

Addressing Hydrocephalus in Viet Nam:  
A Plausible Prevention and Intervention Medical Support Program Proposal  
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### Abstract

Families affected by hydrocephalus in Viet Nam have few options for sustainable treatment for a myriad of reasons, primarily centering on barriers to care prevalent to minority, underserved, and economically disadvantaged populations. High morbidity and abandonment rates often result from these circumstances. An interdisciplinary examination of the factors contributing to causal concerns reveals unique cultural considerations, language and literacy barriers, ethnic and geographic differences, as well as economic and governmental issues greatly impacting patient outcome for this condition. The author contends that a program that addresses sociological concerns, along with the medical treatment of the patient, proffers the opportunity for improved outcomes of the hydrocephaly population in Viet Nam.

Poverty remains a repressive force for the underserved citizens of Viet Nam. Medical issues continue to plague Vietnamese families, especially in the rural, mountainous areas and particularly within minority populations. Without the income, transportation, and education to address these health concerns, families find themselves making drastic decisions such as abandoning children to orphanages or choosing end-of-life care instead of curative treatment. Added to this is the often-found discrimination that surrounds the life of the disabled, creating added barriers to accessing care and living a productive life. Hydrocephaly is one of many ailments that renders families hopeless, without means to help those affected by this condition. The most effective method for providing a plausible, sustainable solution for these children born with hydrocephaly is to create a program that allows families to access medical care at little or no cost, addressing the cultural nuances of the population and technological limitations of medicine in Viet Nam.

Before any changes should be implemented to address the medical needs of these Vietnamese children born with hydrocephaly, it is vital to understand the complex background of Viet Nam which affects proposals for program creation and sustainability. With a huge cultural need to find an explanation for the many issues facing Viet Nam, its populace puts undo blame on the use of Agent Orange, a defoliant solution used during the Viet Nam war to locate Viet Cong forces in the vast jungles of the region. While definitively linked to many issues and possibly the causative means for hydrocephaly in some patients, it would be detrimental to assume all children facing a diagnosis of hydrocephalus obtained this condition through exposure of family members to Agent Orange. Genetic, congenital, and disease factors are also considerations when addressing a preventative, as well as treatment program to examine any affliction.

From a sociological perspective, it makes sense that the Vietnamese people seek to understand the trauma sustained in such epic proportions over a long period of time. In other words, interdisciplinarity is the key to any successful approach to addressing hydrocephaly in Viet Nam. Research reveals several prominent themes which greatly impact current conditions in Viet Nam with regards to access to proper healthcare, and must be addressed when considering how to approach the issue of providing care for the hydrocephaly affected populous of the country.

The most prominent theme espouses the need to understand the unique history and culture of the Vietnamese people to create programs that will be amenable to the local population and fit within cultural norms. In a country richly influenced for hundreds of years by the Confucius patriarchy, subsequent influences have created a unique amalgamation of beliefs as well as ethnicities representing the Vietnamese people. Repeated Chinese occupation, followed by French colonialism and the Viet Nam war, interspersed with various dynasties has created a diverse culture consisting of a variety of ethnicities, the influence of both socialism and democracy, as well as conflicting religious and cultural priorities leaving large portions of the population without proper access to basic human rights, including healthcare (Hischman & Loi, 1996). A study from 2014 examines the complexities of these converging cultures and how they affect the role of children in Viet Nam indicating that:

In this context there existed at least two contradictory notions of the ‘good’ child.

The first one represented a highly political understanding of the ‘good’ communist child. The second was reflected in that of the responsible and hardworking child, who was willing to work to contribute to the household income, or to support themselves. This idea of the ‘good’ and responsible child is

one that is found across the Southern hemisphere, in countries where the standard of living is such that it is essential that all members of the household work.

However it is a perspective on the position of children that clashes with the expectations of international non-profit organisations, which work with children under the umbrella of child rights. So the child is at once good and deviant when they are found working on the streets. (Burr, 2014)

Other research supports this position by bringing to light the same cultural conflict between the more traditional Confucius patrilineal line of thinking and a more gender balanced view from the communist perspective. The article, “Family and Household Structure in Vietnam: Some Glimpses from a Recent Survey,” reiterates the amalgamation of Confucius traditional thought, indigenous tradition, and cultures from the North (China) and South (Southeast Asia) (Hischman & Loi, 1996). This unique fusion of culture and philosophy impacts the ability for certain groups of people to access care in that, while the government is communist, the prevalent belief system of Confucianism greatly limits the ability for half of the population, women, to perform necessary actions to obtain care; for example, “gender norms that do not allow a woman to travel on her own may result in unnecessary delays and an underuse of health services proportionate to their need” ( Målqvist, Hoa, & Thomsen, 2012). Several research studies found that, though women were limited in their movement in public, “in Vietnamese tradition, women take primary responsibility for taking care of their children and family” (Tran, Nguyen, Nong, & Nguyen, 2016). Clearly this presents a challenge to properly accessing advanced healthcare options for families, particularly children.

