Methodological considerations in the analysis of household data on disabilities in Latin America

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I. Introduction

Data on disabilities in Latin America and the Caribbean are difficult to obtain. In many countries national surveys have not collected, on a regular basis, data on persons with disability. When data have been collected, definitions of what constitutes a disability vary between surveys and countries. This makes it difficult to compare findings over time and between countries. Frequently, when questions about disabilities are included in household surveys, they are not asked to the entire sample population, leading to small sample sizes that make statistical analyses unreliable.

The paper has two objectives, the first is to analyze data on disability prevalence and the economic participation of persons with disability. The second is to identify some of the methodological issues that need to be addressed to improve the quality of the data collected on disabilities in Latin America and the Caribbean.

The analysis presented is based primarily on data from surveys in Costa Rica, Brazil and Nicaragua. These surveys were chosen because they asked the most questions on disability and, in the case of Nicaragua there was a separate module on disabilities. Survey data from 8 other countries in Latin America are also reviewed. In the household surveys examined, questions on disability were found mainly in the labor and health modules. Questions in the labour module focused on the reasons for not working, where having a disability was one of several response categories. These modules contained no information on the type or cause of disability. That type of information was found mainly in the health modules.

The paper is divided into four main sections. In the first, we examine the prevalence of disability using data from both the health and labor modules. In the second, we look at labour force participation and levels of educational achievement for persons with disabilities. Thirdly, we analyze data from the Nicaraguan 1993 household survey to consider types and causes of disability. Finally, we explore the relationship between the responses to questions on disability in the health and labour modules.

II. Disability Prevalence

Data from the labour modules. The two questions shown below are typical of those found in the labour modules. Generally, these questions are asked only to persons who are not currently employed.

A. You did not work during the last week because of……? vacations, is waiting for an answer on a job opening, works at home, studies, pensioned, is waiting to start, does not think he (she) will get a job, family problems, illness, disability, other

B. Do you consider yourself? Pensioned, student, housewife, under six years of age or disabled?

The first question is specific on reasons for not working, while the latter focuses on individuals' perception of their role. In the latter scenario, disability status competes with a variety of roles that may have more importance to the respondent. For example, a disabled woman may identify with the term "housewife" (a social role) more so than she would with being classified as disabled (a physical condition).

Table 1 shows the data obtained from the first question where "disability" or "incapacity" appear as responses categories. This analysis is restricted to the population aged between 25-55 years to exclude students and elderly persons over 55 years. The data in Table 1 could be interpreted to suggest that on average 12% of unemployed men aged 25-55 years in Panama, Peru, Chile and Mexico are disabled, with the corresponding statistic for women being approximately 1.5%. Such cross-country comparisons would be inaccurate. In the Chile survey, the statistic is based on the response category "illness or elderly" in the question *"Why didn't you look for a job in the last couple of months?*" In Panama, it is based on those responding "disabled" to the question "*Why didn't you look for a job in the last week?*" The Mexican data is based on the same question posed in Panama, and the percentage of men responding disabled 15% is close to the 12% observed in Panama. In the Peru survey, "disabled & elderly" was one of the response categories. Though the results shown are only for those aged between 25 and 55 years, the proportion responding disabled was substantially lower for men compared to the other countries. This trend did not apply to the data on women.

In the labor modules, differences in the time period covered and in the number and type of response categories used affect the data. Even if the questions were the same, the variation in response categories makes comparisons across countries difficult because of the likelihood that the assumption of independence of irrelevant alternatives (IRA) would be violated. This assumption is critical in the analysis of multiple responses. In the Chile survey "incapacity" was one response category out of 10 options, while in the Mexico's survey it was one out of 17 choices. The IRA assumption requires that the proportion reporting "incapacity" as the reason for not working, remain constant as other categories are added or taken away. This paper does not present an extensive analysis of the statistical implications of the IRA on the data, but we are aware that the data in Tables 1 and 2 are based on questions with varying multiple responses.

Table 1

Reasons for not working – share reporting "incapacidad" of the population between 25-55 years of age who are not employed

	Men			
	%	**Number**	**Missings (%)**	**Men (25-55)**
Panama 1999	12.17%	94	-	672
Perú 1997	3.54%	7	42.44%	210
México 1996	15.06%	127	-	858
Chile 1998	14.61%	806	53.68%	4,763
	Women			
	%	**Number**	**Missings (%)**	**Women (25-55)**
Panama 1999	1.22%	50	-	4,186
Perú 1997	1.46%	18	5.69%	1195
México 1996	1.06%	59	-	6,478
Chile 1998	3.52%	849	8.37%	22,605

Source: Social Information System SIS, Research Department, Inter-American Development Bank using various Household Surveys. The percentages reported are based on the weighted cases, while the raw numbers stand for number of cases.

