

ACCESS TO HEALTH SERVICES: INTERMEDIATE MODES OF TRANSPORT IN RESOURCE POOR AREAS

(For Presentation at the IFRTD Conference on Transport Solutions for
Access to Health care in Rural Africa)

Introduction:

The latest World Bank Transport Strategy puts it honestly and succinctly;

“Around the world, in much of development work, transport is the ultimate enabler. By serving other sectors of a nation’s economy, it puts development goals within reach. We know, for instance, that an estimated 75 percent of maternal deaths could be prevented through timely access to childbirth-related care, facilitated by transport.”

Access to efficient, affordable and safe transport in the developing world is limited and directly impacts the ability of individuals to seek timely health services. More than 60% of people in poor countries live more than 8km from a healthcare facility. The link between the distance which an individual lives from a health facility and worsening maternal mortality figures is demonstrated by a case study from Cebu in the Philippines; the study identified a clear association between infant, child, and maternal mortality rates and distance to healthcare services, it was found that a 10% increase in distance from a hospital was associated with a 2% increase in all three mortality rates.ⁱⁱ

Access to health services in the developing world is poor but it gets significantly worse in the rural areas as represented by this example from Ghana whereby it was found that while 79% of births in urban areas were supervised by a medical practitioner, the rural figure was as low as only 33%.ⁱⁱⁱ Maternal mortality indicators have received much attention of late as the deadline of 2015 for the Millennium Development Goals grows nearer. Maternal mortality however is a good indicator for demonstrating the efficiency of an entire health system; availability of transport, availability of medical supplies, presence of trained health staff etc. The emergency and non-emergency transfer of maternal cases is as such an appropriate side theme on which to focus this paper.

The Problem:

This example from Ethiopia highlights the mobility issues faced by pregnant women across the developing world; in a survey of patients, the Fistula Hospital in Addis Ababa found that on average, it takes women in labor 11 hours to reach a health care facility capable of addressing their needs and that both access to and the inhibitive cost (due to poverty) of transport were the two most important factors contributing to the occurrence of fistula.. Women in labor can spend several hours travelling on a make-shift stretcher over difficult terrain which can induce other health complications for the mother. Where access to roads is available, delays of several days are often encountered as families try to raise the money necessary to pay for hiring a vehicle to transport the patient. Emergency transport costs are an overwhelming financial burden for

families across Africa. Even short distances are subject to this difficulty. The delays in access to health services caused by the difficulties in raising such sums of money are one of the important contributors to the occurrence of obstetric fistula and subsequently increased vulnerability in the country.^{iv}

At the same time funding to research and implement solutions to rural mobility issues is limited and often weighted heavily towards infrastructure. Since 1985, about 15-20% of World Bank loans have been for transport investments (roads, ports, railways, etc), with nearly US\$ 40 billion in loans/credits, of which about US\$ 2.5 billion (about 6%) has been specifically for rural transport (World Bank, 1999; Bamberger and Lebo, 1999). However nearly all this funding has been dedicated to infrastructure and large-scale transport systems. Transport planners have paid little attention to intermediate means of transport. The bias towards infrastructure and large-scale transport still exists in national governments and donor agencies, and is reflected in terms of budgets, personnel and professional training.^v Work undertaken by Transaid in reviewing the health service transport capacity of many developing countries identified that as the health impact from vehicles is easily distinguishable from other health system components transport management is ignored – at great cost.^{vi}

Use of Intermediate Modes of Transport (IMTs):

IMTs such as animal drawn carts and bicycle or motorcycle ambulances offer a locally appropriate and low cost solution to mobility in rural areas. In the case of IMT ambulances they are often used for a combination of health issues other than just maternal patient transfer. A bicycle ambulance in Malawi, for example, set up to improve emergency obstetric care, was also often used for injuries and other medical emergencies.

Because a lack of transportation is a major barrier to accessing emergency care, communities need to consider a range of locally appropriate alternatives. Commercial vehicles, the police, and relatives with motorized or nonmotorized transportation can take seriously ill and injured patients to medical facilities.^{vii} A study of motorcycle ambulances in Malawi found significant benefits brought by the project:

“Motorcycle ambulances reduce the delay in referring women with obstetric complications from remote rural health centers to the district hospital, particularly under circumstances where health centers have no access to other transport or means of communication to call for an ambulance. They are also a relatively cheap and effective option for referral of patients in developing countries, particularly in rural areas with little or no public transport. Nineteen motorcycle ambulances can be bought for the price of one Toyota land cruiser car ambulance. Operating costs compare in a similar way. Motorcycle ambulances also potentially help reduce costs for women and their families to access Emergency Obstetric Care, although this was not the subject of this study.”^{viii}

IMT ambulances do indeed receive significant demand by maternity cases; a bicycle ambulance project in Uganda found that one typical use was the transport of pregnant women, which accounted for 52% of all medical indications for transport.^x During a bicycle ambulance project undertaken in 2005 on the Zambia/Malawi border it was found that pregnancy related cases accounted for 18.5% of usage while malaria cases accounted for 30%.

