Childhood Disability and Poverty

Working Paper 25

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July 2014

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Working Paper Series: No. 25

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Full Working Paper Series
http://www.ucl.ac.uk/lc-ccr/centrepublications/workingpapers

INTRODUCTION

As the Convention of the Rights of Children recognizes, children are human beings with a distinct set of rights, and not the passive objects of care and charity. They deserve to be full participants in society, and to live lives free of poverty. But for children, living in poverty is particularly impactful. The foundations for life are built in childhood. In the early part of our lives, our bodies and brains develop their capacities to function and interact with the world. We learn the social skills we need to fit into society, and acquire the human capital necessary to earn a living, support a family, and to fully take part in the life of our community Poverty can stunt this development. So can the onset of a disability. As the World Report on Disability (WHO/World Bank 2011) points out, people with disabilities are all too often excluded from the economic and social lives of their community. And the interaction between disability and poverty has the potential to develop a vicious circle that can greatly limit life opportunities.

This paper reviews the literature on disability, poverty, and what is known about the prevalence of childhood disability to discuss the potential for disability to undermine the economic well-being of children throughout their lives. It then uses the case study of Vietnam, to explore their interrelationship in more depth.

DISABILITY AND POVERTY

The relationship between disability and poverty is very complex, with causality running in both directions (Sen 1993, Yeo and Moore 2003, Mitra, et al. 2013, Hosseinpur, et al. 2013, Braithwaite and Mont 2009, Mont and Nguyen 2013a). People living in poverty are more exposed to potential causes of disability, such as poor nutrition, lack of access to quality health care services, and unsafe living and working conditions. After the onset of a disability, exclusion from education, employment, and community life can prevent disabled people from securing adequate incomes. Unfortunately even data in developed countries is not up to this task of disentangling the two-way relationship between disability and poverty as no panel data exists that tracks the onset and subsequent consequences of disability (Houtenville, et al 2009).

The link between the two, though, is clear. A study of OECD countries showed that people with disabilities have higher poverty rates, although the relative risk of poverty for disabled people went from being marginal in some countries to over twice as likely in others: for example the United States, Ireland, and the Republic of Korea (OECD 2009). This variation is due in part to differences in social safety nets. In all countries studied, people with disabilities were less likely to be employed.

A review of developing countries also found that in the 14 countries studied people with disabilities were more likely to experience poverty as measured by multi-dimensional poverty indices than non-disabled people (Mitra, et al. 2013). Disabled people tended to be less well of in terms of education, employment, living conditions, consumption, and health. Eleven out of 15 countries showed a significantly lower mean asset index.

Data on poverty and children with disabilities is harder to come by, but in the United States, one study found that the poverty rate of disabled children was 28% compared to only 16% for those children without disabilities (Fujiura and Yamaki 2000). Controlling for other factors, being disabled increased a child's likelihood of being poor by 86%. Interestingly, even when controlling for poverty, children with disabilities are 55% more likely to be living with one rather than both parents (Fujiura and Yamai 2000). The causality, however, is probably not simply due to single parenthood causing disability, but also the fact that having a disabled child increases the probability of family break-ups because of the added stress (Magadi and Middleton 2007). Situations can vary significantly by country. In the UK, for example, 30% of all children are living in poverty, taking into account housing costs. This is compared with 36% of children with disabilities. However, when the extra income gained through the Disability Living Allowance is excluded from the household income, this figure rises to 40% (The Children's Society 2011).

All of these studies, however, understate the relationship between disability and poverty because they do not take into account the additional costs of living with a disability. For a given level of income, a household with a disabled family member is less well off than households without a disabled member because they have additional expenses related to health care, transportation, assistive devices, personal assistance, housing needs, etc. (Tibble 2005). They also have additional costs in terms of their time, because it can take more time to complete tasks than people without disabilities. In addition they sometimes require the time of their family members to assist them. This means that one or more members of their family may stay home and not work, work fewer hours or chose to work at a lower paid job that permits more flexible hours, in order to provide care for their disabled child. Overall, an ILO study found that the economic costs of disability worldwide amount to 3-7% of GDP (Buckup 2009).