The history of ethnic rivalry also offers unique challenges and presents itself as a huge barrier to healthcare for a large portion of the population. “There are 54 different ethnic groups

in Vietnam, where of the majority group Kinh constitutes 84% of the population” ( Målqvist, Hoa, & Thomsen, 2012). This longstanding dominance of the Kinh majority greatly impacts the treatment of underserved minority populations. “A dissonant interaction between ethnic minority people and the predominantly Kinh health care workforce, like language barriers and difference in cultural traditions and perceptions has been offered as explanations to discrepancies in quality of care received” ( Målqvist, Hoa, & Thomsen, 2012). The difference in ethnic affiliation varies so greatly that studies note entirely different issues affecting access to healthcare when evaluating various ethnicities:

Comparing Kinh with Muong people, we found that the number of health problems and distance were the two major factors associated with health service access among Kinh people, meanwhile in Muong people, lower education and satisfaction with TM [traditional medicine] predicted having difficulty with health service access. Regarding use of TM services, it was different between Kinh and Muong people. Among Kinh people, poorer perceived quality of commune health service was associated with less difficulty in TM access. (Tran, Nguyen, Nong, & Nguyen, 2016)

The different approach to medicine and access to services between the representative ethnicities of Viet Nam brings to light the second pervasive theme that emerges when considering how to implement a successful, sustainable health care program for the underserved Vietnamese hydrocephaly population: one size does not fit all.

In a country that is approximately the size of New Mexico in square miles and slightly longer than California, Viet Nam has a diverse landscape which is home to a large variety of ethnicities and cultures, as already explored. Aside from the typical differences of rural and

urban populations seen globally, the Vietnamese also have inhabited areas far into mountainous and jungle regions, as well as those living along the coastal areas of Viet Nam (Hischman & Loi, 1996). Whereas residents of areas with complete infrastructure are able to access facilities easily, “people living in remote and mountainous areas, predominantly ethnic minority groups, are being left behind despite efforts from the government to target these groups” ( Målqvist, Hoa, & Thomsen, 2012). Proactive measures are in place to address these differences, including recruitment of students in medical college to consider working in outlying areas to serve the rural populace with a concerted awareness that “initiatives to improve the attractiveness of working in PHC [primary healthcare] settings are essential to recruit more medical doctors and other health staff to PHC settings” ( Giang, Minh, Hien, Ngoc , & Hinh, 2015). Currently, healthcare providers are drawn to urban areas for career advancement opportunities, higher pay, and access to better equipment (Yusuf, et al., 2017). Terrain and proximity to advanced medical facilities is not the only factor that makes a multi-faceted approach to addressing the needs of the hydrocephaly community imperative.

When faced with single proposed solutions in the study “Can health systems be enhanced for optimal health services through disease-specific programs? – results of field studies in Viet Nam and Cambodia,” researchers concluded that “the current study indicates that there is no single successful approach to health systems as such, but there are common issues faced by and principles to be learned from experiences of different countries” despite the countries being geographically and culturally close neighbors (Egami, et al., 2012). That same sentiment applied itself within national and ethnic boundaries, as well.

Differences between the north and south of Viet Nam are continually noted in various research and studies. While “Vietnamese households are generally modest in size, and nuclear

family households are the most common form of living arrangements,” *chu ho*, the Vietnamese term for heads of household, are more predominantly male in married southern homes, while the north has a more even distribution of gender acting in a primary leadership role (Hischman & Loi, 1996). This difference plays a large part in handling family interaction with medical providers, with genders traditionally remaining separated in public situations in the south whereas communism has created a more gender equitable distribution of providers in the north (Giang, Minh, Hien, Ngoc , & Hinh, 2015). In the case of areas where gender dichotomy is strictly followed, studies indicated that, though doctors and surgeons may continue to be male, a positive response to female healthcare providers proves particularly successful:

Additional to this professional approach, the current project has a profound gender perspective. It recognises the local gender power structure within which women live and which may circumvent their ability to improve health practices. It acknowledges the vital role of mothers as actors in improving their own and their newborns’ health. The majority of the healthcare workers responsible for perinatal care at primary level are women. By employing female facilitators (women recruited from the local WU) to empower local health workers and the mothers, the project takes advantage of a shared female knowledge and agency across the main actors involved in the intervention. We believe this combined professional and female actor’s focus increases the potential for successful outcomes and sustainable effects. (Wallin, et al., 2011).

