

Impact Assessment – Emergency Wheelchair Response in the Philippines

by Cheryl Ann 'Tchai' T. Xavier

1. Background

When Typhoon Haiyan¹ hit the Philippines in November 8, 2013 it left a trail of devastation in its wake. The National Disaster Risk Reduction Management Council (NDRRMC)² reported 6,293 deaths, 28,689 injured and 1,061 still missing. In the Province of Leyte (Tacloban is the capital city), 5,262 individuals were reported dead and 15,609 injured. On 9th November, the Government accepted the UN offer of international assistance.

Handicap International (HI) and Johanniter International Assistance (JUH) were among the humanitarian agencies that responded to the disaster. In line with responding to an emergency, Motivation has implemented a project to develop and trial an emergency response wheelchair package. A wheelchair design was developed and 300 wheelchairs were produced with the intention of using them in a suitable emergency during the project. A limited emergency wheelchair service was designed and a training package to train emergency responders how to prescribe and fit the wheelchair was developed.³ In the aftermath of Typhoon Haiyan, HI and JUH used the wheelchairs as part of their response.

This report looked into the impact of the provision of the wheelchairs as part of the emergency response of HI and JUH. Specifically the impact assessment evaluated the (1) need for wheelchairs after the emergency (2) wheelchair users in the emergency (3) transitional use of wheelchairs (4) the emergency response service and (5) training (6) follow up of

beneficiaries and (7) impact it had made on people's lives.

This study was conducted in two phases: a desk research and field visits to beneficiaries in Ormoc and Tacloban. In an attempt at triangulation, the following methodologies were used: desk research, interviews (skype and face to face) and field visits to beneficiaries (observation and interviews through questionnaire). The beneficiaries for home visits and interviews were randomly selected in both Ormoc and Tacloban. A standard questionnaire (Satisfaction and outcomes at time of follow-up of assistive technology⁴) was used during the interview. The sample size was 34% of the total beneficiaries⁵.

This report is divided into five general sections: (1) Background (2) Summary of Findings (3) Conclusions (4) Recommendations (5) Appendices. The summary of findings is subdivided into six categories to reflect the specific questions evaluated in this assessment: (2.1) need for emergency response wheelchair service (2.2) wheelchair users in emergency (2.3) transitional use of wheelchairs (2.4) emergency response training and service (2.5) wheelchair user follow up (2.6) impact on people's lives.

2. Summary of Findings

2.1 Need for wheelchairs after the emergency

The statistics released by NDRRMC reported 28,626 injured, 55% of these injuries (15,609) were from the province of Leyte. By November 16, 2013, the World Health Organisation (WHO) identified major trauma and injuries as one of the major risks to public health post Typhoon Haiyan.⁶ As predicted, early

¹ As Typhoon Haiyan reached the Philippine Area of Responsibility, the typhoon is locally known as Typhoon Yolanda.

² Situation Report 108 dated 3 April 2014, NDRRMC is empowered with policy making, coordination, integration, supervision, monitoring and evaluation functions linked to developing and implementing the country's National Risk Reduction Management Framework.

³ Sheldon, S. Emergency Response Wheelchair Programme – Philippines Implementation Monitoring Report

⁴ Draft version of the WHO Wheelchair Service Training Package Management Module.

⁵ 15 people out of total of 44 beneficiaries. However, of the 15 individuals visited, it was not appropriate to have 1 individual answer the questionnaire as he only used the wheelchair once.

⁶ Draft Document – Public Health Risk Assessment and Interventions – Typhoon Haiyan Philippines, 2nd edition, 16 Dec 2013. WHO

surveillance systems reported that trauma was the top cause of mortality and morbidity in the affected areas during the first 2 to 3 weeks following the typhoon. A lack of functioning health facilities in the areas of maximum impact meant that treatment of many of the injuries was delayed.

By December 11, 2013, the focus of the disability and rehabilitation stakeholder meetings headed by WHO (under Health Cluster) has been how to address the specific health, rehabilitation and assistive device needs of people with serious injuries and disabilities. According to WHO, there were many people with disabilities living in the most affected areas and the vulnerability of people with disability is particularly apparent in disaster situations. There were also many people who sustained serious injuries during the typhoon, many of these people were referred to health facilities in Manila, Cebu and Tacloban. Initial priorities were those with spinal cord injuries, amputations, serious fractures and traumatic brain injuries.⁷

Interviews with the Chief of Hospital and Chief Nurse in Ormoc District Hospital, confirmed referring those who sustained serious injuries to Cebu City after the typhoon as they did not have the capacity to cater to major trauma. Major trauma cases were also referred to the foreign medical missions who had set-up within the hospital premises. An accurate estimate of the number of referrals was not available as all records are now kept by the foreign medical missions.⁸

As of December 11, 2013, there were eighty – five registered Foreign Medical Teams and 148 local medical teams operating in the affected area coordinated by WHO in the Health Cluster. The following is a review of a representative sample of the summary of intervention of foreign medical missions operating in Tacloban and Ormoc:

⁷ Health Cluster Bulletin #7 December 11, 2013 – WHO and DOH

⁸ MERCY Malaysia is one of the first humanitarian agencies to have arrived at Ormoc District Hospital on 14th November 2014, a week after the super typhoon struck the central Leyte Island. MERCY Malaysia deployed its Emergency Response Unit consisting of tents, equipment and medical supplies to run a temporary Outpatient Department which was in operation for two months. Surgical teams comprising of orthopedics, anesthesiologists and nurses were also deployed throughout December and January to support Ormoc District Hospital in its orthopedic cases.