In the UK raising a child with a disability costs three times as much as raising a non-disabled child (Gordon 2000). Not surprisingly, British families are 50% more likely to be in debt if they have disabled children (Emerson and Hatton 2005). Even in developing countries, households with disabled people spend considerably more on health care expenditures (WHO/World Bank 2011). This means that some households with disabled members who are technically above the poverty line are actually experiencing a standard of living equivalent to some households living below the poverty line who do not have disabled family members.

A recent study showed that in order to adjust the poverty lines of households with a disabled member in Bosnia, the poverty line would have to be raised about 14% (Braithwaite and Mont 2009). That estimate was based on an indirect method that examined the impact of disability on assets (Zaidi and Burchardt 2005). That is, controlling for income and other characteristics, what is the impact of disability on an asset index? The assumption is that, all else equal, the impact on assets will be the result of the extra expenses of living with a disability.

Another way of examining costs is estimating actual budgetary needs based on the type and degree of disability. A study in New Zealand estimated the budgetary and time costs of disability to be very high compared to median incomes. The lowest costs incurred were for people with hearing difficulties – ranging from $204 per week for those with moderate difficulties to $761 per week for those with severe difficulties. The highest were associated with mental health difficulties, ranging from $714 to $2,413 per week. This compares with a weekly per capita median income in New Zealand of $529 (Disability Resource Center 2010). These figures suggest that even with moderate disabilities an average paycheck for one person would only just cover those costs.

The approach taken in the New Zealand study is better suited to a country with detailed expenditure data and where all goods and services are purchased and quality data exists to estimate the value of time usage. An advantage of this approach is a better understanding of where the extra costs lay. The advantage of the asset index approach is that it automatically incorporates costs that are not the result of direct outlays and that are difficult to measure – like the opportunity costs of extra time spent caring for a disabled family member: in Bangladesh, adult family members of disabled people are less likely to be employed (Choudhury and Foley 2006); in Nicaragua, family members spend approximately 10 hours a day caring for disabled family members who need assistance (World Bank 2007); and in Vietnam, non-disabled children living with disabled adults are less likely to attend school (Mont and Cuong 2013b).

Comparing the extra costs of disability between developing and developed countries, of course, is problematic. Some expenditures – such as for modified vehicles, other sophisticated devices, rehabilitation services, etc. – may not be possible for most families in developing countries. And the costs of time are a function of a person's estimated wages. Also, in developed countries some of these costs are covered by government benefits.

Moreover, when people with disabilities are from poor families, their exclusion and the demand on their family members' time can be worse compared to their non-poor counterparts if they have less access to assistive devices, rehabilitation services, family resources, and more accessible environments. So not only can poverty cause the conditions that lead to functional limitations, but it can also worsen the extent to which those functional limitations are disabling. This can then feed back on the ability to escape poverty.

Cash transfers, or social grants, is one policy option that can be used to directly address these costs, but the systems for setting up eligibility determination among children can be complex. In the United States, such grants are also means-tested, and eligibility relies on professional assessments. In Vietnam, there is no means testing, and a community panel can make the disability determination. This makes administration of the program less costly, but may lead to an under-identification of children with mild disabilities.

How many children in the world have a disability, and how many of them are poor? What are their life prospects, and what types of policies and programs could improve these prospects? The following paper is structured as follows: Section 2 briefly defines what is meant by disability and presents estimates of the prevalence of disability. Section 3 reports on studies linking childhood disability to lower levels of education, the one type of service delivery where reasonable data actually exists. Section 4 takes a more detailed look at one study in Vietnam that examined the impact of childhood disability on socio-economic outcomes compared to disabilities that onset later in life. Section 5 concludes by laying out research questions that remain unanswered but are important for assessing the demand and effectiveness for inclusive services for children that may help to address and dissolve the current links between disability and poverty

PREVALENCE

The prevalence of disability obviously depends upon how disability is defined. According to the UN Convention on the Rights of Persons with Disabilities (UNCRPD, UN 2006), “Persons with disabilities include those who have long-term physical, mental, intellectual, or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others (Article 1)”.

Disability thus emerges from the interaction between a person’s functional limitations and the environment. In other words, a person might have had her legs amputated, but what makes her disabled is a lack of assistive devices, an inaccessible physical environment, and negative attitudes and stereotypes which prevent her from fully participating in society. Disability is not the same as a medical diagnosis, nor is it located only within the person. Limitations in body functioning may be the result of an underlying health condition, but how they are translated into disability is affected by environmental factors.