In the north, this sort of female centered approach is unnecessary, creating choices for the Vietnamese population according to culture (Egami, et al., 2012). Variety creates a challenge for

non-governmental organizations (NGOs), privatized industry, and the government to meet the demand of a diverse Vietnamese population.

Add to the complexity of a tumultuous history and varied population the modern culture of apathy and lack of understanding toward persons with disabilities, and another prevalent theme comes to light. Vietnamese culture has not nurtured a caring attitude toward the disabled population, creating a new challenge for the government to address inconsistencies in care. This recurring theme is prevalent throughout research regarding disparities in access to healthcare all over Viet Nam. “Inequity based on ethnicity is well documented in Vietnam” and “the many testimonies about discrimination and negative attitudes from health staff towards women in general and ethnic minorities in particular” creates a barrier for addressing the medical care of children diagnosed with hydrocephaly as women are the primary caregivers in the home culturally” ( Målqvist, Hoa, & Thomsen, 2012). Considering that ethnicities are generally found in outlying, non-urban areas, issues of accessibility continuously arise. “The Vietnamese Government implements a household registration system which limits the movement of migrants to the cities. Most migrants, more than 90%, are classified as temporary and hence restricted in accessing public services such as education and health care” (Brennan, D., Petersen, E., Que, N., and Vanzetti, D., 2012). Compounding the issue is a lack of transportation from suburban and rural areas to the cities to access care. In many cases, when persons attempt to use public transportation in pursuit of advanced medical care, transit employees and Vietnamese citizens showed no interest in attempting to help individuals and families with special needs to board buses and other transport (Palmer, Groce, Mont, Nguyen, & Mitra, 2015). Even with subsidies for transportation, the Vietnamese underserved population is often unable to utilize the program due to cultural stigmas relating to disabilities.

Beyond the issue of transportation for medical treatment is an overall disinterest in supporting families facing major health issues: “Broader attitudinal barriers within the family and the wider community are significant barriers to improving the economic standing of persons with disabilities in Vietnam” (Palmer, Groce, Mont, Nguyen, & Mitra, 2015). Creating a sustainable, effective program to address the issue of hydrocephaly in the underserved community will require an awareness of this general idea toward the disabled in Viet Nam.

Drawing back on the dichotomy of cultures and their interplay:

While filial piety represents only one aspect of the Vietnamese belief system, it is nevertheless a very significant one and one which results in some very particular and culturally bound sets of behaviour which create an environment in which the good and morally bound child accepts his or her position within the family for the greater good of the collective. It is important to recognise that such anomalies exist and co-exist alongside conflicting doctrines: Vietnam thrives on pragmatism.

Morality is relative. (Burr, 2014)

Unfortunately for many of the children born with hydrocephaly, their cultural position is to accept their fate within the frame of the family and realize that the good of the many is more important than the good of one child. In this case, research has indicated acquiescence on both the part of the family and child to conform to society’s expectations (Burr, 2014). Aware of these issues, research indicates that Viet Nam is attempting to address problems and create viable solutions to access care, thus introducing the final prevalent theme: governmental influence to access of medical care.

Considerable effort has been placed on healthcare reform in Viet Nam in recent years, with much improvement and significant work left to be done. In comparison to the age of the country, the Vietnamese health system is quite new:

In Viet Nam, the health system has been in place since the 1980s with central, provincial, district, and municipal levels at which services have been provided. The economic reforms initiated in 1986 for a ‘socialist oriented market economy’ have had a great impact on the health sector as well, and the government has acted with partners to implement health system reform and enhancing the health system since the 1990s. Under the Ministry of Health (MOH), national steering committees are organized to manage national health programs with strong leadership, efficiency, and inter-sectoral collaboration. At the district level, structural reforms were carried out in 2006 and in 2009, and district health offices manage health services and supervise family planning centers. Municipal health stations provide health care services to locals through health workers (volunteers receiving a small allowance). Village health workers are under the direct management of the municipal health station and village leaders, performing various tasks such as providing primary health care (PHC) and implementing national health programs. (Egami, et al., 2012)

Though the structural levels of government seemed to be in place, there continued to be an access issue for the beneficiaries of service, especially the underserved populations. “In 2003 the Health Care Fund for the Poor (HCFP) was launched to provide comprehensive health care to all poor individuals and households. This program provides poor people with a health insurance card to cover costs up to 50 000 VND per year” ( Målqvist, Hoa, & Thomsen, 2012).