- a. By Dec 15, China's navy hospital ship Peace Ark concluded its humanitarian medical aid mission in typhoon-hit areas in the Philippines. During the mission, the ship treated 2,208 patients, conducted 44 operations, and offered medical treatment and medicine to more than 450 households. (reliefweb.int/report/Philippines/chinas-peace-ark-hospital-ship-returns-home)
- b. By December 4, Johanniter MERT team of 19 volunteers treated a total of 2,500 patients (www.johanniter.de/die-johanniter/johanniter-unfall-hilfe/home/news).
- c. MSF - Functioning six days a week, they saw over 2,500 patients during the first week of December in the outpatient department. There are about 50 inpatients, which include surgical cases and maternity. MSF provided free care and medicine and the number of people using their services were swelling daily. (blogs.msf.org/Philippines)
- d. ARR Japan identified at least 57 individuals requiring wheeled mobility devices in Tacloban and Palo alone after conducting a house to house survey. Majority of the cases were of people who already had some form of mobility disability prior to the typhoon, but did not have access to any assistive mobility device.

These data are included to highlight that (1) there is a need for the emergency wheelchairs (2) an untapped source of referrals can be explored by linking with the different foreign medical teams by sharing information about the emergency wheelchair service or providing printed information materials.

Representatives from Humanitarian Aid Organizations interviewed suggested that in comparison to an emergency brought about by an earthquake, there is not the same degree of physical injuries post typhoon Haiyan. This is confirmed by interviews with three Barangay⁹ Leaders in Ormoc who were responsible for identifying wheelchair beneficiaries in their respective barangays (village). They too reported that there were not a lot of post-Yolanda injuries in their area that resulted to a need

⁹ A collection of households is known as purok (zone). A collection of zones is known as barangay (village). A barangay is the smallest government unit in the Philippines. A collection of barangays make up a municipality or a city. Like any government officials, Barangay leaders are elected by the majority.

for wheelchairs in their area. They confirmed that most of the people requiring wheelchairs in their community had a disability prior to the typhoon.

However, they also stress the need for wheelchair services to address the pre-existing requirement for wheelchairs prior to the typhoon. The provision of wheelchairs as part of the emergency response was greatly appreciated to remind them as community leaders of the difficulties of people with mobility disabilities in the aftermath of the emergency.

There is also an increasing prevalence of amputation 2 months after the disaster. Anecdotal evidence from interviews with hospital staff in Ormoc and Tacloban suggests that the increase prevalence is due to patients not having access to maintenance medications for diabetes after the typhoon and an increasing prevalence of diabetes due to a diet that is mostly processed food (i.e. relief goods).

2.2 Wheelchairs user in an emergency situation

None of the beneficiaries interviewed reported lining up to access distribution of relief goods. The system of relief distribution is very much influenced by how barangay leaders will work with donors/humanitarian agencies. Barangay leaders interviewed are of the opinion that people with disabilities and other vulnerable population (elderly, pregnant and lactating mothers, children with disabilities) should not be expected to line up to receive relief goods. With this in mind, barangay leaders encourage representatives are sent in behalf of persons with disabilities or vulnerable population to access relief goods.

A beneficiary who had the capability to access relief goods and services through the use of the wheelchair did not do so. He felt uncomfortable to go out of their home and being looked at by other people because of his disability. His wife goes to access relief goods and services in his behalf.

Of the fourteen beneficiaries interviewed, one parent reported that the wheelchair provided made it easier to access medical care in the hospital. Another parent reported bringing her child on the wheelchair

to attend psychosocial support activities organised in the community by humanitarian organisations. Another beneficiary reported the usefulness of the emergency wheelchairs during pre-emptive evacuation when their area was again hit by a typhoon and there was fear of flooding around their home.

2.3 Transitional use wheelchairs

The purpose of the emergency response wheelchair was to have appropriate wheelchairs available to be quickly deployed after an emergency to give people improved mobility as a temporary measure whilst waiting for a more permanent solution.¹⁰ Types of disability in an emergency situation includes (1) wheelchair users who have lost their wheelchair during the disaster (2) people who will need a wheelchair for a short time (3) people who have been severely injured and will need a wheelchair permanently.¹¹

Of the 50 wheelchairs shipped to the Philippines by JUH, 44 were provided to beneficiaries, four were donated to the maternity ward by IsrAID, one is kept by JUH and one is with HI as a sample. In reviewing the beneficiary list, 84% (37) of the beneficiaries required a permanent wheelchair, whilst only 16% (7) required a wheelchair for a temporary disability. Physical conditions of the beneficiaries seen that resulted to a mobility disability were: amputation (4), polio (2), stroke (3), Down's syndrome (1), geriatric (21), cerebral palsy (3), injury, including spinal cord injury (4), vascular necrosis (1), tuberculosis of the spine (1), arthrosis (1) and vehicular accident (1).