Therefore, the approach in disability prevalence studies focuses on whether children can undertake various activities at a similar level to their peers in their current environment, not on medical diagnoses. Whether a child is limited in her ability to undertake a core activity relative to her peers can be difficult to determine because not all children develop at the same rate. Variation in a child’s ability to undertake various activities is a function of both the variability in child development as well as variations relating to limitations that result from disabling conditions.

Therefore measuring disability prevalence needs to focus on functional questions – what activities or tasks can the child perform at an age appropriate level – rather than asking questions about diagnoses or whether the child “has a disability”. Moreover, in reporting disability statistics it is always important to address the difference in the degree of disability. Some children have mild difficulties in undertaking core activities, while others have very significant difficulties. The interventions they require may be very different. For example, a study in the United States that took this approach found that the disability prevalence rate of the under age 18 population was 6.5% (Newacheck and Halfon 1998) but only 0.7% of children were unable to conduct one of the major activities examined. About 4% were limited in a major activity, and the remaining 1.8% were limited in other activities. In a recent study using the two-stage Ten Question Screening Instrument (TQSI) procedure in Bhutan, the overall prevalence of childhood disability was over 20%, but the rate of moderate and severe disability combined was only 2.8% (National Statistics Bureau/UNICEF 2012). The TQSI consists of a ten question screening instrument designed to cast a relatively wide net to capture children who are likely to have a disability, and a second more detailed assessment to make a final disability determination.

However, it is important to point out that the impact of a disability need not be directly proportional to the severity of the child's functioning at a body structure level. For example, consider the case of a child whose vision is correctable with glasses. His functional limitation is small – and easily accommodated – but if he does not have access to glasses, and as a result drops out of school, the impact on his life can still be substantial. The key issue is not the extent of the underlying medical condition; rather it is the interaction between the functional limitation and the environment in which the child is living.

Therefore an empirical exploration of the impact of childhood disability needs to record a child's functional status and then investigate how those limitations are associated with a lack in participation. This is at the core of the social model of disability. A child's functional limitation may be disabling in one environment, but not in another. And what is more, a child's environment is intimately related to their poverty level. A rich urban child with mild vision problems may not be disabled, but a poor child in a remote area with mild vision problems may be. Exploring the link between functional status and disability in the social model sense can reveal which key environmental barriers should be addressed to break that link.

The US study cited above, also found that disability was not evenly distributed across the population (Newacheck and Halfon 1998). Poor children had a 9.6% rate of disability compared to 5.7% for non-poor children. As usually found, boys had a higher rate of disability – 7.6% compared to 5.3% for girls. And disability also increased with age, from 3.3% for children under age 6, to 7.9% for children aged 6-11, and 8.4% for those aged 12-17. This last result comes not only because of additional onset of disability, but also because often milder disabilities are not identified until a child gets older and more challenging activities are expected of him or her.

These rates are similar to findings from the UK, where the overall disability prevalence for children under age 18 was measured at 7.2%, with an 8.8% rate for boys and 5.8% for girls. The age distribution was also similar to the US with a 3.7% rate for children four and under, and ranging between 8% and 10% for older age categories (Blackburn, et al. 2010).

Data from developing countries vary in quality. Unfortunately, one meta-analysis of childhood disability data from around the world found that study quality was often inadequate, and generally tended to lack information on specific interventions, which limited its usefulness for public policy purposes (Maulik and Darmstadt 2007). One review study found many developing countries with childhood disability prevalence well below 1% (Simeonssen 2003), but those rates are higher when functional questions are used. For example, using the two-stage TQSI, South Africa had a childhood disability prevalence rate of 3.6%. Pakistan had one of 6.2% (UNICEF 2008).

On the one hand, childhood disability prevalence could be expected to be higher in developing countries due to factors such as higher rates of poverty, poorer nutrition and lower quality health care services that increase the incidence of disability. But on the other hand, better medical care and more positive attitudes towards disability in developed countries may mean the probability of surviving with a disability is higher. Additionally, mild disabilities are more likely to be identified in developed countries where parents are more knowledgeable and have access to better assessment services.

