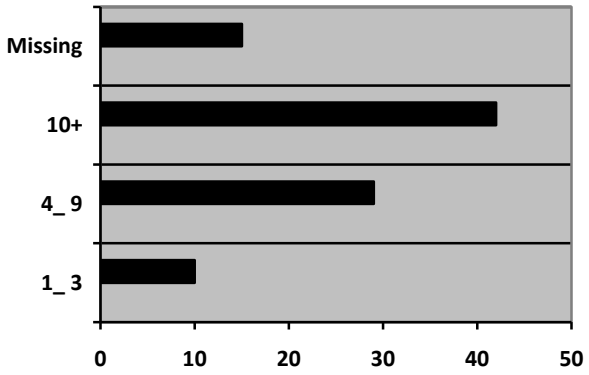

Fig 5. Supply Chain Contact points.

Fig 5 shows that more than 40% of the study sample use up to ten or more contact points to manage their supply chain. This is mainly so because the supply chains are vast and complex, they mostly start in foreign overseas countries

V. Conclusion

The study shows that there is a good number of sufficiently functioning vehicles that are available and are efficiently used for routine and emergency distribution hence in general, orders are delivered on time. The distribution capacity is strengthened mainly by the donation from the Western Countries. Those with a good fleet are able to distribute essential supplies to all health facilities in the country using a robust scheduling system. The efficiency of distribution system was often hampered by erratic availability of fuel. The support from donors also includes provision of trucks, salary for drivers, fuel and vehicle maintenance. In addition, most agencies/organizations have support projects that can also outsource distribution to private courier if need arises.

Although Zimbabwe has one of the better road systems in Africa outside South Africa, during the rainy season some clinics, hospitals, and community-based distribution workers become inaccessible due to the bad condition of roads, this leads to increased stock outs. The government or interested stake holders are urged to address this.

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