Of the seven beneficiaries identified as temporary wheelchair users, three (43%) were included in the study population for interview selected through random sampling. During the interview, all three are currently not using the wheelchairs because they are now able to walk (2 users) and have transitioned to crutches (1 user). One beneficiary initially thought to require the use of a wheelchair permanently had also transitioned to using canes for ambulation.

¹⁰ Sheldon, S., Emergency Response Wheelchair Programme Philippines Implementation Monitoring Report, Feb 2014

¹¹ Emergency Response Wheelchair Service Participant Manual

Most of the wheelchair users had a pre-existing need, reflecting the high proportion of unmet need prior to the emergency.¹² Although the Philippines have numerous universities offering rehabilitation courses (i.e. PT, OT, Speech Therapist), disability and rehabilitation program is not a priority among the health services of the government. The provision of assistive devices like wheelchairs does not fall within the remit of the Department of Health. It is classified as an auxiliary service that falls within the mandate of the Department of Social Welfare and Development. Disability is only one among fourteen programs under this department and it is not always a priority. With decentralization of the health and welfare services to the local government unit, politics and the priorities of the Mayor becomes an important factor in addressing or not addressing disability issues.

More often than not, disability and physical rehabilitation programs are not given importance. These factors would help shed light on why there is a high proportion of unmet need for wheelchairs in the country. Barangay leaders and beneficiaries themselves expressed ambivalence towards their experience of the typhoon. On one hand, they are saddened by the devastation brought about by the disaster. But on the other hand, it also provided the opportunity for their needs to be addressed (i.e. need for assistive devices and the focus on persons with disability). Until a more permanent solution is established, all the beneficiaries expressed gratitude for having received the emergency wheelchair.

Focusing on those beneficiaries who used the wheelchair temporarily and have now transitioned to either walking or walking with mobility aids, the emergency wheelchairs have made a positive difference since they have become independent in performing selected activities of daily living (i.e. accessing outside toilet), able to transfer to a more safer location during pre-emptive evacuation and the psychosocial benefit of seeing the world outside their room/home.

¹² Sheldon, S., Emergency Response Wheelchair Programme Philippines Implementation Monitoring Report, Feb 2014

2.4 Emergency Response Training and Services

During interviews and field visit, a pattern on how training received influenced the quality of the services and the satisfaction of the users during follow-up emerged. This section summarizes the findings of the review of training resources, interviews with staff, observation during field visit and follow up and interviews with beneficiaries using the satisfaction and outcomes questionnaire.

Firstly, a review of the training resources revealed that it provided the essential information required in the delivery of an emergency response wheelchair service. The training at the Training of Trainers (TOT) level also covered the essentials: product, services, service set-up and training. However, during the delivery of the training in the field, the essential components of the emergency wheelchair provision overview and wheelchair service steps might not have been emphasized which might have affected the strategies employed in the implementation of the emergency wheelchair service.

Secondly, staff were interviewed to provide feedback on the training received. Various attempts were made to contact the volunteer who worked with the Trained Expert in Ormoc. This was unsuccessful.

Feedback from HI staff who received the training are mixed: one reported the training received to be sufficient in the delivery of emergency wheelchair service, the other reported having benefitted from reading through the resources provided (only after these were introduced during the monitoring visit) and seeking guidance from an HI staff who has wheelchair experience from a previous emergency project.

It is noted that the volunteer and staff of Balay Mindanaw Foundation Inc.¹³ (BMFI) who worked with the Trained Expert in Ormoc do not have a disability or rehabilitation background. The HI staff who had undergone the training were either PT or OT.

¹³ JUH had worked with BMFI since 2012 in its Disaster Risk Reduction Project. They have no presence in Ormoc, but are based in Mindanao (the southernmost island of the country).

Thirdly, the summary of the observations during follow up provides a feedback of how emergency wheelchairs service is influenced among other things by the training received. Given that in an emergency, time for training is limited, the training approach taken in Ormoc was a model that worked based on observations during follow-up and interviews. The limited time spent in theory training was complemented by a longer time in field supervision of actual deliveries of wheelchairs. It was a compromise that worked to address the need for training and at the same time show results towards achievement of indicators.

During field visits, it was observed that all of the 3 emergency wheelchairs currently being used fitted the users (in reference to seat width), none of them placed the cushion incorrectly and none of them had pressure sores.

In contrast, there was limited time for both training and field supervision for HI staff in Tacloban.¹⁴ Given that the scope of devastation is huge in contrast to Ormoc, the HI staff felt the pressure of limited time to achieve set project indicators. During field visits to randomly selected emergency wheelchair beneficiaries – 3 out of 5 users had problems with the wheelchairs (1 parent was concerned with safety of the child whilst on the wheelchair and requested for a safety belt or supportive seat, 1 elderly female complained of numbness of the leg when seated on the wheelchair – it was discovered that the cushion was wrongly placed and 1 active user complained that the wheelchair was not appropriate for his needs).