Making an accurate estimation of how many disabled children there are globally is not possible, but if we use a conservative estimate of 5% of all children (based on the studies cited above), then using the 2005 population figures (UN 2005) there would be about 91 million disabled children aged 0-14 – with over 10 million in developed countries and 81 million in less developed countries. Adding in children between the ages of 15 and 18 would make the total well in excess of 100 million. UNICEF’s State of the World’s Children for 2013 arrived at a similar estimate of 93 million disabled children aged 0-14.

EDUCATION

There are strong links between lack of education and poverty for children with disabilities throughout their lives and thus education is a useful lens through which to consider poverty among children with disabilities.

Universal primary education is one of the Millennium Development Goals (MDG2; UN 2000). This right for all children to have an education, including disabled children, was re-confirmed with the ratification of the UNCRPD, and has been enacted at the country level many times. Fortunately, education is the one area related to services where population data for children with disabilities is reasonably available.

Education is the gateway to full participation in society, to being able to secure a livelihood and to avail oneself of all the opportunities that society has to offer. This is particularly important for disabled children, who are often stigmatized or excluded. In fact, school attendance is an important way for children with disabilities to break down misconceptions that serve as barriers to inclusion elsewhere. Clearly the economic benefits mostly accrue to the disabled child in the long run, but even in the short run there are economic benefits to the family. Being at school frees up parents' time to undertake other productive activities.

Unfortunately, disabled children are less likely to attend school, and when they do they are less likely to stay in school and progress (WHO/World Bank 2011). According to data from the Word Health Study, which examined over 50 countries across income categories, only 50.6% of disabled men had completed primary education compared to 61.3% of non-disabled men (Mitra, et al. 2013). For women, these figures were 41.7% and 52.9%, respectively. The mean years of schooling for both men and women was over one year less for those with disabilities compared to those without.

Furthermore, this understates the impact of disability on schooling, because no account was made for the age of onset. Most people with disabilities acquire their disabilities as adults, well after the ages when people typically attend school. Studies in Malawi, Namibia, Zambia, and Zimbabwe found that while only 9% to 18% of non-disabled children over five years old had never attended school, the percentage of disabled children never having done so ranged from 24% to 39% (Loeb and Eide 2004, Eide, et al. 2003, Eide and Loeb 2006, Eide, et al. 2003). In India, close to 40% of disabled children were not enrolled in school, compared to between 8% and 10% of children in Scheduled Tribes or Castes (O'Keefe 2007). The overall enrolment rate was over 90%.

Filmer (2005) also found, as in India, that disability was a stronger predictor of educational enrolment than either gender or socio-economic class in a study of 11 developing counties. In fact, Filmer found the enrolment rates for children with disabilities did not vary much by family's income. Disabled children as a whole were less likely to start school and in some countries were less likely to transition from one grade to the next.

The impact on school enrolment also depends on the severity and type of disability. For example, in Burkina Faso, children with disabilities are over twice as likely to not attend school than non-disabled children, but only 10% of deaf children were in school, compared with 40% of those with physical disabilities (UNESCO 2010). In India children with multiple disabilities had an enrolment rate of less than 40%. Children with mental disabilities had an enrolment rate barely over 50%, but children with vision difficulties were enrolled about 70% of the time, presumably because both physical access and the ability to communicate with teachers is higher.

Being in school, though, is only the first step. If children are simply placed in a school that does not address their needs, learning will be limited even if the child does not drop out. And many children have functional difficulties that get in the way of learning, even if they do not rise to the level of a disability as measured by some prevalence studies. The OECD estimates that somewhere between 15% and 20% of all children in OECD countries will have a special education need at some point in their school career (OECD 1999). They use a resource-based definition of special needs because of the incomparability of school-based data across countries when it comes to addressing disability. They define a child as falling into the special needs category if they qualify for additional public and/or private resources provided to support their education.

In developed countries, a good deal of data is kept on special educational services provided to children, which is an inexact way of getting an idea of the prevalence of childhood disability (OECD 2007). These measures are confounded by a number of factors. Differences between countries are not only the result of underlying differences in the rate of disability, but the eligibility criteria for receiving services, and the policy for providing supports to children. Additionally, looking at data on services provided to children with disabilities does not capture children who are not attending school.

