

Appendix:
The Law's Majestic Equality?

**Tracing the Distributive Impact of Litigation on the Rights to Health and Education in
Brazil, South Africa, Indonesia, Nigeria, and India**

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Introduction

Tracing the downstream impact of litigation is challenging, both conceptually and methodologically. In this paper we evaluate the socio-economic characteristics of the class of people who are the most likely beneficiaries of right to health and right to education litigation. The project takes as its starting point a recent survey of right to health and right to education litigation in Brazil, India, Indonesia, Nigeria, and South Africa.¹ That research identified the types of cases that had been brought, and estimated the number of people who had benefited from judicial decisions in each area.

This paper takes those estimates of the numbers of people benefited in various policy areas as a starting point, develops them further with newly available information, and investigates the social gradient of the beneficiary groups. For the latter task, we use published

¹ Gauri and Brinks (2008).

data, including both reported studies of education and health litigation, epidemiological and public health studies, surveys of educational attainment, and benefit-incidence studies.

Our estimate of impact is based on numbers of people affected, not on the magnitude of the benefit each individual receives. To some extent, this is problematic, as it equates life-saving interventions with relatively minor ones. At the same time, given the scope of the project, it does not seem feasible to propose a study of this scale that evaluates the importance of each intervention, using something like quality adjusted life years (for a very interesting analysis in this direction, see Norheim & Gloppen 2011).² Our measure is simply meant to estimate when and to what extent the poor can access the benefits of social and economic rights as they are enforced through the admittedly expensive and uncertain mechanism of litigation.

² Norheim, O. F. and S. Gloppen (2011). Litigating for medicines – how to assess impact on health outcomes? Litigating Health Rights: Can Courts Bring More Justice to Health? S. Gloppen and A. E. Yamin. Cambridge, MA, Harvard University Press.

Brazil

Health

Our earlier survey³ found that the main impact of health rights litigation in Brazil had been concentrated in two areas: individual claims for medications, and claims for modification (typically expansion) of the coverage of private insurance contracts. The direct impact of these two types of claims is, obviously, limited to the individual litigants, since they primarily seek an individual benefit. A claim to improve conditions in a hospital, for example, could lead to direct benefits to non-litigants, but that seems highly unlikely in the vast majority of the cases identified in Brazil. We also found, however, that a significant proportion of the results generalized beyond individual litigants, through indirect, systemic effects. The main mechanism for generalizing effects in Brazil, we found, was the tendency of public health officials to incorporate the sought-after medications into the general public health offering (the SUS), after losing repeatedly in an initial round of litigation, or to procure drugs that are officially approved but out of stock at the time of the litigation.⁴

On the one hand, the dominance of indirect effects attenuates concerns that only the wealthy, who can afford lawyers and litigation, will benefit. On the other hand, however, this exacerbates the concern that litigation will lead to what we earlier⁵ called policy area inequality. That is, litigation, if it is dominated by the better off, may direct the state's attention and its

³ Hoffman, F. and F. R. N. M. Bentes (2008). Accountability for Social and Economic Rights in Brazil. *Courting Social Justice: Judicial Enforcement of Social and Economic Rights in the Developing World*. V. Gauri and D. M. Brinks. New York, Cambridge University Press.

⁴ For one account of how litigated medicines eventually become incorporated into the Brazilian Health Ministry's free-of-charge medications programs, see Ana Luiza Chieffi and Rita de Cássia Barradas Barata, "Legal Suits: Pharmaceutical Industry Strategies to Introduce New Drugs in the Brazilian Public Healthcare System," *Revista de Saúde Pública* 2010 44(3) 1-8. More generally, see also Brinks & Gauri 2008.

⁵ Brinks, D. M. and V. Gauri (2008). A New Policy Landscape: Legalizing Social and Economic Rights in the Developing World: Chapter 8. *Courting Social Justice*. V. Gauri and D. Brinks. New York, Cambridge University Press.

resources to policy areas that are primarily of interest to the wealthy (e.g., rich people's diseases), rather than to policy areas that are more important to the poor (e.g., poor people's diseases).

In this paper we address this last concern specifically. We examine the likely composition of the population that stands to benefit from the specific types of health care litigation that seem to be most common in Brazil. Given that for every individual litigant there are many thousands of people similarly situated, who stand to benefit from decisions that redefine what medications and treatments are available for their conditions, the indirect effects are likely to vastly outweigh the direct effects. To understand the distributional impact of health rights litigation, therefore, it is probably more important to know the characteristics of likely indirect beneficiaries, than of the litigants themselves. We therefore first identify the sorts of demands that have been made the subject of litigation, and then identify the populations most likely to benefit from these demands. Wherever possible we use the bottom two income quintiles to determine the proportion of beneficiaries who are "underprivileged." This cut-off point is somewhat arbitrary, given the income distribution in Brazil, but it defines a population that is truly underprivileged by most objective standards – the monthly income levels that define each quintile are (in Reais), first, 0-72, second, 73-134, third, 135-239, fourth, 240-439, and fifth, 440-40450.⁶ In other words, people in the bottom two quintiles are making less than two dollars per day.

The first task is to identify the population of potential beneficiaries. We start with the most common type of case. In Brazil, right to health litigation is dominated by individual claims for particular medicines and medical procedures. Our survey (2008) relied on the on-line

⁶ RIBEIRO, Manoel Carlos Sampaio de Almeida; BARATA, Rita Barradas; ALMEIDA, Márcia Furquim; SILVA, Zilda Pereira (2006). "Perfil sociodemográfico e padrão de utilização de serviços de saúde para usuários e não-usuários do SUS – PNAD 2003". *Cienc Saude Coletiva*. 2006;11(4):1011-22.

databases of various state and federal courts to identify the relevant cases. These databases recorded the name and disposition of the case, and give a brief summary of the ruling (the *ementa*). Unfortunately, the summary often did not identify the particular medication or procedure that was at issue. Since the existing data does not identify the types of illnesses that might be treated, we turn to the secondary literature for additional precision on this issue.

Both our own research and other projects have identified claims regarding HIV/AIDS and Hepatitis C as some of the seminal right to health cases in Brazil. In addition, subsequent research has revealed a fairly consistent pattern in subsequent demands. Vieira and Zucchi, for example, carried out a survey of 170 judicial decisions seeking specific drugs in São Paulo.⁷ The authors identify the most common diseases for which people were granted treatment/medicines.

Table 1: Vieira and Zucchi findings

Type of Disease	Percentage of claims in the sample related to the disease (n)
Diabetes	37% (63)
Cancer	22% (37)
Diabetes/Hypertension	9% (15)
Osteoporosis	8% (14)
Hepatitis	5% (9)
Arthritis	3% (5)
Hypertension	3% (5)
Other	13% (22)

A survey by Da Silva and Terrazas of 160 users of a special pharmacy set up to dispense court-ordered medications leads to similar though not identical findings.⁸

Table 2: Da Silva and Terrazas findings

Type of Disease	Percentage of claims in the sample related to the disease (n)
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⁷ Vieira, Fabiola Sulpino, and Paola Zucchi. 2007. "Distorções causadas pelas ações judiciais à política de medicamentos no Brasil." *Revista de Saúde Pública* 41 (2):214-22.

⁸ Da Silva, V. A. and F. V. Terrazas. 2011. "Claiming the Right to Health in Brazilian Courts: The Exclusion of the Already Excluded?" *Law & Social Inquiry* 36(4): 825-853.

Diabetes	23.75% (38)
Cancer/Oncology	20.00% (32)
Arthritis	18.13% (29)
Diabetes/Heart disease ⁹	6.25% (10)
Osteoporosis	5.00% (8)
Heart disease	4.38% (7)
Over the counter goods	5.62% (9)
RSV (an acute respiratory infection in infants)	3.12% (5)
Other	13.75% (22)

While this data is helpful, it is worth pointing out that it comes from São Paulo, which is more affluent and has other demographic and epidemiological differences from the rest of Brazil. As a result, it is possible that any conclusions we might draw from this analysis will be biased in the direction of finding that more affluent people are benefitting from judicial interventions. Indeed, a recent study by Biehl and Petryna suggests that the Vieira & Zucchi and Da Silva & Terrazas findings, while they may accurately reflect patterns in São Paulo, dramatically overstate the extent to which more affluent litigants dominate these cases in other areas. This study, based on a survey of over 1000 cases in Rio Grande do Sul – one of the more affluent states included in our study – finds “in contrast, ... that patients who procure medicines through courts are mostly poor individuals who are not working and depend on the public system for obtaining both healthcare and legal representation.”¹⁰

In any event, at least as far as types of illnesses are concerned, the results of the São Paulo studies are consistent with other reports and with more anecdotal findings from the states that are included in our original sample.¹¹ Taking these studies as a starting point we will

⁹ This category probably matches Vieira and Zucchi’s Diabetes/Hypertension.

¹⁰ João Biehl and Adriana Petryna, “Bodies of Rights and Therapeutic Markets,” *Social Research* 78 (2) Summer 2011, p. 370.

¹¹ See for instance, Ana Maria Messeder, Claudia Garcia Serpa Osorio-de-Castro, and Vera Lucia Luiza, “Can court injunctions guarantee access to medicines in the public sector? The experience in the State of Rio de Janeiro, Brazil,” *Cadernos de Saúde Pública* 2005 21(2): 525-534.

assume, noting that the results might be biased in favor of a finding of regressive impact, that the principal diseases targeted by litigants in access to medications cases are the following:

HIV/AIDS, Hepatitis C, Diabetes, Cancer, Hypertension, and Osteoporosis. We now focus on the demographics of people with these illnesses.