Among women aged 25-55 years, there is little variance in prevalence rates between countries, but the percentage of women reporting a disability, 1 to 3%, is markedly lower than that of men. This does not indicate that there are fewer disabled women but could suggest that the percentage of women who report not working for other reasons is higher. In many cases, non-employed female respondents report not working because of their household responsibilities. Women with disabilities may see household commitments and not their disability as the reason for their being out of the formal labour market.

Table 2 presents data based on questions that require self-identification of disability status unlinked to employment. The data show the same gender trend but with more men reporting themselves to be disabled. The responses to the two types of questions common in the labour module appear to provide the same data. They also may contain the same gender bias that accounts for the low prevalence levels seen among women. A serious constraint in using data from these modules is the high percentage of missing values. In Argentina, Chile and Peru the percentage of missing values is over 40%. The low prevalence rate in Argentina, 4.6%, could be partially explained by the 69.2% no response rate.

Table 2

Describe yourself – share reporting "ser discapacitado" of the population between 25-55 years of age who are not employed

	Men			
	%	**Number**	**Missings (%)**	**Men (25 - 55)**
Argentina 1996	4.59%	180	69.25%	3,122
Uruguay 1998	17.27%	146	-	844
Honduras 1999	16.83%	39	-	239
Costa Rica 1998	16.79%	109	37.21%	563
Bolivia 1999	7.54%	13	52.53%	157
	Women			
	%	**Number**	**Missings (%)**	**Women (25 - 55)**
Argentina 1996	0.94%	102	15.78%	11,138
Uruguay 1998	3.17%	125	-	4,077
Honduras 1999	1.38%	29	-	2,338
Costa Rica 1998	2.25%	208	4.35%	4,818
Bolivia 1999	1.64%	13	20.87%	839

Source: Social Information System SIS, Research Department, Inter-American Development Bank using various Household Surveys. The percentages reported are based on the weighted cases, while the raw numbers stand for number of cases.

Data from the health modules. The main difference between the health and labour modules is that the questions in the health module are asked to the whole population, and the responses are not dependent on employment status. In this paper, health modules from three countries were examined: Costa Rica 1998, Brazil 1981 and Nicaragua 1993. The questions asked were:

Brazil 1981 — *Qual a defiecencia ou incapacidade que tem?*
What is the "deficiency" or disability you have?

Nicaragua 1993 — *Tiene algun problema sensorial, actor, mental, etc, tales como:*
Do you have any sensory, movement, mental, etc or other problems, such as.

Costa Rica 1998 — *Alguna de las personas de este hogar presenta una o varias deficiencias que le impidan o dificulten permanentemente, realizar sus actividades cotidianes?*
Does any individual in this household have one or more disabilities that prevent or challenge them permanently, to perform their daily activities?

The prevalence data from the health modules differ from that seen in the labor module in one respect: the gender differential is not as large. In Nicaragua more women, 20.3% report having a disability compared to 17.1% of men, and in Costa Rica and Brazil the difference in the rates is marginal (See Table 3). However, the different questions and the special circumstances of the

countries selected make it difficult to assess the relative merits of one module over the other. In Nicaragua, the statistics may reflect the effect of the prolonged conflict. Though, if the Nicaraguan data were excluded, the prevalence estimates produced by both modules in the two other countries appear to be within the same range. The high levels of social development in Costa Rica may account for the limited gender differential. It is worth noting that only the Costa Rican survey linked disability to the performance of daily activities. The Brazil data cannot be explained by either of those arguments, and provides the only indication that the two modules might produce different data. A comparison of data within a survey from both modules was attempted; however, no survey had sufficiently large sample sizes from both modules.