For example, the percentage of children in Poland receiving services because of vision problems is 0.215%, which is 43 times higher than in Greece, where only .005% of children receive such services. In Turkey, only .006% of children receive speech services, but in the United States 2.86% of children get those services. In Canada, 2.72% of children get services for emotional or behavioral difficulties, compared to only .001% in Turkey. Table 1 displays the range of children getting services in OECD countries for a variety of functional domains.

Table 1: Percentage of Children Receiving Services in OECD Countries, Age 0-18		
Domain	**Median**	**Inter-quartile Range**
Vision	.06	.02 - .08
Hearing	.12	.08 - .16
Behavioral and Emotional	.35	.21 - .88
Physical	.15	.05 - .21
Speech and Language	.18	.05 - .24
Combinatorial (multiple)	.22	.09 - .29
Severe or Moderate Learning Disability	.90	.36 - 1.37
Source: Students with Disabilities, Learning Difficulties and Disadvantages STATISTICS AND INDICATORS, OECD 2005		

AN EXAMPLE: CHILDHOOD DISABILITY, EDUCATION AND POVERTY IN VIETNAM

A recent study in Vietnam examined the relation between disability, education, employment and poverty (Mont and Cuong 2011). Most good data collected on disability do not also come with good data on consumption, so studies on disability and poverty are somewhat rare, but the 2006 Vietnam Household Living Standards Survey (VHLSS) is an exception. The VHLSS has been used to examine poverty in Vietnam for many years, and in 2006 it contained a module on disability with a range of functional questions. These questions included those recommended for censuses by the UN Statistical Commission’s Washington Group on Disability Statistics (WG), which collect information not only whether a person has difficulties in six functional domains, but their range of difficulties – from ‘none’ to ‘some’ to ‘a lot’ to ‘unable to do’ the activity. This allowed for the creation of two disability variables which corresponded to a high (DISHIGH) and low (DISLOW) cutoff threshold for what constitutes a disability. People with some difficulty in at least two of the six functional domains were disabled according to the DISLOW measure. People with a lot of difficulty in at least one domain (or were unable to do the activity referred to in the question) were disabled according to the DISHIGH measure.

However, disability is not really an “either/or” phenomenon. Difficulties in functioning lie along a continuum and it is quite possible that results could be sensitive to where you draw the dividing line between disabled or non-disabled.

In fact, depending on the purpose the line will be drawn in different places – for example, the threshold for the determination for disability pension benefits will be higher than for subsidized transportation or receiving special services in school.

The recommended definition for disability prevalence by the WG is actually lower than DISLOW – needing only one functional area with some limitation. However, partly to have a clearer line and partly because there were concerns about how the vision question was working in the survey, a slightly higher threshold was used, as is explained in more detail in the published study.

The prevalence of functional difficulties by age and gender can be seen in Table 2. About 15.7% of people had difficulty in at least one functional area. For school aged children and youth (5-18) that figure was 4.29%. Children under five were excluded from this study because the questions were not designed for children that young. As can be seen in the table, the presence of functional difficulties starts surfacing as people enter middle age. These percentages of people with at least one functional impairment would be the disability prevalence rates as reported by the methodology suggested by the WG.

Many people only have some difficulty in one functional area and many people do not report having a lot of difficulty, so when DISLOW and DISHIGH are generated the measured prevalence of disability is much lower, as can be seen in Table 3. Using the lower threshold of DISLOW, 7.56% of the population is disabled, and only 1.63% of school aged children. Using DISHIGH, those percentages drop to 3.6% and1.09%.

There is a slight difference in poverty rates between disabled and non-disabled people, as shown in Table 4 – about 15% of non-disabled people were below the poverty line compared to 17% of disabled people. But looking only at children, the difference was more dramatic. About 19% of non-disabled children were below poverty, but over 31% of disabled children were poor. This was driven to a certain extent by the fact that many older people have disabilities, but they acquire them later in life when they have already built up assets and, in Vietnam anyway, are likely to live with other family members. The difference in poverty rates for disabled people beyond middle age was much smaller.