HIV/AIDS

While HIV/AIDS in Brazil initially affected relatively affluent social and cultural elites in the major cities, AIDS has since been growing among the population with the lowest socioeconomic characteristics. Fonseca, Szwarcwald and Bastos, for instance, compare the distribution of AIDS cases in two levels of education. *Grau I* encompasses the lowest educational levels (roughly, primary education) and *Grau II* secondary education.¹² As shown in the following table, already by 1997, when the litigation phenomenon was just getting started, almost 70% of male and 80% of female AIDS patients had only a lower level education.

Considering the distribution of men and women in the population, this means that approximately 72.5% of the AIDS-affected population in Brazil (where an estimated 660,000 people live with HIV/AIDS¹³) was “underprivileged,” at least in educational terms. Given that the national trend is for most growth in HIV/AIDS to occur among the underprivileged sectors, we should expect that this percentage has only gone up in the intervening years, but we keep it constant, as we have no better data. As shown in Table 3, then, the percentage of beneficiaries of HIV/AIDS-related litigation without any secondary schooling is 65%, or about 430,000 individuals.

Extrapolating from the relationship between income and education in Brazil we find that, of these, 43.1%, or 185,000 people, should have an income that places them in the lowest two

¹² M. G. Fonseca, C. L. Szwarcwald, and F. I. Bastos, “Análise sócio-demográfica da epidemia de AIDS no Brasil, 1989-1997,” *Revista de Saúde Pública* 2002 36:678-685. This study relies on reported AIDS cases, rather than HIV status.

¹³ Amy Stewart Nunn, Elize Massard da Fonseca, Francisco I. Bastos, and Sofia Gruskin, “AIDS Treatment in Brazil: Impacts and Challenges,” *Health Affairs* 2009 28(4):1103-1113.

quintiles. Of the 35% with some secondary schooling or more education, an estimated 10.3% have income in the lowest two income quintiles, or 24,000 individuals. The total number of beneficiaries of HIV/AIDS litigation with income in the lowest two quintiles is, then, 209,000, or 32% of all individuals who live with HIV/AIDS.¹⁴ The caveats on this estimate are the following: 1) it does not include beneficiaries in previous years who have since died (but because we use a dated estimate for the share of underprivileged individuals, and that number has increased since then, our figure for the share of underprivileged beneficiaries is likely an underestimate); 2) it assumes that HIV positive individuals are able to access public sector treatment (but because the Brazilian response to HIV/AIDS has been among the strongest in the world, this is not an unreasonable assumption).¹⁵

Table 3: The share of people living with HIV/AIDS in Brazil who are underprivileged

	Men	Women	% Combined	N education level	% in lower two quintiles	N lower two quintiles
1o grau	0.618	0.764	65%	430,111	43.1%	185,378
2o grau	0.382	0.236	35%	229,889	10.3%	23,680
Total				660,000		209,057

¹⁴ Income (as a multiple of minimum salaries) by educational attainment was taken from Corcibele Yahn de Anrade and J. Norberto W. Dachs, *Accesso a Educacao por Faixas Etarias Segundo Renda e Raca, Cadernos de Pesquisa*, 2007, 37:131, 399-422, available here: <http://www.scielo.br/pdf/cp/v37n131/a0937131.pdf>. The minimum salary in 2002 was taken from <http://www.portalbrasil.net/salariominimo.htm#sileiro>. The Brazilian income distribution by income decile in 2002 was taken from Donald V. Coes, "Income Distribution Trends in Brazil and China: Evaluating Absolute and Relative Economic Growth," available here:

<http://ideas.repec.org/a/eee/quaeco/v48y2008i2p359-369.html>. This is a conservative estimate because it defines underprivileged beneficiaries as earning less than 100 reais per month of family income, yet all those below 131 reais per month in family income were in the lowest two income quintiles in 2002. It is also conservative in that it assumes that the distribution of educational attainment (within the categories of primeiro grau and segundo grau) match that of the distribution of the population as a whole; and that HIV/AIDS patients earn as much as the average individual, of the same educational level, who is not living with HIV/AIDS.

¹⁵ A recent estimate finds that over 80% of HIV-positive people are receiving antiretroviral therapy: http://www.usaid.gov/our_work/global_health/aids/Countries/lac/brazil.pdf

Hepatitis C

A study¹⁶ of patients receiving treatment for hepatitis C at a hospital in Salvador, Bahia, found that: 1) patients who had finished high school were more than 63% of the sample, and those without schooling constituted 0.85% of the sample; 2) over 26.5% of the patients receiving treatment had incomes between 5 and 10 times the minimum salary, and 22.22% of the patients had incomes between 3 and 5 times the minimum salary; and 3) over 60% of the patients receiving treatment had private health insurance. In sum, according to the author, the higher socioeconomic classes may be overrepresented among patients receiving hepatitis C treatment. A more comprehensive study¹⁷ found that: “Those with less education had a lower prevalence than those with more education (OR = 0.16, 95% CI 0.05–0.50), as did those with lower income and poorer living conditions.” Table 4 below reproduces their findings. The authors conclude: “in our data it appears that HCV is more prevalent among those with better socio-economic status but not necessarily rich. However, the numbers are small and the reason for the association with higher socio-economic status in Salvador is not clear.” The finding of this study is inconclusive, and the sample limited to a single city. But in keeping with the approach we use below for the other “named illnesses” in health rights litigation, we assume that only 30% of the beneficiaries are disadvantaged.

Table 4. Zariffe et al univariate analysis of study variables and hepatitis C virus (HCV) infection in Salvador (1998)

Variable	N	HCV positive (N (%))	95% CI	OR	95% CI
Age (years)					
0.5–34	901	4 (0.4)			
35–99	407	16 (3.9)		9.18	3.02–27.90

¹⁶ Helio Paulo Matos Junio, “Análise da equidade no acesso ao tratamento gratuito da hepatite C crônica no estado da Bahia,” available at http://biblioteca.universia.net/html_bura/ficha/params/id/36771204.html

¹⁷ Zariffe MA, Silva LK, Silva MB, Lopes GB, Barreto ML, Teixeira Mda G, Dourado I, Reis MG: Prevalence of hepatitis C virus infection in north-eastern Brazil: a population-based study. *Trans R Soc Trop Med Hyg* 2006, 100(7):663-668.

Sex					
Male	553	7 (1.3)		0.56–2.70	1.00
Female	755	13 (1.7)		0.96–3.01	1.37 0.54–3.45
Education ^a					
≥7 years	428	15 (3.5)		2.05–5.84	1.00
<7 years	680	4 (0.6)		0.19–1.61	0.16 0.05–0.50
Income (MW) ^a					
>2.5	538	10 (1.9)		0.95–3.51	1.00
≤2.5	599	4 (0.7)		0.41–2.28	0.53 0.19–1.48
Neighborhood ^a					
BLC	242	7 (2.9)		1.27–6.12	1.00
WLC	965	12 (1.2)		0.67–2.23	0.42 0.16–1.09

OR: odds ratio; MW: minimum wage (approximately US\$50.00/mo.); BLC, better living conditions; WLC, worse living conditions.

^a There were missing data for these variables for some subjects.

Epidemiological estimates put the prevalence of hepatitis C among the Brazilian population at 1.5%, or 2.85 million people. If we take the latter number as the total of potential beneficiaries, the total number of underprivileged beneficiaries from Hepatitis litigation would be about 855,000 (30% of 2.85 million). But the number of people with chronic hepatitis C who are being treated by the public health system (and thus might benefit from litigation around this disease) is likely far lower than that. The Brazilian Ministry of Health shows only about 72,000 cases diagnosed from 1996 to 2005. If we double that number to account for people who were diagnosed earlier but might still be in the system, the total number of potential beneficiaries is around 150,000. That is the number we use in our calculations, producing an estimated N of underprivileged beneficiaries of about 45,000.

Table 5: Confirmed cases of hepatitis C in Brazil

Casos confirmados da hepatite C, por ano, segundo região Brasil, 1996 a 2005										
Regiões	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Brasil	1.217	3.135	3.157	4.848	5.961	6.763	8.196	10.771	14.115	13.261
Norte	1	22	298	166	185	282	246	331	325	296
Nordeste	26	151	176	253	412	426	534	798	778	846
Sudeste	2	860	431	1.960	2.941	3.385	4.430	6.211	8.232	7.388
Sul	928	1.588	1.868	2.173	1.923	2.173	2.359	2.814	4.064	3.839
Centro-Oeste	260	514	384	296	500	493	624	617	712	891

Fonte: Ministério da Saúde/SVS - Sistema de Informação de Agravos de Notificação (Sinan)

Notas: Dados sujeitos a revisão (atualizado em setembro/2006). Dados de 2001 a 2005 apresentados segundo o ano de diagnóstico. Foram considerados os casos de vírus C e B+C.

Source: Biblioteca Virtual em Saúde, DATASUS - Departamento de Informática do SUS / Ministério da Saúde, available at <http://www.ripsa.org.br/fichasIDB/record.php?lang=pt&node=D.1.14>).

Diabetes

Data from Brazil's 1998 National Household Sample Survey (PNAD) allow a calculation of the prevalence of diabetes by income decile, which the table below summarizes.¹⁸ The table clearly shows a positive relationship between the incidence of diabetes and income. This is likely more attributable to differential diagnosis (and hence differential access to health services) than to such large differences in the real burden of disease in society. For our purposes, we assume that differential rates in access to public sector treatment for diabetes (and hence in benefits from right to health litigation) are equivalent to differential rates of diagnosis. If at least some of the people in the upper income deciles rely on privately financed care, as is likely the case, the estimate we use will likely under represent the share of underprivileged among the beneficiaries of litigation for diabetes. (The same applies to cancer and hypertension calculations below).