3 out of 5 did not receive user instructions (i.e. how to use the wheelchair outside and how to maintain the wheelchair). At the time of the interview, only 2 out of the 5 users were seated on the wheelchair during the visit. Both had placed the cushion incorrectly, although none had developed any pressure sores.

Another model of delivery seen was the provision of the remaining wheelchairs through an untrained staff

¹⁴ Vali – JUH volunteer, who had undergone the TOT training in Frankfurt, Germany was based in Tacloban for a week. However, the actual training time allotted to him was only 4 hours (inclusive of break). The total training time was confirmed by interviews with HI staff in Tacloban.

of BMFI in Ormoc. She only referred to some of the training resources left behind by the Trained expert. It must be mentioned that this last model is not an acceptable practice. By policy emergency wheelchairs should only be provided by staff who had undergone the emergency wheelchair response training. The reference materials are not stand alone but complement the training received.¹⁵

The observations for this last model were included for reference purposes. During field visits, it was observed that all of the 5 users had problems with the wheelchairs, 1 required additional training on how to use the wheelchair outside, 4 out of 5 placed the cushions incorrectly and all 5 did not fit the user.¹⁶

The summary of the topics covered and observations during field visit and follow-up visits are included as part of the appendix.

The staff also raised various issues on emergency wheelchair provision such as (1) difficulty to assemble the wheelchairs using the tools that come in the box (2) it takes too much time to assemble compared to an ordinary orthopaedic wheelchair that just unfolds and can be issued immediately (3) emergency wheelchair was not appropriate for the beneficiaries identified who required a permanent solution to existing chronic problems (4) difficulty in logistics of providing the wheelchairs in a community based set-up (5) that the emergency wheelchairs will 'disintegrate' within 8 months (6) that there are numerous paperwork requirements for the wheelchairs on top of existing organisational paperwork.

Some of these issues are addressed by the training (Emergency Wheelchair Service Set-up) and resources are available in the training materials that can assist in planning for the service set-up. However, the field staff might not be the appropriate audience for the session. This is more appropriate for the level of management (i.e. Officers, Managers) to assist in planning out strategies for

¹⁵ Based on interview with Sarah Frost .

¹⁶ The 5 remaining wheelchairs were of large and extra large sizes.

implementation and to direct the field staff accordingly.

The results of the satisfaction and outcome survey are discussed next to summarise the insights from the wheelchair users perspective. Only sections related to products and services are discussed here. The full summary of result is included in the appendix.

For questions related to the emergency wheelchair (questions # 11- 18) the users were asked to rate their experience using the scale - *terrible* (lowest), *unhappy*, *mostly dissatisfied*, *mixed* (average), *mostly satisfied*, *pleased* and *delighted* (highest).

The results of the survey are as follows: **size** – 26% were pleased, 29% were delighted, 29% were mostly satisfied and 7% was unhappy; **weight** – 50% were pleased, 29% were delighted, while 21% were mostly satisfied; **ease to move from place to place** – 50% were pleased, 29% were delighted, 7% were mostly satisfied, 7% had mixed feelings whilst 7% felt it was terrible (in this case, the user is being pushed by his 10 yr old grand-daughter); **how it looks** - 50% were pleased, 36% were delighted and 7% were mostly satisfied; **easy to use** – 36% were mostly satisfied, 29% were delighted, 14% had mixed feelings; **assembly time** – 43% were both pleased and delighted, 7% had mixed feelings or were mostly dissatisfied; **reliability** – 71% were pleased, 21% were delighted and 7% had mixed feelings; **meets the need** – 50% were delighted, 36% were pleased, 14% had mixed feelings.

For questions related to the emergency wheelchair service (questions # 19 – 22), they used the same rating scale as above.

The results of the survey were as follows: **advice on what technology was best** – this question was not appropriate as there was no choice of products; **time it took** – 50% were delighted, 43% were pleased, 7% had mixed feelings; **user instructions (maintenance & repair)** – 43% were delighted, 36% were pleased, 14% had mixed feelings, 7% felt terrible; **user instructions (how to use the wheelchair)** – 87% were pleased, 29% were

delighted, 7% had mixed feelings and 7% felt unhappy.

The results of the survey reflected the experience the users had and are also linked to the service they have received. Those who answered at the lower end of the scale (terrible, unhappy and mostly dissatisfied) were users who had either not received the appropriate size wheelchair or had not received complete user instructions during the delivery of the emergency wheelchairs.

2.5 Wheelchair user follow up

Although follow up is identified as part of the emergency wheelchair service, neither HI nor BMFI had made plans for conducting follow up of beneficiaries. BMFI do not have the capacity to conduct this as there are no trained personnel on wheelchair provision employed in the organisation, and they do not have an existing office based in Ormoc. JUH recognises the need to link with HI to conduct follow up as HI has a rehabilitation component in their project. In Ormoc, the follow up of beneficiaries was conducted by the researcher as a separate activity to the impact assessment review.