Table 3

Share reporting "yes, disabled" of the Population of 25 - 55 year old Men

	%	Number	Men (25 - 55)
Brazil 1981	2.36%	1,757	76,583
Nicaragua 1993	17.12%	592	3,312
Costa Rica 1998	6.09%	517	8,049

Share reporting "yes, disabled" of the Population of 25 - 55 year old Women

	%	Number	Women (25 - 55)
Brazil 1981	1.46%	1,189	82,841
Nicaragua 1993	20.30%	727	3,657
Costa Rica 1998	5.76%	484	8,314

Source: Social Information System SIS, Research Department, Inter-American Development Bank using various Household Surveys. The percentages reported are based on the weighted cases, while the raw numbers stand for number of cases.

III. Educational Attainment and Labour Force Participation

Given the relative completeness of the data from the Costa Rica, Brazil, and Nicaragua surveys, an analysis of levels of educational attainment and labour force participation was conducted using only data from these surveys.

Table 4 shows the employment status of disabled and not disabled working men aged 25-55 years. In Brazil, the disabled have considerably lower employment levels than the non-disabled, almost by a 1:2 ratio. This differential is not as large in Costa Rica and Nicaragua. In fact, for Nicaragua there is almost no difference by disability status, 73.67% of disabled men work compared to 78.53% of their non-disabled counterparts.

Table 4

Disabled Population of 25 - 55 year old Men

	%	Employed	Number
Brazil 1981	42.68%	728	1,757
Nicaragua 1993	73.67%	451	592
Costa Rica 1998	70.54%	368	517

Not Disabled Population of 25 - 55 year old Men

	%	Employed	Number
Brazil 1981	93.33%	69,471	74,826
Nicaragua 1993	78.53%	2,190	2,720
Costa Rica 1998	94.42%	7,118	7,532

Source: Social Information System SIS, Research Department, Inter-American Development Bank using various Household Surveys. The percentages reported are based on the weighted cases, while the raw numbers stand for number of cases.

Employment patterns among women were more varied (See Table 5). Only in Brazil was the differential in employment rates between disabled and non-disabled women larger than that observed for men. In addition, compared to the other two countries, Brazil had the largest differential in employment rates, 15%, of disabled women were employed compared to 39% of non-disabled women. In Nicaragua, the percentage of disabled women who worked, 46.9%, was higher than that of non-disabled women, 42.65%. In Costa Rica, the ratio observed was roughly the same as that observed for men.

Table 5

Disabled Population of 25 - 55 year old Women

	%	Employed	Number
Brazil 1981	15.60%	186	1,189
Nicaragua 1993	46.91%	319	727
Costa Rica 1998	36.81%	168	484

Not Disabled Population of 25 - 55 year old Women

	%	Employed	Number
Brazil 1981	39.00%	33,032	81,652
Nicaragua 1993	42.65%	1,219	2,930
Costa Rica 1998	44.90%	3,328	7,830

Source: Social Information System SIS, Research Department, Inter-American Development Bank using various Household Surveys. The percentages reported are based on the weighted cases, while the raw numbers stand for number of cases.

Table 6 shows the data on levels of educational attainment in the three countries. Overall, the data show that a smaller percentage of disabled men compared to non-disabled men achieves a primary, secondary or higher level education. This gap was particularly pronounced for men with no schooling. Interestingly, the differential between disabled and non-disabled men with no

schooling was largest in Costa Rica, 13% compared to 3.5%, though the percentage of disabled men with no education was much lower than in the other two countries.

Table 6

Disabled Population of 25 - 55 year old Men

	Education Level				
	No School	**Primary**	**Secondary**	**Higher**	**Total**
Brazil 1981	739	765	209	39	1,757
	43.60%	43.29%	11.00%	1.97%	100.00%
Nicaragua 1993	213	234	93	52	592
	33.01%	40.61%	16.36%	10.02%	100.00%
Costa Rica 1998	69	302	92	53	517
	12.95%	56.67%	18.72%	11.54%	100.00%

Not Disabled Population of 25 - 55 year old Men

	Education Level				
	No School	**Primary**	**Secondary**	**High**	**Total**
Brazil 1981	14,815	35,421	17,752	6,495	74,826
	21.88%	49.11%	21.16%	7.54%	100.00%
Nicaragua 1993	785	1,049	690	196	2,720
	26.73%	40.17%	25.96%	7.15%	100.00%
Costa Rica 1998	318	4,014	2,092	1,053	7,532
	3.44%	48.75%	29.83%	17.98%	100.00%

Source: Social Information System SIS, Research Department, Inter-American Development Bank using various Household Surveys. The percentages reported are based on the weighted cases, while the raw numbers stand for number of cases.