¹⁸ Micro data from the 1998 National Sample Household Survey of the Brazilian Institute of Geography and Statistics. Data can be obtained from IBGE:

<http://www.ibge.gov.br/home/estatistica/populacao/trabalhoerendimento/pnad98/saude/analise.shtm>

Table 6: Diabetes prevalence by income decile, Brazil, 1998

	Income decile										
	1	2	3	4	5	6	7	8	9	10	Total
Percent with diabetes	1.4	2.5	3.3	3.2	3.5	4.2	3.7	4.5	4.8	5.1	3.6

Cancer/Oncology

The same dataset has data on the distribution of cancer cases among the population by income decile. Again, people who belong to the highest income percentiles of the population are more likely to report that they have cancer; and again, this is more likely due to differences in diagnosis (and hence access to health care) than to differences in real prevalence.

Table 7: Cancer prevalence by income decile, Brazil, 1998

	Income deciles										
	1	2	3	4	5	6	7	8	9	10	Total
Percent with cancer	0.1	0.2	0.3	0.4	0.3	0.4	0.4	0.5	0.6	0.6	0.4

Hypertension

The same source of data was used to assess the socioeconomic distribution of hypertension cases in Brazil. The results show that, although the higher income percentiles have a high percentage of hypertension cases, lower percentiles also present higher percentage of people with this health condition. Therefore, we can conclude that the incidence of hypertension is evenly spread across the different socioeconomic levels.

Table 8: Hypertension prevalence by income decile, Brazil, 1998

	Income deciles										
	1	2	3	4	5	6	7	8	9	10	Total
Percent with hypertension	13.9	20.3	21.9	20.7	19.4	21.0	21.0	21.6	20.6	19.7	20.0

Osteoporosis and Arthritis

A recent national study¹⁹ of the prevalence of osteoporosis and fractures resulting from low bone density in Brazil found no significant differences across social strata. A study of the prevalence of osteoporosis in the general population²⁰ reports a self-reported rate of incidence of 4% among people over 18 years of age, for a total N of 7.6 million people in Brazil who believe they have osteoporosis. If we estimate that half that population is getting some sort of treatment from the public health system (and that this half is broadly representative of the overall population as the studies suggest), then there are about 2.4 million people getting treatment, of whom about 970,520 are underprivileged.²¹ On the other hand, the Martini et al. study found more than twice as much osteoporosis among people who have 0-8 years of schooling than among those who had more schooling (6% compared to 2.5%). If we were to take this as an estimate for the proportion of underprivileged who benefit from this litigation, the percentage of underprivileged beneficiaries in this category would be 60% (n=1.5 million).²² For simplicity, and for a more conservative estimate, we simply take the average of these two possibilities, or 50% underprivileged (n=1.2 million).

Over the Counter Goods

We assume that those who sue for simple over the counter goods (e.g., diapers, aspirin), and all those in the category of “other” unnamed medications are broadly representative of SUS

¹⁹ Marcelo M Pinheiro; Rozana M Ciconelli; Natielen de O Jacques; Patricia S Genaro; LÍgia A Martini; Marcos B Ferraz, “The burden of osteoporosis in Brazil: regional data from fractures in adult men and women - The Brazilian Osteoporosis Study (BRAZOS),” *Revista Brasileira de Reumatologia* 2010 50 (2).

²⁰ L. A. Martini; E. C. de Moura; L. C. dos Santos; D. C. Malta; M. de M. Pinheiro, *Revista de Saúde Pública* 2009 43(2): 1.

²¹ The calculation is as follows: 190,000,000 (total pop)*0.6385 (percentage 19 or over) *0.04 (percentage reporting condition) * 0.5 (percentage assumed to receive treatment from public health system) *0.4 (percentage underprivileged).

²² The alternative calculation is as follows: 190,000,000*0.6385(percent > 19)*0.4 (percent underprivileged)* 0.06 (percentage reporting condition among underprivileged)*0.5(percent assumed receiving treatment from SUS).

users. For over the counter goods, this is likely an underrepresentation of the share who are underprivileged; for the latter, it may be an overestimate. Overall, we assume that the countervailing biases in these two estimates are more or less the same size. From the analysis of the population that uses the SUS for primary health care (see Ribeiro, et al, further discussed below), we estimate that 46.6% of SUS users are underprivileged and apply that to this category of cases. Given that we have no estimate of the number of people in Brazil who need over the counter goods or other unnamed medications, we simply use the number from the calculation in our previous survey (2008). That estimate is likely very low because that book only surveyed four Brazilian states over a limited time period but, again, we are working towards a conservative estimate of the progressive effects of litigation.

Changing terms of insurance contract and bargaining power

In the cases that sought to change the terms of health insurance contracts, the beneficiaries are those who have or can purchase private health insurance. The 2003 PNAD shows that people with higher levels of education are more likely to have private health coverage than people with lower levels of education. In particular, the data show that in 2003, 88.9% of people with only *primeiro grau* did not have private insurance, while 33.5% of people with *segundo grau* had private health insurance, and 25% of people with higher education (and 11% of those with an MA or PhD) had no private health insurance. Litigation around this issue does, then, involve a policy area that is dominated by the better off.

Still, there are many more under-educated people than highly educated people in Brazil. So, again using the PNAD respondents as potential beneficiaries of litigation around private health insurance coverage, we find that as many as 22% of those with private health insurance have only a primary education, and that 65% have completed less than or up to high school.

Clearly this is not, overall, an “elite” population, although the bottom two quintiles are slightly under-represented: applying the same method we used above, this translates into about 31.6% underprivileged (43.1% of those with secondary education or less, and 10.3% of those with more than that).

Table 9: Holders of private insurance, by education level, PNAD 2003

	Percent with private insurance	Total respondents sample	N with private insurance	Share of all people with private insurance	Share (n) of underprivileged
1o grau	11.1%	78592	8724	22%	43.1% (11289)
2o grau superior	33.5%	52150	17470	43%	
mestrado	74.9%	18056	13524	33%	10.3% (1475)
Total	88.6%	907	804	2%	
	27.1%	149705	40522	100%	31.6 (12765)

But there remain interpretive challenges. We do not know which insurance cases benefit the litigants only, and which lead to a change in company policies that affect other insureds. We also do not know whether expansions in benefits following upon successful litigation result in premium increases, and what the net effects are. It is not clear, therefore, how to evaluate these cases from a redistributive perspective. For simplicity we use the proportion of the insured population that is underprivileged, applied to the estimated number of beneficiaries from our litigation survey – approximately 13,000 people, a relatively small number, in the end, so that an error here will not significantly affect the final calculation of underprivileged beneficiaries.

Socioeconomic profile of SUS users and other indirect beneficiaries

Ideally, if these medications generalize through the SUS, we would want to establish the SE profile of SUS users who seek that particular medication, but we have located no studies that could give us exactly the information we need. We know that the vast majority of SUS users

have low incomes: Ribeiro et al. (2006)²³ show that only 9.2% of SUS users come from families with per capita monthly incomes above 440 Reais (\$200), but until we get to the eighth decile in the income distribution, the various socio-economic strata are approximately equally represented: the 20% of the population with the lowest income accounts for 22.8% of users, the next 20%, for 23.8%, and the next two for 22.4% and 21.8%, respectively, for a total of 46.6% in the bottom two quintiles. It is only the top quintile that is remarkably different, accounting for only 9.2% of all SUS users. Thus for all but the high cost medications, we will simply assume that the indirect beneficiaries mirror the demographics of typical SUS users, so that 46.6% of them come from the bottom two quintiles (and have per capita family incomes below about \$60 USD/month).

²³ RIBEIRO, Manoel Carlos Sampaio de Almeida; BARATA, Rita Barradas; ALMEIDA, Márcia Furquim; SILVA, Zilda Pereira (2006). “Perfil sociodemográfico e padrão de utilização de serviços de saúde para usuários e não-usuários do SUS – PNAD 2003”. *Cienc Saude Coletiva*. 2006;11(4):1011-22.

Table 10: Characteristics of SUS users (from Ribeiro et al)