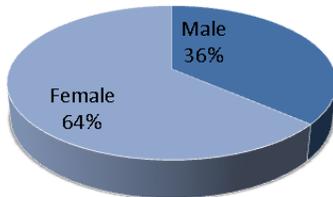
In discussions with HI field staff, although beneficiaries of other HI services (i.e. therapy/rehab services, provision of specific needs) are followed up, this does not include the beneficiaries of the emergency wheelchair service. Reasons given included: (1) not a priority at the moment as the priority is to assess more people (2) limited time to achieve other indicators. Contrary to this, the HI Technical Adviser confirmed that HI has a policy for follow up, including that of the wheelchairs.

Identified barriers to follow up included (1) organizational priority (2) limited resource allocated to conduct follow up (3) limited knowledge of staff to conduct follow up as training received is not adequate to provide follow up care (4) presence of a contact person in the community who can identify the location of the beneficiaries (5) established relationship with community leaders to support the activity in the field (6) communication of organisation policy at field level.

2.6 What difference has the programme made to people's lives?

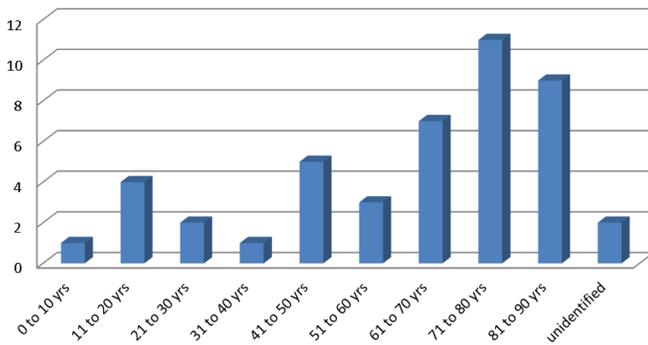
Of the 50 wheelchairs sent to the Philippines by JUH, only 44 were provided to beneficiaries, 4 were donated to a maternity hospital through IsrAID and 2 were kept as samples by each organisation. 64% (28) of the beneficiaries were female and 36% (16) were male.

Beneficiaries by Gender



25% (11) of the beneficiary were within the age range of 71 to 80 years old, 20% (9) were within the 81 to 90 age range and 16% (7) were within the 61 to 70 years range.

Breakdown of beneficiaries by age range



During interviews, beneficiaries and carers commented on how the provision of the emergency wheelchair made a difference in their lives. The top 3 reported difference were: (1) able to sit outside comfortably (2) able to breathe fresh air (3) able to see other people. Most of the impact is psychosocial – the happiness felt in being able to see the world outside their make – shift room and breathe fresh air. Post an emergency, these seemingly simply joys is already seen by most of the beneficiaries as a great achievement. A table of the described impact / changes in beneficiaries' lives and carers are summarized and included in the appendix.

Based on the results of the satisfaction and outcomes survey, 57% continue to use the

emergency wheelchair at present. On average 43% use the wheelchair at least 1 – 4 hours a day. For questions related to **how much problem users have at present to carry out activities where they live** (questions # 5 -10): 14% had problems with using the wheelchair to **use transportation as a passenger**, 7% had moderate problem while 79% did not use the wheelchair to travel outside their home. Considering that majority of the beneficiaries were aged 61 and above, none of them are performing any household tasks but are only taken cared-by family. 7% expressed moderate problem in **using the wheelchair when doing his job** and 7% had mild problem in doing recreational activities. 93% had **not participated in any religious activities** primarily because of environmental accessibility (i.e. debris have not been fully cleared outside their homes and in their community). When asked how much the emergency wheelchairs changed their **enjoyment of life** 36% felt it was quite a lot better, 21% felt very much better and 7% felt slightly better.¹⁷

From the perspective of the Barangay Leaders in Ormoc who knew the project beneficiaries well, the impact of the project for them revolves around having a better understanding of disability issues. They now plan to improve policies and services for people with disabilities and the elderly within their community. Initial ideas revolve around inviting representatives to be involved in discussions on plans and activities for the community.

For humanitarian workers/agencies, the impact of the project are (1) more on a strategic level – as an organisation being able to provide something quickly in respond to a need (2) provide a wheelchair that fits (3) to allow mobility to a person with disability and become more independent in the midst of an emergency (4) be able to advocate for the inclusion of persons with disability in their emergency response.

3. Conclusions

In conclusion, Typhoon Haiyan left in its wake a trail of devastation that will take years to rehabilitate. The

¹⁷ Since the questionnaire asks participant to look back about their experience of using the wheelchair in the last two weeks, the 5 users who are currently not using the wheelchair were not included.

typhoon put into the spotlight the plight of persons with disability and how closely it is linked to poverty and priorities of government to render services to address their needs.

There is a pre-existing need for wheelchairs and wheelchair services in the country and a disaster similar to the magnitude of the typhoon increases that pre-existing need. Although it is difficult to ascertain the exact number of the need for this service because of (1) lack of existing data on disability (2) lack of actual data post emergency (3) unclear mechanism for referrals (4) the challenging environment faced by humanitarian workers post emergency – there is still a need for this type of response. The ambivalence felt by beneficiaries – one hand saddened by the devastation wrought by the typhoon but on the other hand happy that now their need for a wheelchair is addressed is a concrete manifestation that this type of response is needed.