The data on women's educational attainment presented in Table 7 show similar trends. Disabled women have lower levels of educational achievement than do non-disabled women. Among disabled women the percentage without any schooling ranges from 56% in Brazil to 16% in Costa Rica, the corresponding statistics for non-disabled women are 25 to 3 percent. Interestingly, at the primary level in Nicaragua and Costa Rica the gender differential is small or non existent. Compared to the data for males, the levels of educational achievement appear relatively similar, except in the case of Brazil where the number of disabled women without any education, 56%, is markedly higher than the corresponding statistic, 43%, for disabled men.

Table 7

Disabled Population of 25 - 55 year old Women

	Education Level				
	No School	**Primary**	**Secondary**	**High**	**Number**
Brazil 1981	648	410	115	16	1,189
	56.05%	33.67%	8.93%	1.35%	100.00%
Nicaragua 1993	269	302	129	27	727
	34.58%	42.96%	18.56%	3.89%	100.00%
Costa Rica 1998	79	260	91	50	484
	15.67%	51.38%	20.55%	11.65%	100.00%

Not Disabled Population of 25 - 55 year old Women

	Education Level				
	No School	**Primary**	**Secondary**	**High**	**Number**
Brazil 1981	18,748	37,976	19,256	5,295	81,652
	25.34%	48.21%	20.72%	5.73%	100.00%
Nicaragua 1993	856	1,170	737	167	2,930
	25.98%	42.94%	25.28%	5.80%	100.00%
Costa Rica 1998	298	4,099	2,322	1,083	7,830
	3.04%	48.85%	31.12%	16.98%	100.00%

Source: Social Information System SIS, Research Department, Inter-American Development Bank using various Household Surveys. The percentages reported are based on the weighted cases, while the raw numbers stand for number of cases.

IV. Nicaragua Encuesta Nacional de Hogares Sobre Medición de Niveles de Vida, 1993 Disabilities Module

The 1993 Nicaragua household survey is the only one of the 97 surveys reviewed from Latin America and the Caribbean where there was a separate module on disabilities. The questions in that module were asked of the entire the population surveyed. The data from the questions on type and cause of disability in that module illustrate some of the problems encountered when analyzing data on disability.

Table 8

Population that reports some kind of disability - Nicaragua 1993

Age	<15	15-25	26-35	36-45	46-55
no	1,542,296	574,679	396,599	229,211	106,512
yes	67,007	44,354	44,171	62,205	71,114
% yes	*4.16%*	*7.17%*	*10.02%*	*21.35%*	*40.04%*
Total	1,609,303	619,033	440,770	291,416	177,626

56-65	66-75	76-85	86-95	>95	Total
61,186	30,086	11,414	2,012	454	2,954,450
57,487	41,787	23,591	6,101	1,157	418,973
48.44%	*58.14%*	*67.39%*	*75.20%*	*71.81%*	*12.42%*
118,673	71,873	35,005	8,113	1,611	3,373,423

Source: Social Information System SIS, Research Department, Inter-American Development Bank using various Household Surveys. The percentages and the number of cases are weighted.

The data shown in Table 8 and Table 9 are based on responses to the question *"Do you have any sensory, movement, mental, etc or other problems, such as..."*, only in table 8 we plot the weighted cases. The data in table 8 suggest that the percentage of people reporting a disability grows consistently with age. However, the question asked in the survey did not define disability and permitted too wide a range of responses. For example, a respondent with a slight hearing problem or someone who reported using a hearing aid was counted as having a disability along with a person who was deaf.

Table 9 shows that for Nicaragua 1993, sight problems were reported by close to 60% of those who said they had a disability. However, as seen in Table 10, almost 60% of those with sight problems reported that they had difficulties but do not use glasses, 37% used glasses, 2.95% reported blindness in one eye, and 1% were completely blind. Among those with hearing and speech problems, the findings were similar, 9.6% of the population reported having a hearing disability; of those who did 52% stated they had a mild hearing loss, while only 5.85% report being completely deaf. Data on speech problems are the least exact; overall, 3.4% who reported this type of disability. Of these, 91% had such a speech for which no specific details were provided and 9% responded that they were mute.

The survey permitted separate responses for persons with a 'deformity' and a 'movement problem' (See Table 9). Approximately 5.1% of respondents were classified as having a movement problem and 3.4% as having a deformity. The two response categories appeared to address the same issue. Roughly 54% of those who reported a movement problem had limited or no use of a leg. However, 38.6% of those with a deformity reported having deformed legs and 16.2% reported the loss of one or both legs.