Variáveis	Usuários SUS		Não usuário SUS		Total	
	%	IC _{95%}	%	IC _{95%}	%	IC _{95%}
Sexo						
Homens	38,1	37,5 - 38,6	38,6	37,9 - 39,3	38,3	37,8 - 38,7
Mulheres	61,9	61,4 - 62,5	61,4	60,7 - 62,1	61,7	61,3 - 62,2
Cor ^a						
Branca	48,1	47,1 - 49,1	70,0	69,0 - 70,9	57,2	56,4 - 57,9
Preta e parda	51,9	50,9 - 52,9	30,0	29,1 - 31,0	42,8	42,1 - 43,6
Grupos de idade						
De 0 a 14 anos	27,8	27,1 - 28,4	18,8	18,1 - 19,4	24,0	23,5 - 24,5
De 15 a 59 anos	56,2	55,5 - 56,8	64,9	64,1 - 65,6	59,8	59,3 - 60,3
De 60 anos e mais	16,1	15,6 - 16,6	16,4	15,7 - 17,0	16,2	15,8 - 16,6
Escolaridade						
Até 3 anos	52,8	52,1 - 53,6	26,4	25,6 - 27,2	41,9	41,2 - 42,5
De 4 a 7 anos	26,7	26,1 - 27,3	20,3	19,6 - 20,9	24,0	23,6 - 24,5
De 8 a 10 anos	10,4	10,1 - 10,8	12,7	12,2 - 13,3	11,4	11,1 - 11,7
De 11 anos e mais	10,0	9,6 - 10,4	40,6	39,6 - 41,5	22,7	22,1 - 23,3
Quintil de renda familiar per capita (em Reais)						
1° (0-72)	22,8	22,0 - 23,6	4,1	3,8 - 4,5	15,1	14,6 - 15,7
2° (73-134)	23,8	23,1 - 24,5	6,4	6,0 - 6,9	16,6	16,1 - 17,1
3° (135-239)	22,4	21,7 - 23,1	13,2	12,5 - 13,9	18,6	18,1 - 19,2
4° (240-439)	21,8	21,1 - 22,5	24,5	23,6 - 25,3	22,9	22,3 - 23,5
5° (440-40450)	9,2	8,8 - 9,7	51,8	50,6 - 53,0	26,7	25,9 - 27,5
Posse de plano de saúde						
Sim	7,3	6,9 - 7,7	72,9	71,8 - 73,9	34,5	33,7 - 35,4
Não	92,7	92,3 - 93,1	27,1	26,1 - 28,2	65,5	64,6 - 66,3
Rede						
Pública	97,1	96,6 - 97,5	7,7	6,9 - 8,6	60,0	59,1 - 60,9
Particular	2,9	2,5 - 3,4	92,3	91,4 - 93,1	40,0	39,1 - 40,9
Tipo de atendimento						
Consulta	89,3	88,8 - 89,7	87,3	86,6 - 87,9	88,4	88,1 - 88,8
Vacinação e procedimentos de enfermagem	6,0	5,6 - 6,4	6,4	6,0 - 6,9	6,2	5,9 - 6,5
Quimioterapia, radioterapia, hemodiálise e hemoterapia	2,3	2,1 - 2,6	1,3	1,1 - 1,4	1,9	1,8 - 2,0
Outros	2,4	2,2 - 2,6	5,0	4,6 - 5,5	3,5	3,3 - 3,7
Motivo**						
Acidente ou lesão	5,6	5,3 - 5,9	4,9	4,5 - 5,2	5,3	5,0 - 5,5
Tratamento/reabilitação	6,5	6,1 - 7,0	17,1	16,3 - 17,9	10,9	10,5 - 11,4
Prevenção (inclui pré-natal)	29,4	28,6 - 30,3	34,0	33,0 - 35,0	31,3	30,6 - 32,0
Doença	58,5	57,5 - 59,4	44,1	43,0 - 45,2	52,5	51,7 - 53,3
Tipo de serviço						
Ambulatório	69,0	67,8 - 70,1	80,1	79,3 - 81,0	73,6	72,8 - 74,4
PS/Hospital	29,9	28,8 - 31,1	14,7	13,9 - 15,5	23,6	22,8 - 24,4
Outros	1,1	1,0 - 1,3	5,2	4,7 - 5,7	2,8	2,6 - 3,0

While the naïve assumption might be that all the high-income people turn to private care and all the poor people turn to the SUS, we cannot truly make that assumption for all the illnesses we have identified, as it is well known that more affluent people in Brazil often rely on private primary care, turning to the SUS for higher cost treatments. Indeed, while only 9% of SUS users might have higher incomes, for all we know 80% of the SUS users *who demand*

cancer drugs might be high income (we know, for instance, that only 2.3% of SUS users are getting certain high cost treatments, such as chemotherapy, dialysis, etc.).

At the same time, we believe an estimate that relies on the social distribution of these illnesses in society is more than justified, and likely is a conservative estimate of the extent to which the poor benefit. First, the surveys detailed in the previous section identify the social gradient of those who have already been diagnosed with a particular disease, and thus who have at some point at least come into contact with medical care. It is not the case, then, that we are imputing from the prevalence of the disease among people who have no access to health care at all. Once diagnosed, and given that the SUS will treat the disease free of charge, it is likely that even the poor will get treatment. Moreover, while it is possible that some low-income people never return for care after their initial diagnosis, it is at least as likely that some high-income people continue to receive private medical care for their conditions. Thus we can assume that the socio-economic distribution of SUS users with a particular disease will more or less mirror the distribution of the (diagnosed) disease in society.

In sum, then, to infer the extent to which the poor benefit from the generalization of judicial remedies through the SUS, we will use (a) for low cost and primary care issues, the percentage of the poor that use the SUS, applied to the total number of indirect beneficiaries calculated in our litigation survey (2008), and (b) for higher cost medications, the incidence of the disease across income or educational strata, applied to the total number of patients with that condition. This should significantly undercount the number of beneficiaries in category (a), the more egalitarian category, but we simply have no other way to estimate the total number of beneficiaries. For the insurance contract litigation, we simply apply the percentage of private

insurance holders who are underprivileged to the number of indirect beneficiaries we calculated for this category. The following table summarizes our findings.

Table 11: Distributive Impact of Health Litigation, Brazil

	Percent underprivileged	N underprivileged	Total N
HIV/AIDS	32%	209,057	660,000
Hepatitis	30%	45,000	150,000
Diabetes	14%	96,180	687,000
Cancer	26%	19,000	72,200
Hypertension	19%	138,624	729,600
Osteoporosis	50%	1,213,150	2,426,300
OTC goods	43%	1,174	2,731
Private ins.	31%	12,765	40,522
Grand total	36%	1,734,950	4,768,353

Ironically, after all the twists and turns of this calculation, the distribution of beneficiaries is very close to mirroring the population distribution across income levels: about 36% of the beneficiaries of health rights litigation come from the bottom 40% of earners. For users of the SUS in general, as we have seen, this is about 43%. In other words, not only are the various income strata drawn in numbers roughly proportional to the income distribution in the population, but they are drawn in numbers roughly proportional to the income distribution of SUS users. This is not, of course, distributive – indeed, it is slightly regressive compared to the SUS – but it suggests less cause for concern than one might imagine from claims that judicialization is an elite phenomenon, or a mechanism for the preservation of privilege.

Note that if our calculation were done in dollars, rather than in numbers of people benefited, we might have a different result. Vieira and Zucchi, for instance, find that in São Paulo, during the period of their study, 75% of the dollars allocated through court actions are attributable to cancer drugs. If we used this figure, and assume a blended rate of 41% for the

other 25% of the dollars, we would find that somewhere around 30% of the benefits, in dollar terms, accrue to the bottom two income quintiles.

We included the contract litigation in these numbers, although that litigation does not involve the possible reassignment of public funds from one health priority to another. The small numbers involved mean that their inclusion does not drastically change the results, and including them is the more conservative approach. The percentage of potential beneficiaries of private insurance litigation who are underprivileged is about 31% (n = 12,765), marking this as a slightly more elite phenomenon, though one with slender potential for regressive effects.

Education

The demands in education rights cases in the sample are more specific than the health rights cases. The large majority of judicial decisions regarding education target the government – at the municipal and state levels – and most relate to public education. Tracing the socioeconomic characterization of this population is not a complex task.

The two tables below contain data from PNAD/IBGE, and confirm the expected: groups with higher levels of income tend to go to private schools, while people with lower levels of income get their education in public schools. While the first table presents the distribution of private and public educational institutions across different levels of income, the second one incorporates a third dimension: the type of educational institution (daycare, high school, university etc). From the first table we calculate that about 80% of public school pupils come from families with per capita income of up to 1 minimum salary (about \$50/month), while in the private school population only about 27% of the pupils fall in that category. If we used the same cut-off we used above (bottom four income deciles), the percentage of “underprivileged” in

public schools would likely be higher. We (2008) estimated that there were about 40,000 beneficiaries in the identified cases, of which only about one percent were in private schools. We estimate, then, that the bulk of the beneficiaries of this litigation (which was only partially sampled in our litigation survey – recall that we looked at only four states) are in the public school system, and thus that about 80% of them are underprivileged, even by the relatively strict 1 minimum salary standard.

Table 12: Household income per capita by educational system

		Faixa de rendimento domiciliar I per capita (exclusive pensionistas, empregados domésticos, parentes dos empregados domésticos) * Rede de ensino Crosstabulation				
		Rede de ensino			Total	
			Pública	Particular		Sem declaração
Faixa de rendimento domiciliar I per capita (exclusive pensionistas, empregados domésticos, parentes dos empregados domésticos)	Sem rendimento	Count	841	104	0	945
		%	89.0%	11.0%	.0%	100.0%
	Até ¼ salário mínimo	Count	20857	544	4	21405
		%	97.4%	2.5%	.0%	100.0%
	Mais de ¼ até ½ salário	Count	30157	1986	1	32144
		%	93.8%	6.2%	.0%	100.0%
	Mais de ½ até 1 salário	Count	28930	4732	2	33664
		%	85.9%	14.1%	.0%	100.0%
	Mais de 1 até 2 salários	Count	14379	6936	1	21316
		%	67.5%	32.5%	.0%	100.0%
	Mais de 2 até 3 salários	Count	3332	4158	0	7490
		%	44.5%	55.5%	.0%	100.0%
	Mais de 3 até 5 salários	Count	1746	4336	0	6082
		%	28.7%	71.3%	.0%	100.0%
	Mais de 5 salários	Count	890	3908	1	4799
		%	18.5%	81.4%	.0%	100.0%
	Sem declaração	Count	1154	787	1	1942
		%	59.4%	40.5%	.1%	100.0%
Total	Count	102286	27491	10	129787	
	%	78.8%	21.2%	.0%	100.0%	

Indeed, in contrast to the health rights cases, there is little concern in Brazil regarding the negative potential of cases regarding education rights. As we found in our survey, most of the claims are made by the public lawyers of the *Ministério Público* or the *Defensoria Pública*, rather than by individual plaintiffs, and they tend to be directed to the municipal or state-level

government.²⁴ Many of the cases seek to expand the amount of money spent by local governments so that it meets the constitutionally required minimum, or to expand the number of seats available in the public schools of a particular neighborhood. None of these cases raise regressive concerns, unless one believes that elementary and secondary public education in Brazil is a more elite-oriented activity than other possible destinations for public funds.

²⁴ Citation omitted.