Although it is initially planned to be a transition model – for majority of the beneficiaries it will be their permanent and only solution, until such time that a more permanent sustainable solution through permanent wheelchair service is found. The reality in the country which had now experienced devastating typhoon on a yearly basis, none of those areas that had previously been devastated by a similar disaster that merited the response of humanitarian assistance – none had established permanent wheelchair services. There is just limited resource set aside for this area of services within the coffers of the government.

There is a need to explore how development organisations focused on disability can play a role in the initial set – up of similar services. This can be set-up during the rehabilitation phase of emergency response to (1) provide a period of hand - holding whilst the government focuses on addressing the needs of the majority (2) advocate for inclusion of persons with disability in services offered by both the government and humanitarian agencies (3) address the pressing need for such services (4) show a model that works and hopefully get more and more people involved.

The emergency wheelchair response package developed: product, training and services – it is

adequate to respond to an emergency. However, the results of the interviews, field visits and observations suggests that field training plays an important role in the service provision and the subsequent satisfaction of users of the product received. Management plays an important role in setting out strategies for allocation of limited resources vs the need to show results to donors in addressing project indicators. A model of brief theory training, coupled with field supervision of actual home visits and deliveries showed a working compromise to address the need for quality training and service vs the requirement to show project results.

However, the training received as part of the emergency wheelchair response does not equip a staff who had no previous experience on wheelchair provision to conduct a thorough follow-up of emergency wheelchair beneficiaries. As experienced by the researcher during this study, there was a need to draw on previous clinical and technical experience to problem solve whilst on the field during the follow – up visits to identified beneficiaries.

Follow-up must be made a priority by any organisation that is implementing an emergency wheelchair response. The results of the observations during field visits and follow up suggests that there are consequences for inappropriate provision of the wheelchair and insufficient user instructions that can compromise user safety and full use of the emergency wheelchair.

Lastly, the provision of the emergency wheelchair as part of the emergency response had a positive impact on all those who were involved in its implementation (1) humanitarian organisations and workers now have an innovative solution to address the need for wheelchairs after an emergency without compromising the quality of the product and services provided (2) community leaders become aware of the plight of persons with disability and start making plans for changes in policy and promote more inclusion within their community (3) carers of persons of disability are offered relief from carrying their love ones in doing daily personal hygiene, in accessing health service and felt similar happiness of their love ones experiencing the world outside their rooms or their home (4) wheelchair users themselves experience the simple joy of seeing the outside world, breathing fresh air and having the

choice to sit outside and feel the sun or sit under the shade or under the moonlight whenever it pleases them. At the end of the day, the provision of the emergency wheelchairs was a step towards the achievement of their right to personal mobility, however small that step may be.

4. Recommendations

1. Data collection – inclusion of questions specific to need for wheelchair in assessment and survey forms used. Similarly, advocate inclusion of this data in cluster meetings to help identify potential beneficiaries.
2. To increase access to potential beneficiaries of the emergency wheelchairs, explore the untapped referral network such as hospitals and cluster meetings.
 - 2.1 This can be through posting of information materials (i.e. posters) in facilities set up by foreign medical teams, functioning hospitals (surgery or orthopaedic department)
 - 2.2 Distribution of information leaflets during attendance in health and protection cluster meetings.
3. Explore implementation of wheelchair service project through development agencies during the rehabilitation phase of the emergency response. Calls for proposal abound after the emergency. This can be explored in partnership with local organisations. In Tacloban, there are PT centers linked to the hospital and a university that offers Physical Therapy course. Partnerships can be explored to establish permanent wheelchair services.
4. Linked to the global roll out of trained professionals on the WHO Wheelchair Service Training Packages – the Philippines has a pool of trained professionals who:
 - 4.1. Can deliver a WSTP Basic Level Training
 - 4.2. Can provide a Basic Level Wheelchair ServiceExplore options how to link trained personnel in conducting training for field staff or assisting in field activities (i.e. conducting mobile wheelchair camps/outreach to affected areas).
5. Emergency Wheelchair Response
 - 5.1. Clear strategy of implementation to be discussed with management level staff to influence the implementation of activities by field staff.
 - 5.2. Plan out clear links of referral from and referral to different stakeholders (i.e. hospitals in the area, members of health and

protection clusters, if available Disabled Persons Organisations)

- 5.3. Explore options as suggested in the training package (i.e. centre based working in partnership with existing facilities in the area, pre-assembly of wheelchairs prior to delivery in field, wheelchair camps)
6. Invest resources in implementation of emergency wheelchair training to impact on service provision through:
 - 6.1. Considering providing a briefing for management level staff on emergency wheelchair service set-up to provide an overview of the approach to service provision that can assist in a more strategic implementation.
 - 6.2. Theory training must be supplemented by onsite supervision to maximise training learned in a more practical set-up without compromising service quality and achievement of set project indicators.
7. Prioritise follow – up through:
 - 7.1. Clear orientation and communication of organisational commitment/policy on follow up to the field staff.
 - 7.2. Include in project planning for training of staff on Wheelchair Service Training Package – Basic Level during the rehabilitation phase of the emergency response when more resources can be allocated specifically for this response.
 - 7.3. Linking with existing resources in the country as discussed in recommendation #3.
 - 7.4. Outsource follow up to a team of trained professionals and wheelchair practitioners to operate a mobile service model or a community outreach service model.
8. Clearly designate a staff in-charge of moving this agenda in the field during the emergency response.
9. Document successes of the impact the provision of the emergency response has made on the lives of the beneficiaries as a tool to advocate for more sustainable support.
10. Consider recruitment of persons with disabilities or wheelchair users themselves as community volunteers to help in advocacy campaign. This can be an opportunity to provide them with employment and a source of income.
11. Consider conducting disability awareness campaign as a strategy for field implementation.
12. Consider providing orientation on disability to newly recruited staff, including rehabilitation professionals who might have limited experience in working with disability and disaster.