Data on mental disabilities included the categories that appeared to overlap, or example, 'psychological trauma' and 'insanity'. In addition, the former category could be viewed more as a causal factor rather than as a type of disability. Psychological trauma accounted for over a third of the mental disabilities reported.

A comparison of the data on type and cause of disability in Tables 9 and 10 provides an insight into some of the data analysis issues encountered while examining the modules. The sample sizes, by type of disability, are different in the two tables. Table 9 shows answers to a question that asked respondents to identify if the type of disability they had. While responses to the question "*Do you have a disability? If so, what type?*" are shown in Table 10. For all disability types, there are more responses in Table 10 (details on each type of disability) than there are responses in Table 9 (types disability). This problem is most severe for persons with hearing problems, there are 277 responses in Table 9 and 448 detailed responses on hearing problems in Table 10.

Table 9

Type of physical disability

Hearing problem	277	9.61%
Speech problem	100	3.79%
Sight problem	*1,896*	*63.08%*
Movement problem	153	5.13%
Deformity	93	3.38%
Mental problem	131	4.04%
Attacks or convultions	124	4.67%
Hearing and speech	14	0.71%
Various	185	5.58%
Total Population	2,973	100.00%

Source: Social Information System SIS, Research Department, Inter-American Development Bank using various Household Surveys. The percentages reported are based on the weighted cases, while the raw numbers stand for number of cases.

Table 10

Type of disability

Hearing			Deformity		
Deaf	26	5.85%	**Loss of bothe legs/arms**	2	0.45%
Serious hearing loss	180	42.02%	**Loss both or one arm**	7	6.46%
Mild hearing loss	*242*	*52.13%*	**Loss both or one leg**	16	16.22%
Total	448	100.00%	**Loss one leg and arm**	5	9.01%
			Deformed head/face	5	4.08%
Speech			**Deformed arms**	15	11.98%
Mute	18	9.20%	***Deformed legs***	*38*	*38.61%*
Difficulty	*134*	*90.80%*	**Deformed torso**	*10*	*13.19%*
Total	152	100.00%	**Total**	98	100.00%
Sight			**Use ofAids**		
Blind	19	0.94%	***No***	*69*	*71.90%*
Blind in one eye	*57*	*2.95%*	**Wheelchair**	*2*	*2.20%*
Difficulty, no glasses	*1,202*	*58.35%*	**Walker**	1	1.05%
Difficulty, use glasses	740	37.76%	**Crutches, cane**	12	13.22%
Total	2,018	100.00%	**Prothesis**	10	8.59%
			Orthopedic	3	3.03%
Movement			**Total**	97	100.00%
Cannot walk-move alone	45	22.03%			
Limited or no use of arm (s)	27	15.77%	**Mental**		
Limited or no use ofleg (s)	*96*	*54.26%*	***Retarded***	*88*	*59.21%*
Cannot move one side of body	9	3.42%	**Psychological trauma**	47	36.18%
Involuntary movements	12	4.52%	**Insanity**	7	4.61%
Total	189	100.00%	**Total**	142	100.00%

Source: Social Information System SIS, Research Department, Inter-American Development Bank using various Household Surveys. The percentages reported are based on the weighted cases, while the raw numbers stand for number of cases.

The causes for disability are presented in Table 11. Aging was the principal cause of sight problems, the main disability reported. For physical and mental disabilities, accidents, trauma and violence, and illness were the main causes of disability; for hearing speech and sight problems, illness was the most frequently mentioned factor, followed by age, and birth/genetic defects. Within the Nicaraguan context, the relationship between the response categories ‘accidents, trauma, and violence’, and ‘war’ warrants further research, particularly given the distribution responses between the categories. War was infrequently listed as a cause of disability, except for deformities.