South Africa

In contrast to Brazil, South Africa showed a markedly smaller number of cases, the effect of which was felt largely through the modification of public policy as a result of the court order. That is, the South African litigation model was the modification of public policy through broadly applicable, *erga omnes* decisions, rather than through the accumulation of individual cases with individual remedies and the more or less voluntary adoption of these decisions on an ad hoc basis. This means that, even more than for Brazil, the demographics of the actual litigants are of trivial importance, compared to the demographics of the relevant policy area beneficiaries. Moreover, this means the number of health and education rights cases is small enough to trace the impact case by case. Given the lower number of cases, we can also include a table of cases that did not have far reaching impact. The results for South Africa, in keeping with our expectations, are more pro-poor than those in Brazil: eighty percent of all those benefited by these decisions fit even a fairly narrow definition of “underprivileged,” compared to the neutral redistributive effect of litigation in Brazil. If we assume that the South African “underprivileged” come from the bottom 40th income percentile (in fact, they are probably even less “privileged” than that), then South African SE litigation is twice as redistributive than the Brazilian model.

To put this in the same terms as we used for Brazil we would have to calculate the distribution of, for example, HIV/AIDS patients by income decile. We have been unable to find any such study for South Africa. Instead, we use the results of surveys and studies of the characteristics of people with a particular illness. For example, according to a household survey, the truly poor appear to be overrepresented among households with an HIV/AIDS patient by a factor of at least 1.4 (69% of HIV/AIDS households earn under \$132/month, while only about half of all households in the overall population fall below that threshold). The other cases suggest

even more of a pro-poor bias – they involve prisoners, for instance, or subsidies to low income school children.

Since the number of cases is much more manageable in South Africa, the first table shows all the cases we considered to have no or negligible (traceable) potential for redistributive impact, progressive or regressive. Those who are familiar with these cases might dispute some of these decisions – did *Soobramoney*, for example, have a negative/regressive effect, because it deferred to public health officials in the allocation of dialysis resources? We classify it as a neutral case rather than a negative one, because it simply leaves in place existing public policy, and our explicit counterfactual is, as noted, what would have happened in the absence of the court order. Moreover, the implicit claim of the juriskeptics is that courts will take the goods currently allocated to the poor and redirect them to the better off, and when the court refuses to act it is evidently not redirecting anything.

Note also that we classify a number of important decisions relating to the pricing of pharmaceuticals as having no impact, primarily because there are significant problems and delays in implementation that tend to void their effect. The principal thrust of these decisions is to ensure the availability of low cost medications. If we included them, they would also likely have a pro-poor bias, for at least two reasons. First, given the low elasticity of demand for medications, lowering the cost is most likely to affect demand among the poor, and thus most likely to affect health among the poor. Second, given the extremely high levels of income inequality in South Africa, even if the demand is more or less evenly distributed across society, many more poor people than middle- or upper-income people would benefit.

Table 13: Cases with little impact, South Africa

Name of case	Description of case/benefits	N benefited	% under priv'd
Health			
Afrox Healthcare	Hospital can enforce waiver, to avoid liability for damages due to negligence	0	0
Westville	Right to ART for prison inmates - decision lacked implementation	0	0
Soobramoney	Right to dialysis - the benefit was denied	0	0
Du Plooy	Terminally ill prisoner has the right to med treatment and to release in order to die with dignity	1	100
New Clicks	Regulates fees pharmacists charge their customers; implementation delays void effect	0	0
PMA	Facilitates entry of generics for S.Africans who cannot afford meds at market, but implementation delays void effect	0	0
Affordable Medicines	Same as above.	0	0
Education			
Matukane	Black children granted access to a largely white school	2	100
Wittman	Private school that received state funding may require students to partake in religious observances and instructional classes	0	0
Mikro	School may continue Afrikaans-only education (given alternative options for plaintiffs)	0	0
Oranje Vrystaatse Vereniging	Allows suspension of subsidies for state-aided schools	0	0
Gauteng School Education Bill	Protects constitutional right to schools based on a common culture, language, or religion	0	0
ED-U-College	Allows reduction in state subsidies to independent schools	0	0
Thukwane	Allows "reasonable" restrictions on prisoner access to education	0	0
Harris	Can't use age to exclude otherwise qualified children from school (6 yr-old can attend)	1	0
Christian Education	Allows government to limit use of corporal punishment in religious schools	0	0
Bel Porto	Contemplates need for due process in firing ed sector e'es but permits firing in these cases	0	0
Laerskool Middelburg	Failure of school to comply with state mandate to teach English to a group of students	0	0

Health

We now turn to the principal categories of people benefiting from health rights decisions in South Africa. First we calculate the proportion of underprivileged among people getting HIV/AIDS treatment. According to a survey of households with an HIV/AIDS patient,²⁵ these households are considerably poorer than the national average:

Monthly Income (South African Rand)	Monthly Income (US Dollars)~	Number	Percent (of those reporting an income)	cum %	National Data (Percent)	cum %
R 500 or less	66.05	136	29%	29%	26%	26%
R 501 - R 1000	66.18-132.1	185	40%	69%	24%	50%
R 1001 - R 1500	132.23-198.15	11	2%	72%	23%*	73%
> R 1500	>198.15	131	28%	100%	27%**	100%
		463	100%		100%	

No response/Don't know are excluded from the survey results, for comparability to national figures.
 * R 1000 -R2000, ** >R 2000. Data only available in these categories. Only 1st two categories are truly comparable, so the comparison is restricted to above/below that line.

All South African health rights cases in the sample with significant impact relate, in one way or another, to HIV/AIDS, so this category dominates the calculation. In addition, however, many of the decisions benefited the incarcerated population of South Africa, clearly an “underprivileged” population – in social, economic and political terms alike. We calculated the number of beneficiaries as follows.

For *TAC*, the decision requiring the state to provide Nevirapine to HIV+ women to prevent mother to child transmission, we estimated a total of 55,000 beneficiaries. Nicoli Natras, a South African health economist, estimates that around 110,000 cases would have been averted from 2001-2005 had the state aggressively rolled out PTMCT in 2001 at 10% coverage and

²⁵ Available at <http://www.kff.org/southafrica/20021125a-index.cfm>

ramped up to 90% by 2006. She assumes a somewhat more aggressive form of treatment (AZT rather than single dose nevirapine), and the roll out was pretty slow, as Jonathan Berger (2008) points out. So we halved her estimates. We also assume that had it not been for the *TAC* case South Africa would have expanded PTMCT at the same time that it rolled out ARV treatment - in mid 2005.²⁶

For *Van Biljon*, which extends treatment to HIV+ prisoners, we estimate a total of 57,600 beneficiaries. We found that fully 40% of South Africa's prison population is HIV positive²⁷ and Berger (2008) finds that "the vast majority" of HIV+ prisoners are getting treatment, which we take to mean about 90%. The total prison population of South Africa is around 160,000.²⁸

Interim Procurement allowed the province of Gauteng to speed up procurement of ARV treatments despite resistance from the national government. As a result of the decision, ARVs were rolled out in March 2004, whereas the national government was promising to roll them out in March 2005 – we take the government at its word, assuming a roll-out one year earlier. The number of people on public sector ARVs by March 2005 was 42,000.²⁹ Note, however, that the estimated number of people receiving treatment in 2006 was 255,000 adults and 19,000 children,³⁰ suggesting that the decision might have had a significant impact in accelerating the government program.

The impact of *Hazel Tau* is harder to calculate. That court case led to an agreement with the major producers of ARVs that allowed generics to enter the market. At the time, there were approximately 700,000 HIV+ people in South Africa, of which perhaps 17% were actually

²⁶ Nicoli Nattrass, *The Moral Economy of AIDS in South Africa*, Cambridge Univ Press 2004.

²⁷ http://www.kaisernetwork.org/daily_reports/rep_index.cfm?DR_ID=16138;

http://whqlibdoc.who.int/publications/2007/9789241596190_eng.pdf

²⁸ http://www.kcl.ac.uk/depsta/rel/icps/worldbrief/africa_records.php?code=45

²⁹ <http://richardknight.homestead.com/files/SouthAfrica2006-PopulationandHIV-AIDS.pdf>

³⁰ Table 3, page 5, <http://www.statssa.gov.za/publications/P0302/P03022009.pdf>

receiving treatment (other estimates place the proportion at 19-20%).³¹ We take the resulting number (700,000 * 17%=119,000) as the potential number of beneficiaries of this litigation. A more conservative estimate might rely on the number of people who were unable to purchase name brand ARVs, but could afford the generics. We prefer to use the number of people receiving treatment for an illness because this parallels the methodology we used in Brazil. Moreover, since we are primarily interested in the mix of privileged and underprivileged rather than in the total number of beneficiaries, using the alternative method would not greatly affect our results (indeed, since the education cases are completely skewed toward the underprivileged, reducing the number of health beneficiaries increases the total estimated redistributive impact of litigation in South Africa).

Education

In the education rights area, the number of important cases and of beneficiaries is smaller. Moreover, all these decisions relate to “underprivileged” classes. One extends education benefits to the children of asylum seekers, pending a decision on their application, and the other requires the state to continue a subsidy for poor children. The decisions that benefit people in private schools, or that relate to primarily white *Afrikaner* schools, do not apply to more than a handful of people. The result, as shown in the following table, is that the effects of social and economic rights litigation are much more tilted toward the poor in South Africa than in Brazil. We estimate the beneficiaries of *Premier, Mpumalanga* at 22,500. According to the decision, in the year in question, R9 million were allocated for these grants, which were capped at about R400 per student. The court held that the grants could not be interrupted, at least for that year. All the grants went to indigent children who attended predominantly white schools.