Unfortunately, that coverage only translates to slightly more than two US dollars annually. The high rate of inflation without adjustment to benefits decreases the values of these programs astronomically as time passes (Thoa, Thanh, Chuc , & Lindholm, 2013). Additionally, the government recognized a need to provide assistance to citizens considered disabled:

With the passing of the national disability law in 2010, Vietnam consolidated a range of social protection supports for persons with disabilities across the country. Persons with profound or severe disabilities are entitled to monthly income support, health insurance, education assistance, and public bus fare and other travel exemptions. Households with profoundly disabled members are also entitled to an additional monthly caregiver support allowance. Any person with a disability, identified under the law, is eligible for loans with preferential interest rates from the Social Policy Bank. (Palmer, Groce, Mont, Nguyen, & Mitra, 2015).

These entitlements are reported effective in urban areas, as previously mentioned, but continue to be ineffective for the distant, rural expanses of Viet Nam where infrastructure is not as well developed. Access to public facilities is extremely limited in those areas and the level of medical care and modernization of equipment is still quite limited.

Fortunately, other opportunities are affording themselves to the Vietnamese population, but not without issue. The government has become more accepting of nontraditional models of the communist system, utilizing outside programs as possible solutions to address the inability to meet the needs of its population. For example, privatization has become more prevalent throughout the country, but tends to exist in areas that are more economically affluent or have citizens with private insurance (Egami, et al., 2012):

The private healthcare services in Vietnam have developed rapidly since 1993 when the law on private pharmaceutical and medical practice was launched. Since 1993, when there were no private health services, this sector has grown to about 83 private hospitals, 30,000 private clinics and 9,000 private pharmacies in 2008. With a growing number, the private sector plays an increasingly important role in the Vietnam health system. (Thoa, Thanh, Chuc , & Lindholm, 2013)

It is unclear if the efforts to privatize are a positive force for the government implemented programs, but offer an alternative nonetheless.

Important to note, several studies indicated that a huge issue within the governmental system that continues to be a hindrance to the implementation of effective health care is the tradition of corruption within Viet Nam. “One example of a macro-level contextual factor affecting health equity in Vietnam is corruption. Informal payments are maybe the most researched aspect of corruption and something that heavily affects the quality of care given” ( Målqvist, Hoa, & Thomsen, 2012). Not so much a limitation to research, this information is vital in understanding the complexities of developing a program that will potentially interact with governmental services when providing care to children born with hydrocephaly.

Addressing the often-fatal diagnosis of hydrocephaly in Viet Nam is a complex and daunting task, with limited first-hand research regarding the specific identification of hydrocephalus programs previously established in the country. For all intents and purposes, research is limited to best practices data of other systems concentrating on alternate disease specific issues. Research makes it abundantly clear that any program devised to perform curative treatments for children diagnosed with hydrocephalus will require a thorough understanding of the cultural history of Viet Nam, current governmental practices and

regulations, as well as an understanding that there will require a variety of measures and levels to successfully implement a sustainable, effective relief for these babies.

Understandably, any proposal will be limited by practical considerations which will need to be addressed in a working model as research clearly indicates that, while one problem may be solved, other issues will likely arise. Planning for adaptation is a fundamental principle for an effective model (Egami, et al., 2012). Working within the cultural norms and mores of the Vietnamese populace, rather than Western expectations must also be a priority for success (Burr, 2014). Given the information gathered, creating a program to address the prevention and care of those with hydrocephalus can be done with complex integration of a multitude of disciplines in mind to meet the needs of the community (Thoa, Thanh, Chuc , & Lindholm, 2013). Approaching the problem with three key support organizations to drive the initiative to combat hydrocephaly creates a stable platform from which to propel the medical care these patients so desperately require.