Table 11

	Causes of …					
	Hearing problem		**Speech problem**		**Sight problem**	
Birth, genetic	44	11.17%	*89*	*58.08%*	134	5.97%
Illness	*143*	*30.83%*	29	20.00%	546	28.11%
War	18	3.71%	1	0.74%	14	0.68%
Accident, trauma, violence	58	14.12%	6	4.00%	149	7.72%
Age	135	29.09%	7	3.45%	*812*	*39.18%*
Do not know	44	11.07%	19	13.74%	362	18.35%
Total	442	100.00%	151	100.00%	2,017	100.00%
	Movement		**Deformity**		**Mental**	
Birth, genetic	22	11.26%	20	25.40%	*67*	*48.32%*
Illness	*78*	*40.75%*	34	30.41%	32	18.29%
War	8	3.92%	15	11.19%	2	0.46%
Accident, trauma, violence	59	34.25%	*27*	*30.84%*	31	23.75%
Age	12	6.22%	1	0.35%	2	0.47%
Do not know	8	3.60%	2	1.81%	11	8.71%
Total	187	100.00%	99	100.00%	145	100.00%

Source: Social Information System SIS, Research Department, Inter-American Development Bank using various Household Surveys. The percentages reported are based on the weighted cases, while the raw numbers stand for number of cases.

Among persons aged 25 to 55 years who were employed, 18% reported that they had a disability, and 25% of all disabled people reported being employed. Approximately 80% of persons with a disability who were employed listed 'sight problems' as their disability. However, as shown in Table 10, many of those who reported 'sight problems' had visual difficulties and did not use glasses. The issue is one of definition: were these people with slight visual problems, who were not disabled? Or, were they persons with serious visual disabilities who could not obtain glasses? Given the extent of visual problems, a sharper definition of the term 'visual disability' is necessary to understand the labor market participation of persons reporting this type of disability. Persons with hearing problems had the second highest employment levels, however they accounted for only 5.16% of disabled persons aged between 25 and 55 years who were employed. Persons with mental and physical disability accounted for 1% and 6%, respectively of the labor force.

V. Relationship between Illness and Disability in household surveys

One of the difficulties encountered in analysis the data on disability was the varying definition of disability. The terms *'incapacidad', 'enfermedad' and 'discapacidad* were frequently given as response categories either separately or in combination. In this section we compare data from the labor and health modules for non-employed persons in Costa Rica and Nicaragua where

illness (enfermedad) was listed as a reason for not working in the labor module and disability (discapacidad) was a response category to the question listed in the health module.

Table 12: Comparison of health and labor modules

Population Not Employed
(25 -55 years of age)

Nicaragua 1993		Costa Rica 1998	
	Disabled		**Disabled**
Not ill	409	**Not ill**	26
	71%		5.7%
ill	47	**ill**	24
	7%		5.6%
Missings	93	**Missings**	415
	21%		88.7%
Total	549	**Total**	465

Source: Social Information System SIS, Research Department, Inter-American Development Bank. Costa Rica 1998 Encuesta de Hogares de Propósitos Múltiples, MECOVI, Nicaragua Encuesta Nacional de Hogares Sobre Medición de Niveles de Vida, INEC. The percentages reported are based on the weighted cases, while the raw numbers stand for number of cases.

In Costa Rica, among the unemployed, only 5.6% of those who report being disabled also report being ill, in Nicaragua the corresponding statistic is 7 percent. In this case, there appears to be is no relationship between reporting to be ill and being classified as having a disability (See Table 12). Table 13 compares data in the labor modules from surveys in Bolivia in 1997 and 1999 and Costa Rica in 1997 and 1999. These modules had questions that allowed respondents to identify themselves as both ill or disabled. In Bolivia, for both years, approximately 90% of those who were disabled also reported being ill, 96% in 1997 and 88% in 1999. This indicates a considerably stronger relationship between reporting to be disabled and being ill in the Bolivian labor module. By contrast, in Costa Rica in 1997 and 1998 only 3% and 4%, respectively of those not working and reporting to be disabled were also classified as ill. Furthermore, most of those who reported being disabled had missing values on the questions about illness. There appears to be no strong relationship between being sick and disabled for the Costa Rica surveys. Overall, the relation between the response categories “illness” and “disability” varies by survey.

Table 13

Illness vs. Disabled (labor module)

Bolivia 1997		Bolivia 1999		Costa Rica 1997		Costa Rica 1998	
	Disabled		**Disabled**		**Disabled**		**Disabled**
Not ill	3	**Not ill**	3	**Not ill**	2	**Not ill**	1
	4%		12%		1%		0%
ill	74	**ill**	23	**ill**	5	**ill**	9
	96%		88%		3%		4%
Missing	0	**Missing**	0	**Missing**	188	**Missing**	203
	0%		0%		96%		95%
Total	77	**Total**	26	**Total**	195	**Total**	213

Source: Social Information System SIS, Research Department, Inter-American Development Bank.