³¹ <http://www.guardian.co.uk/southafrica/story/0,,1864291,00.html>

The beneficiaries of *Watchenuka* are school-age asylum seekers. In 2008 there were approximately 150,000 asylum seekers or refugees in South Africa. Among migrants generally, about 45% are school aged.³² If we assume that the proportion is similar for asylum seekers, then the number of school-age asylum seekers is about 68,500.³³ Of this number, about 25% were still not attending school several years after the decision, suggesting a compliance rate of about 75%. This results in an estimated number of beneficiaries of 50,625 ($150,000 \times 0.45 \times 0.75$). We summarize all these calculations in the following table.

³² CRUSH, J. and WILLIAMS, V. (2001) 'Making up the Numbers: Measuring "Illegal Immigration" to South Africa', Migration Policy Brief 3. Cape Town: Southern Africa Migration Project.

³³ UNICEF report: For better implementation of migrant children's rights.
http://www.migration.org.za/sites/default/files/reports/2009/227_UNICEF_Migration_final_web.pdf

Table 15: Distribution of benefits in South Africa

Name of case	Description of case/benefits	N benefited	% underpriv'd	# underpriv'd	Standard for "underpr'd"
Health					
Van Biljon	HIV + prisoners entitled to treatment	57600	100%	57600	Prisoner
TAC	HIV + pregnant women and their children entitled to PMTCT	55000	69%	37950	<\$132/mo household income
Interim procurement	Gov must speed drug purchasing for all those who need ARV treatment	42500	69%	29325	<\$132/mo household income
Hazel Tau	Access to generics for HIV infected citizens of South Africa	119000	69%	82110	<\$132/mo household income
Total Health		274100	76%	206985	
Education					
Premier Mpumalanga	Strikes decision to end subsidies for poor children in mostly white schools	22500	100%	22500	Subsidies designed for low income children
Watchenuka	School age asylum seekers entitled to education (3/4 of all eligible attending by 2009)	50625	100%	50625	Asylum seeker pending decision
Total Education		73125	100%	73125	
Total		347225	80.67%	280110	

Indonesia

Our litigation survey identified a total of seven right-to-health and five right-to-education cases in Indonesia.³⁴ Five of these did not have a measurable impact. Of these five, two were efforts to sue for medical negligence (both were rejected), one was a claim to avoid the relocation of a school due to a land swap favoring developers (rejected by the court), one involved the student protests at a university (the students won the case in court, but it had no wider policy impact); and one was an abstract challenge to the new law on a national social security scheme (accepted by the court, but the scheme remains very much a work in progress³⁵). On the other hand, of the seven cases with some measurable policy impact, three involved losses in court: in these cases, the political authorities acceded to the petitioners' requests (at least in part) despite losing in court. By far the most significant case were a series of three cases involving judicial review of government funding for K-12 education, which contributed to a significant increase in funding for education in Indonesia.

Indonesian Citizens v. the Republic of Indonesia involved migrant workers returning from Malaysia and setting up camps in in Nunukan in East Kalimantan. A poverty mapping based on SUSENAS 1999 data showed the Nunukan district had total poverty rate of 40.15%, while the Nunukan subdistrict had total poverty rate of 28.34%.³⁶ It is apparent that workers were camping out in “Nunukan regency,” referring to the district as a whole.³⁷ Using BPS expenditure criteria, 32.7% of households in Nunukan were considered poor in 2007.³⁸ The BPS

³⁴ citation omitted.

³⁵ See for instance <http://www.ilo.org/public/english/region/asro/bangkok/events/sis/download/paper24.pdf>

³⁶ “Poverty Map of East Kalimantan: Poverty Headcount,” download from <http://www.smeru.or.id/report/research/povertymap/povertymap2.htm> -- specifically, the file is called “EastKalimantan_prov_subdistrict_fgt0.pdf”

³⁷ <http://www.thejakartapost.com/news/2003/01/30/039no-migrant-workers-nunukan039.html>

³⁸ Table 3 on page 186, <http://www.kitlv-journals.nl/index.php/jissh/article/viewFile/3640/4400>

urban + rural poverty line in March 2007 was 167Rp/month.³⁹ These numbers are likely an underestimate because these numbers shortly follow the economic crisis and may not be indicative of 2003 levels, several years into recovery.

People of Kebomas vs. Director of PLN and the Republic of Indonesia involved a claim by residents of Kebomas District in Gresik, which is an urban area in East Java, who claimed that they were being harmed by power lines near them. The power lines may or may not have affected their well-being, but we take their claims at face value. Overall, a World Bank policy research working paper “Measurements of Poverty in Indonesia: 1996, 1999, and Beyond” finds a poverty incidence of 9.4% in East Javan urban areas in February 1996.⁴⁰ We assume that one thousand people were affected, and of these 9.4% were underprivileged.

In *People of Buyat v. the Republic of Indonesia Government*, claimants argued that the pollution of Buyat Bay was responsible for health problems among residents. The litigants lost the case, but the government promised and eventually provided free medications and relocation of the families affected. Buyat Bay is in North Sulawesi. A research program spanning 2006-2009, using BPS measures of poverty (based on expenditure per capita) found 70.7% of households in Sangihe in North Sulawesi to be poor.⁴¹ The 2007 BPS rural poverty line was 147 Indonesian Rupiah per month.⁴² We estimate that 200 people significantly benefited and that of these 70.7% were disadvantaged.

³⁹ http://dds.bps.go.id/eng/brs_file/eng-kemiskinan-02jul07.pdf

⁴⁰ Table 4 on page 18, available at http://www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2000/10/07/000094946_00092205342356/Rendered/PDF/multi_page.pdf

⁴¹ Table 3 on page 186, <http://www.kitlv-journals.nl/index.php/jissh/article/viewFile/3640/4400>

⁴² Table 1 on page 2, http://unstats.un.org/unsd/statcom/statcom_08_events/special%20events/New_directions_social/Rusman_Heriawan_Paper.pdf

Opik v. Republic of Indonesia Government involved a claim of malpractice involving the production and distribution of polio vaccine to children (a child was paralyzed after receiving a polio vaccination). The plaintiff lost in court and apparently received no compensation, but the government did set up new health posts for distributing vaccines. In 2005, of 1290 households in Cidahu, 359 were considered poor – 28%. That study considered “poor” households to be those receiving rice assistance (in the “raskin program”), which itself is based on estimated national poverty data. National poverty line in 2005 for rural areas was 151K Rp/month. We estimate that 100 people benefited, of whom 28 were poor.

The most significant judicial interventions, however, were in the area of education funding. In the *Judicial Review of the 2005 State Budget Law*, and in two subsequent challenges on the same grounds, the Constitutional Court ordered the government to comply with a constitutional requirement that specified that the government devote 20% of its expenditures to education. These rulings contributed to an increase in education’s share of the budget from 7% to nearly 12% in the next few years (and eventually 20%, once the definition of the numerator changed).

UNESCO data below shows that children of preschool age make up a relatively small proportion of school-age children (approximately 14%, or 8494000 out of 59463000). Furthermore, the enrollment rate among preschool-age children is relatively low. Therefore, in calculating the socioeconomic breakdown of those affected, we focus only on primary and secondary students.

Indonesia

Population (1,000)	Total	Male	Female
Preschool age, 2006	8494	4325	4169
Primary school age, 2006	25394	12918	12476
Secondary school age, 2006	25575	12985	12590
Total population, all ages, 2007	231627	115682	115945
Official school age (years)	Entrance age	Graduation age	Duration
Preschool, 2005	5	6	2
Primary school, 2005	7	12	6
Secondary school, 2005	13	18	6
Compulsory education, 2005	7	15	9
Net enrolment ratio (%)	Total	Male	Female
Preschool NER, 2005	23.1	22.7	23.5
Primary school NER, 2005	94.5	96.2	92.9
Secondary school NER, 2005	57.4	57.7	57.1
Gross enrolment ratio (%)	Total	Male	Female
Preschool GER, 2005	33.4	32.9	34.0
Primary school GER, 2005	114.8	116.7	112.7
Secondary school GER, 2005	62.2	62.6	61.9
Entrance and transition (%)	Total	Male	Female
Primary net intake rate, 2005	40.8	41.5	40.0
Primary gross intake rate, 2005	118.3	120.3	116.1
Primary entrants with ECCE, 2005	38.1	37.5	38.8
Transition rate primary-secondary, 2004	78.5	78.6	78.3
Repetition and completion	Total	Male	Female
Primary repetition rate (%), 2005	4.6	5.5	3.6
Secondary repetition rate (%), 2005		0.7	
Survival rate to grade 5 (%), 2004	89.5	92.0	86.9
Survival rate to last primary grade (%), 2004	85.5	88.1	82.8
Primary completion rate (%), 2005	99.4	98.9	100.0
School life expectancy (years), 2005	10.6	10.8	10.5
Teaching staff	Pupil/teacher ratio	% trained teachers	% female teachers
Preschool, 2005	15.6		97.7
Primary school, 2005	20.4	93.5	61.0
Secondary school, 2005	11.8	53.0	43.5
Public expenditure per student as % of GDP per capita			
Primary school, 2003	2.6		
Secondary school, 2003	4.9		
Total public expenditure on education			
As % of GDP, 2003	1.0		
As % of total government expenditure, 2002	9.0		

Data sources:

Population: United Nations Population Division, *World Population Prospects: The 2006 Revision*, March 2007.

Education: UNESCO Institute for Statistics, Data Centre, <http://stats.uis.unesco.org/unesco/ReportFolders/ReportFolders.aspx>, January 2008.

URL for this table: http://www.childinfo.org/files/EAPR_Indonesia.pdf

Information from the 2003 SUSENAS (National Socio-Economic Survey) breaks down net enrollment by income quintile.