Appendix A

Review of Topics delivered during TOT and Field Training

Topics	Covered during TOT	Training Delivered in Tacloban ¹	Training Delivered in Ormoc ¹	Comments
Emergency Wheelchair Provision Overview	Yes			Provides the context of the emergency wheelchair response (i.e. types of disability in an emergency, definition of wheelchair service, how emergency services link with long term wheelchair service provision, limitations of an emergency response service, when the emergency wheelchair should be used, awareness raising, role of stakeholders, evidence.) Although not taught in Ormoc, local staff worked closely with trained personnel during the period of provision of emergency wheelchairs.
Emergency Wheelchair Product	Yes	Yes	Yes*	*Assembly manual became the reference for the preparation of 5 wheelchairs that were left undelivered in Ormoc.
8 Steps of a Wheelchair Service	Yes			Overview of the eight steps in an emergency response wheelchair service with a note on development of a permanent wheelchair service ideally within 6 months of commencing temporary emergency wheelchair service.
A, P & F Form	Yes	Yes	Yes*	Introduction to the Assessment, Prescription and Fitting Form with demonstration. Does not teach how to take measurements (seat width and length) – works with the assumption of having samples of different wheelchairs sizes available to try out during fitting. *In Ormoc, the delivery of 20 wheelchairs was under the supervision of trained personnel. The remaining 5 wheelchairs were provided by a staff who had not received any training.
User Training Demo	Yes	Yes	Yes	Covers instructions on how to use the wheelchair, transfers, using the wheelchair, pressure sore prevention and how to take care of the cushion. An information brochure is available as reference to be given to users.
Emergency Response Wheelchair Service Set-up	Yes			Provides an overview / strategies for implementing the service in an emergency (i.e. types of delivery models, human & physical resources required with corresponding roles & responsibilities, guide to service planning – mobility training area, assembly, setup and adjustment tools, storage facilities)

Appendix B

Summary of Observations during Field Visits

Areas observed /interviewed	Users fitted by BMFI volunteer under supervision of Trained Expert	Users fitted by trained HI staff working without supervision by a Trained Expert	Users fitted by local staff who did not receive any training
Problems with the Wheelchair	<p>2 out of 5 users interviewed expressed the following:</p> <ul style="list-style-type: none"> - 1 user not using the wheelchair as he experience dizziness when seated on the wheelchair. Experiences similar symptoms when riding on a motorcycle. - 1 user cannot tolerate sitting on the wheelchair as it increases spasms of the LE (suspects untreated TB of the spine) 	<p>3 out of the 5 users interviewed expressed the following concerns:</p> <ul style="list-style-type: none"> - 1 parent was concerned of the safety of the child whilst seated on the wheelchair and requested for a safety belt or a supportive seat if available. - 1 active user complained that the wheelchair was inappropriate for his needs. - 1 elderly female complained of numbness over the left leg when sitting on the wheelchair. It was observed that the cushion was improperly placed. 	<p>All 5 of the users provided with the wheelchair had problems with the wheelchairs.</p>
Questions on how to use the wheelchair		<ul style="list-style-type: none"> - 3 out of the 5 users reported not receiving instructions on how to use & maintain the wheelchair 	<ul style="list-style-type: none"> - 1 out of the 5 users required additional training on using the wheelchair over rough terrain
Presence of Pressure sores	None	None	None
Wheelchair & Cushion Check	All of the users currently using the wheelchair placed the cushion correctly.	Of the 5 users interviewed, only 2 were using the wheelchair during the interview. Both placed the cushion incorrectly.	4 out of the 5 users placed the cushion incorrectly.
Fitting Check	All 3 of the wheelchairs currently in use fitted the user (seat width).	Of the 2 users seated on the wheelchair during the visit – both did not fit the user: 1 user requires referral for intermediate wheelchair service; the other user could benefit with a smaller size seat width.	All 5 wheelchairs were too wide for the users.