VI. Conclusions

Over 80 household surveys in Latin America and the Caribbean were examined for data on disability. Of these 8 had relevant questions and only 3 of these surveys had data that could be subject to detailed analyses. Overall, data on disabilities in Latin America are hard to obtain, and where available, are difficult to interpret for the following reasons:

- Conceptual Ambiguity. Over the last two decades conceptual models of disability have expanded to encompass environmental factors and the performance of social roles. For example, data in the labour modules studied reflected a tacit acceptance of a model where ability to work was linked to a medical or psychological condition. This approach is at odds with current thinking on disability, as espoused by the International Classification of Impairments, Disabilities and Handicaps (ICIDH-2), which considers enabling and restricting environmental factors. In this newer model, lack of accessible transport would be considered as the cause of a work place disability, even though the individual was capable of performing his/her job.

- Measurement Error. Translating conceptual models of disability into questions that can provide reliable and meaning full data is difficult. Many of the measurement issues encountered in the review were related to the problems associated with the conceptualisation of disability. The two most common measurement errors observed were: (i) wording problems, individually or in combination, the terms *discapacidad, incapacidad, enfermedad* and *deficiencia* were used to identify persons with disability. Each term conjures a different meaning, and since the same terms were not used consistently over time the reliability of data obtained within a country is subject to be question, and (ii) complex questions, in all the labour modules examined, labour force participation was linked to a medical or psychological condition, a time period, and a condition that was led to an inability to work. In societies the informal sector is large, defining 'work' and time away from work are difficult. In addition, the range of disabilities that exist and their manifestations, makes the use of a standard time period for 'not working' problematic. For example, should persons with episodic mental disabilities report the total length of time of bouts of illness or should

only the last bout be mentioned? And, if the last bout did not require time from 'work', however defined, would they say anything about their condition? The Nicaragua modules from the 1990s included filter questions in an attempt to obtain better data; however, the screening questions while less complex, contained ambiguous wording that introduced substantial error into the responses.

- Sampling error In Latin America and the Caribbean, as in other developing countries, many of the disabled are institutionalised or make up part of the homeless, particularly in urban areas. Generally, the sampling frame used for household surveys does not include these populations. To this concern can be added questions about the quality of data provided by household members who are not disabled.

- Non response error. In all of the surveys reviewed there was high percentage of non-responses. There was no way of verifying how persons with disabilities who were interviewed were different from those who were not. While the non response and missing data reflects the narrowness of the surveys' filtering process, it also indicates problems associated with vaguely worded questions and the context in which the interviews were conducted.

- Absence of environmental data. None of the household surveys examined provided any data on the environment and contextual factors that affected persons with disability. This is an indicator of the conceptual model that informs the thinking on disability in Latin American household surveys. Data on the factors that facilitate or restrict the disabled are important for programme and policy development and evaluation. Household surveys or censuses are not the most appropriate means for obtaining data on perceptions environmental conditions. To obtain a more complete picture of the conditions of persons with disabilities in Latin America, quantitative data from household surveys and censuses should be triangulated with quantitative data.

The growing concern with disability and the endorsement of policies of inclusion have not affected the way data on disability are collected. There are insufficient data; data collection methodologies are not sophisticated enough to capture the impact of the range of a wide disabilities; and, data are collected in an *ad hoc* manner, if at all, which makes comparisons over time difficult. Most important, definitions of disability are too fluid to make valid comparisons over time and between countries.

The prevalence data on disability presented in this study ranges from 2 to 20 percent. While some of prevalence statistics obtained are higher than the often-quoted UN estimate of 10%, the distribution of the prevalence data indicates that these statistics must be interpreted with caution. Firstly, they are based on differing definitions of disability; they are taken from different modules within surveys, primarily health and labor modules, that were not designed to collect data on disability; and, the sample sizes are small and appear to be associated with a large degree of error.

Large household survey and census data will continue to be one of the best tools for collecting population-based data, the poor quality and paucity of questions on disability in these surveys squanders an opportunity for gathering data on the changing dynamics with the disabled population. There is urgent need for national and regional consensus on the methodological issues that affect the collection of data on disabilities. Better data would inform policy, improve the targeting of programs, improve the evaluation of programme impact, and help focus and strengthen advocacy efforts.

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