A.1 Enrolment

Table 1 Net enrolment (Susenas 2003 core)

	Primary (age 7-12)	Junior secondary (age 13-15)	Senior secondary (age 16-18)
Quintile 1 (poorest)	91.59	47.18	18.15
Quintile 2	93.52	59.76	30.33
Quintile 3	93.28	67.29	41.38
Quintile 4	92.82	72.96	51.64
Quintile 5 (richest)	91.39	77.30	64.29
Urban	92.17	72.72	56.06
Rural	92.79	57.46	28.72
Indonesia	92.55	63.49	40.55
N	118,871	54,393	54,814

(Table from “Free Basic Education in Indonesia: Policy Scenarios and Implications for School Enrolment” by Vic Paqueo and Robert Sparrow, <http://www.robertsparrow.net/PaqueoSparrow2005.pdf>)

Looking at the net enrollment numbers, we can estimate the percentage of enrolled students coming from each quintile of income. We assume that the numbers of students in junior secondary and senior secondary are equal. Table 16 displays the percentage of children in each income quintile that are enrolled in primary and secondary school, where junior and senior secondary numbers have been aggregated. We assume that each quintile exactly represents 20% of students.

Table 16

	Primary	Secondary (Jr & Sr)
Q1 (poorest)	18.318 =(91.59*.2)	6.533
Q2	18.704	9.009
Q3	18.656	10.867
Q4	18.564	12.46
Q5 (richest)	18.278	14.159
Total	92.52	53.028

Table 17 displays the percentage of enrolled students who are in each income quintile. Though the composition of primary school students appears equitable, inequality is dramatic in secondary schools.

Table 17: Income distribution of public school students in Indonesia

	Primary	Secondary (Jr & Sr)
Q1 (poorest)	19.8 = 18.702/92.52	12.32
Q2	20.216	16.99
Q3	20.164	20.493
Q4	20.065	23.497
Q5 (richest)	19.756	26.701
Total	100	100

From UNESCO's data, we know the total number of enrolled students in primary and secondary school: 29,050,834 in primary, all grades; and 15,872,535 in secondary, all grades, all programs. Note that these include public and primary school students. This makes for a total of 44,923,369 students in primary and secondary school. The table below shows the fraction of that number in primary and secondary. Our analyses include both *all* schoolchildren into account because a change in the government budget affects both via substantial government subsidies for private schools.⁴³ We also note that the share of students in primary school is, then 64.7%, and those in secondary constitute 35.3% of students. Using this split and Table 17, we can calculate the percentage of total (enrolled primary and secondary) students comprised by each income quintile, shown in Table 18.

⁴³ http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2010/04/10/000262044_20100412130337/Rendred/PDF/Project0Inform1t0110Appraisal0Stage.pdf

Table 18: Income distribution of both primary and secondary public school students in Indonesia

	% of total
Q1 (poorest)	17.182
Q2	19.087
Q3	20.279
Q4	21.266
Q5 (richest)	22.187
Total	99.951

We take students in the lowest two income quintiles to be disadvantaged. The lowest two income quintiles in Indonesia are very poor in global terms. World Bank figures show that approximately half of Indonesians consumed less than US\$2/day in 2007.⁴⁴ Most of the increase in the education budget in Indonesia went to increase teacher salaries and improve teacher training. From previous work, we estimate that 750,000 Indonesian students would significantly benefit from the increase in educational expenditures.⁴⁵ Of these 36.3% come from the lowest two income quintiles.

Table 19: Indonesia Distributive Impact

⁴⁴ <http://go.worldbank.org/BEQZ2K3MR0>

⁴⁵ We assumed that one out of every sixty teachers would significantly change their teaching practices as a result of the higher educational, or would be replaced by more qualified teacher. The teacher-student ratio in Indonesia is 20:1.

Name of case(s)	Description and demographics of those affected	N affected	Percent under-privileged	N underprivileged
026/PUU-III/2006: Judicial Review of the 2006 Budget Law 011/PUU-III/2005: Judicial Review of the National Education System Law in the Constitutional Court 012/PUU-III/2005: Constitutional Court Judicial Review of the 2005 State Budget Law	Increased government funding for education, impacts both public and private school students due to government subsidies for private schools	750,000	36.3%%	272,250
28/Pdt.G/2003/PN.JKT.pusat: Indonesian Citizens v. the Republic of Indonesia	Accusations of neglect of migrant workers deported from Malaysia and housed in poor conditions Nunukan	25000	40%	10000
007/PUU-III/2005: Judicial Review of the National Social Security System Law in the Constitutional Court by East Java Legislative Council	Allowed local governments to continue providing social security schemes, impacted assumed to formal sector employees making below minimum wage	10000	30%	3000
35/PDT.G/1994/PN.JKT.PST: People of Keomas vs. Director of PLN and the Republic of Indonesia	Health complaints due to high tension power wires constructed in residential areas— still awaiting decision , but resulted in policy changes	5000	9.4%	470
406.PdtG/2004/PN.Jaksel: The People of Buyat v. the Republic of Indonesia Government	Pollution of Buyat Bay sparked health problems among residents—government promised free medication and relocation of families	200	70.7%	140
13/Pdt.G/2005/Pn.Cbd: Opik v. Republic of Indonesia Government	Negligence in production and distribution of polio vaccine to children in Cidahu	100	28%	28
21/G.TUN/2001/PTUN-JKT: Petition to nullify Administrative Action of the President of the University of Indonesia	Legality of suspension of protesting students—no relevant policy implications	0	0	0
PTJ.PDT.425.837.2004: The Melawai Junior High School Case 41/Pdt.G/2005/PN.Bekasi: Iwan Pahriwan v. Dr. Ottman	2 cases where court ruled against claimant	0	0	0

Nasution, Karya Medika Hospital and the Republic of Indonesia Government				
42/Pdt.G/2005/PN.JKT.PST: Manteb Mulyono v. dr Amir Toib and the Republic of Indonesia	1 case rejected by court	0	0	0
TOTAL		790,300	36.17%	285,888

Nigeria

In Nigeria, our study identified forty-six cases related to health and education rights in the states of Lagos, Rivers, and Kaduna.⁴⁶ The large majority of these claims were denied full hearings (often, the targets of the litigation in Nigeria successfully use interlocutory appeals to fight social and economic rights claims), lost on the merits, or had negligible impact. Six streams of litigation, which are described below, appeared to have measurable effects.

Adenwole and others vs. Alhaji Jakande and others was a 1981 case in which the court blocked the government's attempt to nationalize private schools in the state of Lagos. In 1980, of 10.8 million students nationally, we estimate that the share of students in Lagos was the same as its share of the national population (about 1/15), meaning that there were 720,000 students in Lagos. Using a 94% primary gross enrollment rate for 1980, we estimate net enrollment at 75%, and estimate that 10% of Lagos students were enrolled in private schools.⁴⁷ And of the 72,000 students in private schools, 25% were disadvantaged (enrolled mostly in religious or mission schools).

Garba vs. University of Maiduguri, a case from 1986, along with six other cases, established due process rights for university students under the threat of suspension or expulsion. We estimate that of the 1 million university students in Nigeria, about 1% will be affected by the due process standards, that enforcement of these standards will occur about half the time in Nigeria, and that 10% of these university students are disadvantaged in Nigeria.⁴⁸

Festus Odafe and others vs. AG Federation and others set standards of medical care for very ill HIV/AIDS patients. Of the 60,000 inmates in Nigeria, we estimate that 10% are HIV-

⁴⁶ Odinkalu, Chidi. 2008. The Impact of Economic and Social Rights in Nigeria: An Assessment of the Legal Framework for Implementing Education and Health as Human Rights. Courting Social Justice: Judicial Enforcement of Social and Economic Rights in the Developing World. V. Gauri and D. M. Brinks. New York, Cambridge University Press: 183-223.

⁴⁷ <http://data.worldbank.org/data-catalog/world-development-indicators>

⁴⁸ http://www.bc.edu/bc_org/avp/soe/cihe/inhea/profiles/Nigeria.htm

positive, and that only 10% of these will receive substantial benefits. We treat all of the inmates as disadvantaged.⁴⁹

The case *Dr. Basil Ukaegbu vs. Attorney General of Imo State*, in 1983, guaranteed the right to establish private universities. There are currently some 25 private universities in Nigeria, the largest of which has 7000 students. Twenty-six private universities existed during the late 70s-early 80s.⁵⁰ The decision dates from a period when the government was closing down private universities, and does not appear to have prevented the military government from shutting down private universities in 1984 anyway.⁵¹ Most of the existing private universities are the result of an Obasanjo initiative in 1999, not the court's decision. So we assume that the case impacted only the students and faculty at the particular university in this case, totaling 525.⁵²

Mohamad Abacha vs. the State, Fawehinmi vs. the State, Federal Republic of Nigeria vs. Daniumam Ibrahim and others, and related cases involved the granting of bail to detainees in poor health. There are 37,000-48,000 pretrial detainees in Nigeria. We estimate that 1% are ill, and we treat all as underprivileged. A related case is *Ishmael Azubuike and others vs. AG of the Federation and others*, which established the right of mentally ill inmates to treatment. We estimate that 1% of inmates are mentally ill, and that only half actually receive benefits from the decision.

Overall, we estimate that 25.3% of those benefiting from social and economic rights litigation were underprivileged. This is the lowest of any of the countries in our sample.