Table 2: Percentage of Vietnamese Reporting Functional Limitations by Gender and Age, 2006

	Seeing	Hearing	Remembering and Concentrating	Walking	Self-care	Communicating	Any difficulty
Total	11.36	3.29	4.74	6.03	1.93	2.71	15.74
	(0.24)	(0.12)	(0.15)	(0.16)	(0.08)	(0.11)	(0.27)
Gender							
Male	10.16	3.06	4.12	4.67	1.84	2.4	14.49
	(0.27)	(0.14)	(0.17)	(0.17)	(0.11)	(0.13)	(0.31)
Female	12.5	3.51	5.33	7.34	2.04	3.01	16.94
	(0.29)	(0.15)	(0.19)	(0.22)	(0.11)	(0.14)	(0.32)
Age							
5–18	1.86	0.47	1.11	0.68	1.19	1.12	4.29
	(0.14)	(0.07)	(0.11)	(0.08)	(0.11)	(0.12)	(0.21)
19–40	2.04	0.69	1.7	1.27	0.62	1.32	5.03
	(0.16)	(0.08)	(0.12)	(0.11)	(0.07)	(0.12)	(0.23)
41–62	19.75	3.01	4.96	6.97	1.35	1.86	25.31
	(0.59)	(0.20)	(0.30)	(0.34)	(0.13)	(0.15)	(0.63)
Older than 62	54.16	23.11	27.45	38.91	11.04	15.54	66.84
	(1.11)	(0.89)	(0.98)	(1.05)	(0.62)	(0.75)	(1.03)

Standard errors in parentheses

Source: Mont and Cuong (2011) using Vietnam Household Living Standards Survey, 2006

TABLE 3: Percentage Disabled by Disability Threshold, Gender, and Age, Vietnam, 2006

	DISLOW	DISHIGH
Total	7.56	3.60
	(0.18)	(0.12)
Gender		
Male	6.57	3.19
	(0.21)	(0.15)
Female	8.50	4.00
	(0.24)	(0.16)
Age		
5–18	1.63	1.09
	(0.13)	(0.11)
19–40	2.02	1.54
	(0.14)	(0.12)
41–62	8.49	3.26
	(0.37)	(0.20)
Older than 62	45.20	20.59
	(1.05)	(0.79)
Area		
Urban	7.56	3.40
	(0.40)	(0.25)
Rural	7.55	3.68
	(0.20)	(0.13)

Standard Errors in Parentheses

Source: Mont and Cuong (2011) using VHLSS 2006

Table 4 also shows what happens when the extra costs of disability are accounted for. Using the Zaidi-Burchardt method, Mont and Cuong (2011a) found that the extra costs of living with a disabled household member in Vietnam were about 11.5%. Adjusting the poverty line for these extra costs yields the result that over 36% of disabled children in Vietnam live in poverty, as opposed to 31% without the adjustment for costs.

Not only is being young and disabled more associated with poverty, it is also more associated with being unemployed in later life. Statistical estimations found that having a disability when a child reduces an adult's probability of being employed more than if that disability was acquired as an adult (using DISLOW).

A different result is obtained using the higher disability threshold (DISHIGH). That is, when looking only at people with more significant disabilities it does not make a difference in terms of employment whether or not the onset of the disability occurred as a child or an adult. Basically, having a severe disability has a large impact on employment whenever it occurs, but mild disabilities – when acquired in childhood – also have a significant impact.

Table 4: Poverty Rates by Disability Status and Other Characteristics with and without the Extra Costs of Disability, Vietnam 2006

	General poverty line		
Characteristic	**Nondisabled People**	**Disabled people**	**Adjusted Poverty line for disabled people**
All	15.09	17.16	22.31
	(0.50)	(1.01)	(1.12)
Gender			
Male	14.60	17.46	22.55
	(0.51)	(1.30)	(1.42)
Female	15.57	16.94	22.13
	(0.53)	(1.13)	(1.26)
Age			
5–18	19.29	31.08	36.24
	(0.70)	(3.97)	(4.11)
19–40	15.14	24.72	31.42
	(0.53)	(3.07)	(3.26)
41–62	9.93	11.90	15.28
	(0.46)	(1.35)	(1.51)
Older than 62	14.45	17.01	22.82
	(0.99)	(1.23)	(1.39)

Standard Errors in Parentheses
Source: Mont and Cuong (2011) using VHLSS 2006

This is true regardless of whether or not the person has an education: not only is there an indirect effect of mild disabilities on employment operating through education (children with mild disabilities get less schooling and so are less likely to be employed) but there is a direct impact on employment, as well. A person who has had mild disabilities since childhood – even if they get an education – are less likely than their non-disabled counterparts to be employed as an adult. The problem could be how much those disabled people benefited from their education because of the lack of inclusive education, or it could be because of additional barriers to employment, or a combination of the two factors.