On the American front, Brittany's Hope and Susquehanna University both have global initiatives to increase understanding of world perspectives, as well as approach matters requiring attention, either directly or indirectly. Brittany's Hope, founded in 2000, works with underserved children on a global level, with a large portion of their labor accomplished in Viet Nam. One such endeavor focuses on medical intervention with the organization explaining, "In our work, we are presented with urgent or challenging medical cases of the children we serve. We pledge to respond to these pressing medical needs when we are made aware of them" (Brittany's Hope, 2017). In country Viet Nam Program Coordinator, Le Thi Thu Hong, was approached with the obstacles families were facing as their children presented symptoms of hydrocephalus without the means to care for the condition successfully. Many of the children

were being abandoned at orphanages with the hopes that these babies could receive medical intervention the birth family would not be able to afford. Often, by the time the children were brought to the orphanages, the children were beyond helpful interventive care and could only be treated from a palliative perspective. The same concerns addressed in the aforementioned research proved to be co-conspirators in keeping the children from receiving adequate care: lack of financial means often due to ethnic, geographic, and cultural barriers prevented timely intervention ( Målqvist, Hoa, & Thomsen, 2012). At this point, the author was contacted by the Executive Director of Brittany's Hope, Mai-Lynn Sahd, in order to create a feasible program for families experiencing barriers to treatment for this specific disease.

Due to the ongoing successful relationship of Brittany's Hope in Viet Nam with public, private, and NGO institutions, their influence and communication abilities are a vital aspect of any initiative development. Clearly a large part of planning is anticipating the obstacles for successful treatment of hydrocephalus patients, of which the staff of Brittany's Hope has an uncompromised understanding. Their experiences dealing with other medical issues have proven invaluable and consistent with the findings of research (Brittany's Hope, 2017). Careful attention is necessary when dealing with gender, unique financial considerations, governmental regulations, and the perception of the local community ( Målqvist, Hoa, & Thomsen, 2012). Within the context of these concerns, the ability to identify problems, the need for permissions, and potential resources is necessary for success.

To that end, Susquehanna University's Global Opportunities (GO) provides a backbone of sustainable support to work with nuances of the program in the United States, as well as Viet Nam. Within its goals, the GO program encourages "personal growth, social responsibility, and the value of active participation in human society" (Susquehanna University, 2017). Students

from a variety of academic backgrounds go through coursework prior to departing to Viet Nam to study the culture, identities, needs, and unique gradations of this service-learning opportunity. When in country, they can take their preparations and learning and apply those practices to the hydrocephalus program. Once back in the United States, students evaluate the outcomes of their work and make recommendations with the supervision of subject matter experts as to future changes to the proposed program. The repeated succession of students with academic interests relative to this particular GO program ensures up-to-date advancements, regular review of program parameters, and sustained interest to meet the needs of the Vietnamese hydrocephalus community.

Mutual benefits arise from this unique relationship, with Brittany's Hope proffering a hands-on mechanism for practical learning for the students at Susquehanna University, while the GO program creates sustainability as well as educated participants working within the Vietnamese special needs community. Once students have graduated, a clear understanding of the medical situation in Viet Nam becomes an important educational tool for future generations and growth in health forums. Both organizations benefit from the added contacts within both the United States and Viet Nam for growth, as it is advisable to start in one geographic area and expand over time as best practices and resources are established. This will require time and networking with other NGOs, both the US and Vietnamese government, and the emerging private sector. Utilizing the talents and resources of these organizations in the creation of a sustainable medical program requires an outline of proposed needs. The author contends that there are several facets that, while may need revision once practically applied in country, fall within the parameters of research.

The very first premise would require the program to be implemented in one geographic area, with further programs being executed on a regional basis with respect to geographic, ethnic, and cultural considerations defining those boundaries to best meet the needs of the recipients of service. Since Brittany's Hope already has established relationships in the Cam Rahn area with the House of Love, an orphanage supporting the community, those relationships will be furthered to explore options for a sustainable medical program to address hydrocephaly. An area of immediate concern is the identification of causation for hydrocephalus. As previously mentioned, there is a perception in Viet Nam that nearly all health ailments are in some way related to the use of Agent Orange by US forces during the Viet Nam war.

The author argues that this is detrimental to an effective care plan for disease management as a typical complication of tubercular (TB) meningitis, a common disease in Viet Nam, is hydrocephaly (Galabert & Castro-Gago, 1988). Though uncommon in countries with comprehensive health systems, TB meningitis still ravages areas of the Vietnamese population while a preventative immunization is roughly \$2 (US) per dose and the "BCG vaccination is a highly cost-effective intervention against severe childhood tuberculosis" (B Bourdin Trunz, PEM Fine, C Dye, 2006). Creating a preventative immunization clinic is advisable with the epidemiological evidence to support that a reduction in cases of hydrocephaly would result. As the cost to perform one surgically implanted cerebral spinal shunt (CSF) for patients with hydrocephalus would be around \$550 (US), the cost and obvious health benefits make this a logical part of the overall program.