Appendix C

Satisfaction and outcomes at time of follow-up of assistive device – Result of Survey

Q1	What assistive device is followed up?	Emergency Response Wheelchair			
Q2	How long ago did you get it?	December 2013; January and February 2014			
Q3	Do you currently use the assistive device?	YES	8	NO	6
Q4	Reasons for not using the wheelchair	<p>1 user is already senile and cannot control bladder and bowel. Carer does not take her out of the room anymore.</p> <p>1 user wants to preserve the wheelchair and is under the impression that he needs a license to use the wheelchair in the main road. He is currently using a crutch.</p> <p>2 users are now able to walk and does not need the wheelchair</p> <p>1 user can only use the wheelchair to go for long distance. She has not left the house as she is taking care of her kids.</p> <p>1 user cannot tolerate sitting upright due to untreated Tuberculosis of the spine. She last used the wheelchair during a pre-emptive evacuation.</p>			

Questions about how much problem the user has at present to carry out activities where they live		No problem	Mild problem	Moderate problem	Severe Problem	Complete Problem	Not Applicable
Q5	Use of Transport with Wheelchair	14%	0%	7%	0%	0%	79%
Q6	Performing Household tasks	0%	0%	0%	0%	0%	100%
Q7	Going to school	0%	0%	0%	0%	0%	100%
Q8	Keeping a Job	0%	0%	7%	0%	0%	93%
Q9	Recreation	0%	7%	0%	0%	0%	93%
Q10	Religious Activities	0%	7%	0%	0%	0%	93%

Questions on how the user is satisfied with the assistive device received		Terrible	Unhappy	Mostly Dissatisfied	Mixed	Mostly Satisfied	Pleased	Delighted
Q11	Size	0%	7%	0%	0%	29%	36%	29%
Q12	Weight	0%	0%	0%	0%	21%	50%	29%
Q13	Ease to move from place to place	7%	0%	0%	7%	7%	50%	29%
Q14	How the wheelchair looks	0%	0%	0%	0%	7%	50%	36%
Q15	Easy to use	0%	7%	7%	14%	7%	36%	29%
Q16	Product preparation time	0%	0%	0%	7%	7%	43%	43%
Q17	Reliability	0%	0%	0%	0%	7%	71%	21%
Q18	Meets users needs	0%	0%	0%	14%	0%	36%	50%

Questions on how satisfied the user are with the way they got the assistive device		Terrible	Unhappy	Mostly Dissatisfied	Mixed	Mostly Satisfied	Pleased	Delighted
Q19	Advice on appropriate Technology							
Q 20	Fitting - time it took to get	0%	0%	0%	7%	0%	43%	50%
Q 21	Instructions - maintenance & repairs	7%	0%	0%	14%	0%	36%	43%
Q22	Instructions - user training	0%	7%	0%	7%	0%	57%	29%
Think about how much you use your assistive device over the past two weeks.		None		Less than 1 hour a day	1 to 4 hours a day	4 to 8 hours a day	More than 8 hours a day	
Q 23	On an average day how many hours did you use it?	36%		14%	43%	0%	7%	
Think about how much you used your present assistive device over the past two weeks.		Helped not at all	Helped slightly	Helped moderately	Helped quite a lot	Helped very much	Not applicable	
Q24	How much has the assistive device helped in performing things better?	7%	0%	7%	21%	43%	21%	
Think about how much you used your present assistive device over the past two weeks.		Very much difficulty	Quite a lot of difficulty	Moderate difficulty	Slight difficulty	No difficulty	Not applicable	
Q25	Think again about the situation where you most wanted to perform or do better. When you use your present assistive device, how much difficulty to you still have in that situation?	7%	0%	14%	36%	7%	36%	
Think about how much you used your present assistive device over the past two weeks.		Not at all worth it	Slightly worth it	Moderately worth it	Quite a lot worth it	Very much worth it	Not applicable	
Q26	Considering everything, do you think your present assistive device is worth the trouble?	0%	0%	21%	29%	21%	29%	
Q27	Considering the difficulties that led you to get an assistive device. Over the past two weeks, with your present assistive device, how much difficulties for which you got the assistive device affected the things that you can do?	Affected very much	Affected quite a lot	Affected moderately	Affected slightly	Affected not at all	Not applicable	
		7%	36%	7%	14%	0%	36%	
Q28	Consider the difficulties that led you to get an assistive device. Over the past two weeks, with your present assistive device, how much do you think other people were bothered by the difficulties for which you got the assistive device?	Bothered very much	Bothered quite a lot	Bothered moderately	Bothered slightly	Bothered not at all	Not applicable	
		0%	0%	21%	29%	14%	36%	
Q29	Considering everything how much has your present assistive device changed your enjoyment of life?	Worse	No Change	Slightly better	Quite a lot better	Very much better	Not Applicable	
		0%	0%	7%	36%	21%	36%	

Appendix D

Ranking of Impact – Result of Survey

Benefits/impact of emergency wheelchairs as perceived by beneficiaries and carers interviewed

Ranking	Impact description	Frequency
1	Sit outside comfortably	8
2	Breathe fresh air	5
3	See other people and the world outside	4
4	Visit family with ease	3
5	Visit neighbour independently	2
	Feel the sun	2
	Ease on carer (do not have to carry)	2
	Feeling of happiness	2
	Sit outside when the moon is bright	2
6	Go to other places being pushed by family	2
	Use wheelchair as assistive device to preserve remaining function for walking	1
	Use for evacuation purposes	1
	Ease of accessing toilet outdoors	1
	Go to the neighbourhood shop	1
	Can go longer distance	1
	Place child on lap when propelling outside	1
	Go to the mall	1