Education and employment are tied up together in a complex web. Disabled children attend school less, which makes them less employable as adults. Then, even given a certain level of education, they are less employable. This may even be a factor in the decision to send a child with a disability to school in the first place – given the costs of paying for that education and the difficulties associated with attending, such as transportation.

EVALUATING INCLUSIVE SERVICES

The example of Vietnam mirrors the general findings from around the world. Disabled children are more likely to be poor, and they are less likely to be educated which will be a force to keep them that way. As adults, their lower levels of education and the barriers they will face as they attempt to enter the workforce will undermine their chances of earning their own livelihoods.

Inclusive education, vocational and medical rehabilitation, and variety of other policies and programs all aim to rectify this situation. Do they work? What are the economic costs and benefits of these programs? Are some more efficient than others at breaking the disability/poverty link?

Unfortunately we do not know. Rigorous evaluations with high quality baselines, appropriate comparison or control groups, and analysis of key indicators are not available. They are sorely needed. Most evaluations of these types of programs focus on how well the program is running – how many people are they serving? Are they getting the intended services? At what cost? Are people happy with these services, and what are the immediate outcomes of these services? What are the key logistical challenges that providers and beneficiaries are facing? The answers to these questions are important for monitoring the implementation of programs, but they do not provide the data needed to measure the economic returns.

What is not known is the economic benefit from each dollar invested in inclusive education. That benefit will include any extra income the child will earn over his or her lifetime as a consequence of receiving an inclusive education, as well as the value of time is gained by the child’s caretaker and the productive uses to which it is put. How do these benefits and costs compare depending on the nature of the intervention? Is there a bigger return on health services or education services, or is it their synergies that make a comprehensive program more successful than the sum of its parts?

Governments have limited resources and competing demands. Persuading them to act – and to invest in people with disabilities – will be much easier if they have an evidence base that guides them to the most efficient way to spend their limited resources.

Early childhood development is one area where research suggests the benefit cost ratio might be particularly high. While studies of early childhood interventions generally do not have benefit-cost calculations, the results of these interventions can be dramatic (Bailey and Powell 2005) not just in terms of mental or physical functioning, but socialization, as well.

The impact of early interventions has been most studied for children with developmental disabilities. Research looking at services for children under 5 finds that measures of cognitive capabilities increase between one-half and three-quarter standard deviations, which are highly significant (Guralnick 2004). In fact, when children with Down Syndrome get services the typical deterioration in cognitive capacity that occurs between the ages of 12 and 18 months can be prevented almost entirely. And unlike many other causes of mental disability, Down Syndrome can be quite easily detected. Moreover, using randomized control groups the impacts of early intervention for low birth weight works equally well for both poor and well-off parents.

Early intervention for physical and sensory disabilities has not been as well studied as for developmental or mental disabilities, but it too has demonstrated positive effects. However, development programs that simply reach children early are not good enough. Studies also show that some types of early interventions can be much more effective than others, depending on the nature of the disability (Blauw-Hospers and Hadders-Algra 2005, Moeller 2000). But again, these studies look at improvements in functioning pre- and post-intervention without published estimates of cost, and often without any controls for selection bias – that is controlling for the fact that program participants might be different in some way than people who do not participate.

Measuring the economic returns of these interventions, and of inclusive education, medical rehabilitation, awareness raising campaigns, or any other policy or program aimed at limiting the impact of disabling conditions, is quite complex when it comes to children as the costs are incurred in the short term but the benefits accrue over the long term. Of course, this is true for all investments in children, but the difference with disability is in having to take into account the interaction of barriers to participation across sectors.

The returns to inclusive education, rehabilitation services, or any other intervention will depend on future barriers disabled children will face as adults with disabilities – for example, barriers to employment such as discrimination, transportation difficulties, insufficient labor laws, etc. If these barriers are high, there might only be a small return to childhood interventions. The goal, of course, is to have an inclusive society. Any one sectoral reform by itself may not have a big return, but the synergies of improved inclusion in multiple sectors might be large.

