Evaluating the introduction of the Emergency Referral Programme (ERP) in the rural Bongo District

By Esther Azasi

Vehicles dedicated to emergency transport are rare in Ghana and generally based in urban centers due to resource constraints. Ambulances are often located at Regional and District health facilities, and on occasion in sub-district health centres. The Bongo referral pilot was introduced to test a new model for ambulance placement. This new strategy aims to enhance access to emergency transport by placing emergency vehicles at the community level. The rationale for this project is that by expanding community access to referral services vulnerable populations will receive improved and more timely health care and maternal deaths will be reduced. This community focused strategy includes placing a vehicle at an operating CHPS compound and, in the case of a community without functional CHPS, at the home of a village health volunteer.

At the onset of the pilot in March 2012, three tri-car ambulances were deployed to the Soe sub-district of Bongo to initiate the Emergency Referral Programme (ERP). Tri-cars are not widely used in the Upper East Region and initial user findings suggested that tri-cars may not handle well over the rough rural terrain of the area. The reason that Tri-car ambulances were selected for the pilot was that they are much less expensive than more common 4-wheeled vehicles and offer greater protection from the weather elements than modified motorbike and tractor ambulances that are sometimes used in rural areas and on rough terrain. The findings below describe the lessons learned from ERP, including both the benefits and challenges discovered throughout the implementation of the project.
Positive attributes of the Emergency Referral Programme (ERP):

- **The ERP has enabled for rapid referrals** – At present, few vehicles use the roads of Bongo and its suburbs largely due to the challenging terrain and poor road infrastructure. Prior to the pilot, patients who needed emergency care at a higher level facility were transported on a donkey cart, a bicycle, and if lucky, a motor bike. Since community-based nurses are not trained to conduct pregnancy deliveries, oftentimes, this patient in transit was a pregnant woman in labour. The long transport times from these ad-hoc referral methods meant that the woman was at risk of having her baby in the middle of the road before she was able to reach the next level of care. Further, the difficulty in finding a means of transport for emergencies oftentimes discouraged patients and their families from even attempting to seek referral options when necessary.

  The tri-cars have been successful in minimizing the time required for transportation. They are able to move quickly on the roads, between the rural Soe sub-district to the higher level facilities. Five months after introducing the ERP, patients have expressed extreme confidence and support for the Bongo referral project. With the emergency referral system functioning, health workers now feel safer when referring a patient to the next level, knowing that patients are more likely to follow their referral recommendations.

- **The introduction of the ERP has made referral less expensive for patients** - Referral is considered as an expensive option in many rural locations. Sometimes, patients would anticipate the need for referral during their pregnancies, and be advised to start saving money for it. However, regardless of saving these funds, sometimes local drivers would be unwilling to tackle the difficult terrain for the patient, necessitating the patient to seek a more expensive transport option. Most of the population in these rural communities lacks the funds to cover these high transport costs, meaning that many will return home and resort to local treatments and dangerous home deliveries. Home deliveries often may increase the risk for maternal and newborn complications. To tackle this issue of cost, the Bongo pilot, under the direction of its District Health Management Team, has enabled for referral costs to remain free for all pregnant women and children under the age of five. The cost has also been subsidized for other category of patients. In order to inform the communities about the project and the free emergency transportation available, community durbars were held. The durbars educated the communities on the new services and how they could access them.

- **The ERP has reduced complications during delivery** - Among rural populations in the Upper East, many pregnant women fail to understand and appreciate the importance of visiting a health clinic as soon as they experience labour cramps. Results from the ERP have been promising thus far in showing reductions in complications experienced during deliveries. Among the 26 cases of women transported for pregnancy related cases (as of July 1, 2012) 24 experienced complication-free deliveries, 2 required caesarian deliveries, and 2 were transported because of issues resulting from a retained placenta. Without referral options, serious complications could have arisen for those women requiring more specialized care for the caesarian sections and retained placenta.
Challenges experienced with the ERP - Despite all the positive contributions of the ERP thus far, some challenges have also been identified. Many of these issues result from the difficult terrain of Bongo District.

- **Ambulance breakdowns** – The pilot has indicated that the tri-car has difficulties with the uneven roads, resulting in frequent vehicle breakdowns. More specifically, the tri-cars had problems with their starters, gears, and alternators. Because of these vehicle challenges, other vehicle models, including modified motor-king (motorbikes with trailers), are being tested.

- **Uncomfortable transportation for patients** - Referral transport in the tri-cars has been described as uncomfortable by some clients, especially pregnant women. The shock absorbers of the tri-car are weak and not ideal for the rocky Bongo terrain. For patients or pregnant women experiencing pain, the constant movement and shifting of the stretcher was not ideal. Patients indicated this distress and their worries of its impact on pregnant women during a site visit durbar.

- **Vehicle Limitations** - As one community member astutely noted, “One tire of the tri-car is missing in the front.” The design of the tri-car does have serious limitations, including difficulties by the drivers in maneuvering around the frequent potholes. Further, the front tire has been found to easily sink into the muddy roads during the rainy season, sometimes even getting jammed, only further delaying the process of reaching care. Emergencies often necessitate the vehicle to speed beyond its normal range in order to expedite the travel time for the ill patient. The tri-car however is unable to speed very fast due to design limitations.

- **The potential for breeding infection** - The roads in Bongo are usually dry and dusty in the dry season. With only a tarpaulin shading the clients and health worker in the vehicle, dust easily gets in the inside of the tri-car. This induces the risk of infection for the patient and health worker during transit. In addition, at the referral point, patients would present as dusty, requiring additional clean-up activities by health staff.

- **Lack of experienced mechanics** - At present there are not experienced mechanics residing in the Upper East Region that are familiar with the maintenance and repair requirements of the tri-car. Long delays for repairs were commonly experienced during the pilot. As noted, a motorking vehicle was introduced during the middle of the pilot due to complications related to repairs.

**Conclusion** - Despite the challenges identified with the ERP, valuable lessons have been learned and lives saved from the programme. It is undeniable that emergency referral options can impact maternal and newborn lives. Providing more options, especially at the community-level, has been proven thus far as an effective model. As the ERP continues to grow, it will utilize and expand on the lessons learned from the early pilot stage, in order to more effectively provide safe and reliable emergency referral services to even the most rural populations in Bongo.

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