Transaid's latest IMT projects were a Motorcycle Ambulance project undertaken in the Northern Nigeria state of Jigawa as part of the Partnership to Transport Health Systems project in 2007, and a Bicycle Ambulance project in Zambia's Eastern Province in conjunction with World Bicycle Relief in 2008.

In June 2006, Transaid with its industry partners in the UK designed and developed a prototype motorcycle trailer ambulance as an initiative by PATH-Nigeria to assist pregnant and/or women with obstetric challenges in rural Jigawa State to have access to safe delivery and general improved health care. Four motorcycle trailers ambulances were manufactured with local expertise under the supervision of Transaid, pre- tested and handed over to the Ministry of Women for use in the communities. ^x The project produced a lot of learning points, and for a period made a significant impact; *"the community affirmed that before it developed problems, the trailer ambulance contributed immensely in providing access to pregnant women on emergency obstetric care; more than any other means of transport they ever used in carrying pregnant women and sick persons to health centres"*. ^{xi} Unfortunately however a combination of budget constraints and time constraints prevented the implementation of a comprehensive monitoring and evaluation system to quantify the impact of this intervention.

The Transaid bicycle ambulance project in Zambia's Eastern Province amounts to the design, manufacture and distribution of 40 bicycle ambulances to home based carers (HBCs) working within the RAPIDS project (Reaching HIV/AIDS Affected People with Integrated Development and Support). The ambulances have been distributed across 3 sites (Petauke, Katete and Chipata) and are accompanied by log books which will be used for Monitoring and Evaluation purposes. Monitoring and Evaluation is scheduled to take place over a 2 year period with the first analysis taking place in December 2008.

The use, maintenance and management of running costs for IMTs are all important components to these projects. In Northern Nigeria Transaid is aiming to establish an Emergency Transport System in Yobe State. A key component of this will be the establishment of community managed Emergency Loan Funds (ELFs) to reduce the delay of obtaining funds in emergencies. A similar scheme was established in Jigawa State and the report by the Safe Motherhood Initiative Demand side team (SMI-D) Project manager explained that although village communities were slow to grasp the concept of the ELF, four out the 36 participating villages have one in operation.^{xii} This represents a significant opportunity to again pilot the use of ELFs on a bigger scale with a more community sensitive approach to demonstrate greater uptake and sustainability.

Conclusion:

The literature review conducted during the formulation of this paper demonstrated the shortage of operational, and impact data regarding IMT projects. This may be indicative of the general lack of local knowledge on the impact of mobility & transport issues on health (access, rural-urban infection diffusion, migration) because research is being neglected for southern, low- income settings^{xiii} Information remains general or inconsistent for comparative cost effectiveness studies, no clear picture of overall cost to improve transport for health exists.^{xiv}

The use of IMTs as a health service delivery tool will not be taken seriously until data is available to demonstrate the impact they can make upon health indicators, the cost effectiveness of IMTs and their sustainability. However this data will not come if IMT projects continue to be of relatively small scale, and with inadequate funding for comprehensive monitoring and evaluation. There is a fear that this represents a vicious circle; not enough funding for comprehensive monitoring and evaluation, as a result no significant impact data is available, as a result donors are not willing to fund IMT projects.

It is hoped that the outputs from the “Mobility and Health” International Networked Research Programme, and the 25 case studies included within it will produce quantitative health impact data of an appropriate scale to be used as a basis for sustainable mid to large scale projects.

Either way, there is a growing, and urgent need for significant research into rural transport projects of a scale which can be useful for developing National or regional projects so that health benefits brought by these projects can support other development initiatives on an impactful scale.

About the Author:

Gary Forster is Head of Programme Development for Transaid. Transaid is an international development charity which seeks to reduce poverty and improve quality of life through providing better access to basic services such as health, education and economic opportunities in Africa and other parts of the developing world. By working with the UK & European transport and logistics industry Transaid builds local skills and knowledge to make transport safer, cheaper and more effective. Transaid has successfully undertaken a number of Transport Management projects throughout Africa including projects in South Africa, Ghana, Kenya and Mozambique. Transaid specialises in:

- building capacity of the public health authorities to provide effective, safe and cost efficient transport management systems to promote equitable access to primary health care services
- developing and improving logistics and supply chain systems to enhance the delivery of medicines, equipment and relief services to vulnerable communities
- providing technical and financial analysis of the transport component of relief and emergency programmes

- promoting effective partnership to support and enhance community participation in developing sustainable transport solutions in rural areas
- developing and delivering transport and logistics training and qualifications for public and private sector operators

ⁱ Katherine Sierra, Vice President, Sustainable Development, "Safe, Clean, and Affordable..., *Transport for Development*", The World Bank Group's Transport Business Strategy for 2008-2012

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