Projecting returns to education therefore involves projecting returns to other reforms. Any estimate of the returns of getting disabled children in school and keeping them there will rely on projections of their increased earnings. But if the current disabled children's returns to education are used as a benchmark, it might underestimate if other reforms are taking place – like accessible infrastructure and progressive labor legislation – that will be expected to increase those returns in the future.

Following this line of reasoning, the countries with fewer barriers to adult activities are going to have higher returns to child services. It may be that the returns to childhood interventions are lowest in the poorest countries if they also have bigger barriers to employment and civic engagement. Also, countries with better employment opportunities are at times also the countries with significant cash benefits for disabled people who do not work. Employing disabled people and getting them off the welfare rolls creates an added benefit. But, the result that poorer countries might have lower immediate returns to inclusion could be taken the wrong way. First, because hopefully they will be working on inclusion in things beyond education, but second, because policies on inclusive education, promoting human rights, and related actions can change attitudes that could help make society more inclusive down the line.

It is also important to keep in mind that some of the costs of inclusive development are transitory. Many of the costs come not from new activities but changing the way they are done. For example, in the case of inclusive education all teachers need to be trained and all curricula need to be developed. Moving towards inclusive education may require a significant investment to change teacher training programs and curricula, but once that is done there is no compelling reason why the costs of continuing such activities will be higher than before. Similarly, building an accessible school costs barely one percent more than an inaccessible school (Steinfeld 2005), but retrofitting an inaccessible school can be expensive. Of course some costs – for example more teaching assistants or well-staffed resource centers for teachers – may be additional. But then again, there will be cost savings if inclusive education takes children out of segregated schools.

SUMMARY

In the end, the evidence is clear that childhood disability diminishes a person's life chances. They grow up poorer – especially taking into account the extra costs of disability – they have less access to education and health care services, and are worse off on a host of social measures. But at the same time, no studies exist with good estimates of the potential economic benefits and costs of particular interventions. However, we can make several broad conclusions.

1. *Interventions should be cross-sectoral where possible.* The impacts of disability are cross-sectoral so a single sector focus will be less beneficial than one that takes into account the full range of challenges facing a disabled person. Improving a child's ability to function through rehabilitation will have a bigger impact if the school system is willing and capable of accepting them and meeting their educational needs. Acquiring an education will be more meaningful if there are inclusive school-to-work transition programs and economy wide efforts to promote employment for people with disabilities and their inclusion in public life. In a sense, this is true for all programs, but for people with disabilities a large barrier to even one component could greatly diminish the benefits from knocking down a barrier elsewhere.

2. *Early Childhood Interventions probably have the biggest impact.* This is true for two reasons. First, studies have shown that gains in functional capacity can be largest when interventions occur early in a child's development. Second, because if barriers are removed earlier in life there is less of a compounding effect of the multiple barriers that disabled people face.

3. *Inclusive Education should be an area of focus.* First of all, countries have already implicitly (if not explicitly) agreed to promote the education of disabled children, at least at the primary school level, by committing to universal primary education. Disabled children are disproportionately represented in the out of school population, so universal primary education will not be achieved without taking them into account. And following on points above, the returns to inclusive primary education will be made more significant with follow-through to upper levels of education.

4. *Policies should take the extra costs of living with a disability into account.* The monetary and time costs associated with disability can be highly significant. General social policies – as well as policies targeted specifically at people with disabilities need to consider those costs. They can be offset by social grants, or in kind through things like subsidized transportation and funding personal assistants. Cash benefits, however, are easier to administer and are more flexible at meeting the particular needs that disabled children and their families face.

5. *Evaluations of policies and programs are desperately needed.* Rigorous evaluations of benefits and costs that take into account potential selection bias do not exist. Many studies monitor the administration of these programs but none that can provide compelling evidence on how best to invest in inclusive development. The evaluation component of programs should be designed right from the beginning of project development.

The world has spoken on the issue of children with disabilities through the CRC and the CRPD. All children deserve a right to be fully included in the economic and social life of their communities. As of now disabled children are less likely to be enjoying those rights.. To change that more attention must be paid.

ACKNOWLEDGEMENT

The author would like to acknowledge Susan Le Ba and Nora Groce for comments on a previous draft of this paper

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