These immunizations would hopefully be administered by a female contingency of Social Health Educators (SHE), trained during visits from the team visits from Susquehanna University. As previously mentioned, recommendations for cultural sensitivity as it pertains to maternal and

child health is imperative for positive community reception to any program development, in this case with the use of female educators ( Målqvist, Hoa, & Thomsen, 2012). The House of Love (HoL) already has several occupants who have aged out of the system, but have entered specialized occupations such as teaching, creating an opportunity to afford other children within the HoL to have employment while addressing the needs of the community. The team from Susquehanna University would receive specialized preparation and certification to administer and educate the SHEs for community use utilizing the Centers for Disease Control and Prevention (CDC) Immunization Education and Training coursework (National Center for Immunization and Respiratory Diseases , 2016). This instruction is offered at no cost through the CDC.

Furthermore, the SHE contingency will be instructed on interacting with families postnatally to educate them regarding the symptoms and next steps when hydrocephaly is suspected. To address high levels of illiteracy and language barriers, the author recommends the creation of educational pictorial booklets like those utilized in the Polio Global Eradication Initiative (PCEI, 2017). It is suggested that the development of these informational pieces would be initiated by Susquehanna University's students studying art, education, or other related fields prior to visiting Viet Nam to best communicate the importance of warning signs for medical intervention. Additionally, booklets explaining surgical intervention, as well as post-operative care are necessary for transitional care (Egami, et al., 2012). Experience and best practices can help evolve these booklets for maximum effectiveness.

Once patients have been identified as needing surgical care, they will need to be referred to the clinic where treatment is to occur. A large portion of onsite investigation is required to consider technological limitations of specific clinics and providers, recognizing that these

parameters will vary according to location. Funding for equipment as well as the medical provider and support staff will need to be determined, with awareness of the cultural tendency for added payments for services rendered cited in research ( Målqvist, Hoa, & Thomsen, 2012). As these are cultural norms in Viet Nam, the author proposes that monies be budgeted to include these costs for care. Further research for available grants or allocation of services is recommended to maximize cost effectiveness.

Following surgery, post-operative education is necessary for families as Vietnamese medical care varies greatly from that received in the United States. Nursing and other rehabilitative care is minimal, and families are expected to attend to the patient needs outside of the surgical ward (Wallin, et al., 2011). SHE will educate relatives as to the best practices for successful recovery, utilizing the aforementioned illustrative booklets for didactic instruction. Once the patient is determined well enough to return home, the SHE will continue to play a vital role in recovery, checking in with families to discuss follow up care, concerns, community based support, and other issues unique to the regional site. Once again, visual literature should be provided to maximize educational effectiveness and avoid communication issues as much as possible.

A vital component of the entire program is the necessity to report findings and evaluate effectiveness of singular elements within. This is an opportunity to set future goals, recommend changes, and make appropriate updates. Each part of the program must be evaluated on a regular basis, with frequency dependent on the individual goals of the module (Egami, et al., 2012). As time progresses, it is important to engage the local community beyond the medical professionals, SHEs, and orphanage staff so that there is a desire to sustain the hydrocephaly project. For

practical reasons, it is advisable to keep international contacts for added support, but programs locally sustained should be a goal for the extended future.

To date, research indicates that efforts to address hydrocephaly in Viet Nam remain unsuccessful at a national level. Those able to access care are mostly the Kinh ethnic majority, live in or around cities, and have the means by which to pay for medical services, as well as additional costs relative to living with a chronic and severe medical condition. Even in optimal situations, medical care in Viet Nam is still a work in progress, with limited access to advanced technology and appropriate specialists. For the vast amounts of Vietnamese who reside in non-urban environments and rely on hard labor for income, obtaining care for children with hydrocephalus is riddled with obstacles. Circumventing the myriad of difficulties in procuring the means to undergo treatment requires knowledge of the governmental system, as well as cultural and economic norms of the area.

To propose a sustainable program that will meet needs on a national level, there must be a concerted effort to recognize individual concerns of the various regions of Viet Nam, as well as the cultural nuances of ethnic groups throughout. Until this work is done, children will continue to die needlessly due to the inability to access care to treat hydrocephaly. Fortunately, there are adequate resources and research available to create propositions for change and implement them in supportable manner that encourages growth and development to influence the lives of those impacted by hydrocephalus in Viet Nam.

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