⁴⁹ <http://indexmedicus.afro.who.int/iah/fulltext/HIV-aids-prison.pdf>

⁵⁰ Page 42, <http://www.codesria.org/IMG/pdf/2-obasi5-2-2007.pdf>

⁵¹ http://www.bc.edu/bc_org/avp/soe/cihe/newsletter/Number45/p14_Obasi.htm

⁵² <http://www.unilorin.edu.ng/journals/education/ije/june1984/PROLIFERATION%20OF%20UNIVERSITIES,%20THE.pdf>

Table 20: Distributive Impact of Health and Education Rights Cases in Nigeria

Name	Description and demographics of those affected	Number affected	Percent Underprivileged	N underprivileged
Adewole and others vs. Alhaji Jakande and others	1981: blocked nationalization of schools, affected students enrolled in private school	72000	25%	18000
Garba vs. University of Maiduguri (+6 other cases)	Changes in university due process standards, other cases also involved university conduct, ultimately dealt with due process claims	5000	10%	500
Festus Odafe and others vs. AG Federation and others Odoh Nwopeh vs. Nigeria Prison Service	Medical care and reasonable conditions for very ill HIV+ inmates	600	100%	600
Dr. Basil Ukaegbu vs. Attorney General of Imo State	Protected right to establish private universities, but the military government shut down private universities in the following years regardless	525	10%	53
Mohamad Abacha vs. the State Fawehinmi vs. State Federal Republic of Nigeria vs. Danjuma Ibrahim and other	Multiple cases dealing with granting bail to pretrial detainees in poor health.	400	100%	400
Ishmael Azubuike and others vs. AG of the Federation and others	Right of mentally ill inmates to treatment	300	100%	400
	16 cases where court ruled against plaintiff	0	0	0
	16 cases with no impact beyond case	0	0	0
TOTAL		78825	25.3%	19953

India

The Indian courts have intervened extensively on health and education rights, especially after they became increasingly involved policy making around 1980, and after their decision to read what were formerly non-justiciable socioeconomic rights into the justiciable right to life. Our research identified 382 cases or orders that addressed the rights to health and education in the High Courts and the Supreme Court.⁵³

However, as many observers have noted, the enforcement and implementation of these rulings has been lax, with many having no discernible impact on the ground. Instances of court rulings that have had little measurable effect on policy outcomes include a ban on child labor, a ban on corporal punishment in schools, a series of rulings on clean water, a requirement that cyclists wear helmets, rulings on hospital quality, a ban on smoking in public places,⁵⁴ permitting price controls on drugs (this is just now being enforced), limiting the right to strike of health care providers, permitting criminal prosecution of medically negligent health care providers, regulating the fees charged by private minority institutions, extending the right to pre-primary education, setting up a few schools for blind children, and cases requiring the closing of polluting factories and setting up green zones. There were also many other cases involving individual claims to access government social benefits schemes and educational institutions. We do not attempt to quantify the distributive effects of these cases because their benefits were always limited to the individual claimants, and their contribution to the impact and distribution of health and education rights litigation in India was swamped by the major regulations cases.

Blood banks. An Indian case from 1998 required the government, in the context of the global HIV/AIDS crisis, to guarantee the safety of the nation's blood supply. What were the

⁵³ Shankar, Shylashri. and Pratap B. Mehta. 2008. Courts and Socioeconomic Rights in India, in Courting Social Justice: Judicial Enforcement of Social and Economic Rights in the Developing World, V. Gauri and D.M. Brinks, eds. Cambridge University Press.

⁵⁴ It was made a punishable offense in a Supreme Court case in 2001, but rules implementing the ban were not put in place until 2008, and enforcement is still spotty.

effects of this case? Our estimate proceeds as follows. The overall HIV incidence rate fell 25% from 2001-2009, and the estimated incidence rate in the late 1990s was 500,000 new cases of HIV per year. The case and the policies associated with it resulted in a 2 percentage point reduction in new infections attributable to blood transfusions.⁵⁵ But contamination from blood products still accounted for 2% of HIV cases in 2007.⁵⁶ Blood contamination was responsible for an estimated 5% of cases in 1998.⁵⁷ We draw a straight line estimating the number of cases from blood transfusion from 1998-2006, and use these data to estimate that these policies averted 62,000 HIV infections through 2006 (the standard cutoff date for the India calculations). In India, an estimated 23% of hospitalizations involve patients in the lowest two income/ consumption quintiles (they receive 23% of the subsidy benefits for inpatient care).⁵⁸ So the overall number of cases averted is 62,000, and of these 14,260 were disadvantaged. We exclude here the potential effect of the case on encouraging people to go to hospitals, the effects of which are very hard to estimate. The table below shows the calculations.

Table 21: Transfusion-related HIV Cases Averted in India

Year	HIV prevalence	Transmission from blood	Cases from blood	Blood cases averted
1998	500000	5%	25000	0
1999	500000	5%	25000	0
2000	500000	4%	20000	5000
2001	500000	4%	20000	5000
2002	500000	3%	15000	10000
2003	500000	3%	15000	10000
2004	480000	3%	14400	9600
2005	460000	3%	13800	9200
2006	440000	2%	8800	13200
2007	420000	2%	8400	12600
2008	400000	2%	8000	12000

⁵⁵ <http://news.bbc.co.uk/2/hi/health/4855952.stm>

⁵⁶ <http://www.nejm.org/doi/full/10.1056/NEJMp078009>

⁵⁷ <http://gateway.nlm.nih.gov/MeetingAbstracts/ma?f=102230071.html>

⁵⁸ <http://siteresources.worldbank.org/HEALTHNUTRITIONANDPOPULATION/Resources/281627-1095698140167/Mahal-ThePoorAnd-whole.pdf>

2009	380000	2%	7600	11400
2010	360000	2%	7200	10800
2011	350000	2%	7000	10500
Total				119300
TOTAL through 2006				62000

Vehicular pollution. In a series of cases culminating in a 2001 order, the Indian Supreme Court prompted the Delhi government to take a number of steps to require commercial vehicles in the city to use cleaner fuels. This resulted in sharply lower rates of respirable suspended particulate matter (RSPM) in the air around Delhi, which in turned saved a number of lives and averted many illness episodes among Delhiites. A World Bank study developed four estimates for the number of lives saved and illness episodes averted in Delhi if the RSPM rates were to fall, relative to the 2001 reference value of 180 micrograms per cubic meter.⁵⁹ The first of these estimates assumed a decline of 75 micrograms per cubic meter, and calculated that this would be associated with saving 3629 lives per year. This estimate turned out to be very close to the actual decline that occurred following the conversion of the commercial vehicles. Indeed, a report from the Central Pollution Control Board, for instance, showed an average RSPM rate of 114 in the Delhi monitoring stations in the year 2005, or a decline of 66 micrograms per cubic meter.⁶⁰ Assuming a linear relationship between decline in RSPM and mortality, the observed decline is, then, estimated to have saved 3194 lives per year. If one assumes that half of that decline occurred in the year after the court order, and that the remainder occurred in the second year, as

⁵⁹ http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2006/01/27/000160016_20060127124503/Rendered/PDF/350470PAPER0IN0Breath0of0fresh0air.pdf

⁶⁰ http://cpcb.nic.in/Data%20Search/Air%20Quality%202005/rspm_2005.PDF. An MIT study in 2011 found a rate of 120 in Delhi, still twice the amount prescribed in national standards and twice the rate in Tokyo, but consistent with a decline following the policy changes of 2001. See <http://indiatoday.intoday.in/story/mit-study-high-rspm-in-delhi-air-pollution/1/145975.html>. The study with the richest dataset supports the relationship between the change in fuel standards and decline in RSPM: <http://www.rff.org/documents/RFF-DP-07-06.pdf>. But for a contrary view, see http://jh302-nk-01.iowa.uiowa.edu/papers/NK_Andy_DAO_FinalVersion_EPW.pdf

the evidence suggests,⁶¹ then these court-ordered policies saved an estimated 14,323 lives in Delhi from 2002-2006. But they also had an effect on morbidity rates. A meta-review, using Indian data, finds that each life lost from air pollution is associated with 491 serious illness episodes (requiring hospital admission or medical treatment). The Delhi vehicular pollution case, then, averted 7,032,593 cases of serious illness over the five-year period.⁶²

But because the present exercise is interested in identifying the number of people significantly affected by the court cases, we need to determine how many individuals had at least one illness episode averted. This is a difficult calculation. No data were available on the distribution of these averted illness episodes. It is arguable that almost every Delhiite was affected in some way by the decline in RSPM, but we think the estimate should be less dispersed. One study estimates that in Gujarat children suffer 6-8 acute respiratory infections per year, and adults 2-4.^{63 64} If the numbers for Delhi are similar, then there are 4.6 infections per capita per year in Delhi, 23 infections per capita over the five-year period, for a total of about 292.5 million infections. Averting 7,032,593 million infections in the population as a whole would be equivalent to reducing half the disease burden on 4.8% of the population of Delhi, or on 610,693 people. Another way to think of this is to look at the number of Delhiites who suffer from chronic respiratory conditions, and to argue that they were the particular beneficiaries of a policy like this. The prevalence of asthma in Delhi is estimated at 1.69% among adults,⁶⁵ and

⁶¹<http://cpcb.nic.in/Data%20Search/Air%20Quality%20of%20Delhi/2003%20AMBIENT%20NOISE%20LEVEL%20AND%20AIR%20POLLUTION%20DURING%20DEEPAWALI%20.pdf>

⁶² <http://www.ias.ac.in/currsci/sep252004/741.pdf> . A study of the effects of air quality in Dhaka also finds a very large effect of RSPM on morbidity rates:

<http://www.indiaenvironmentportal.org.in/files/Morbidity%20Costs%20of%20Vehicular%20Air%20Pollution.pdf>

It is likely that the Indian Supreme Court decision influenced the trajectory of environmental policies in Bangladesh and other South Asian countries, as well, but we do attempt to estimate those effects.

⁶³ Bipin Prajapati, Nitiben Talsania, Sonaliya K N, A Study On Prevalence Of Acute Respiratory Tract Infections In Under Five Children In Urban And Rural Communities Of Ahmedabad District, Gujarat, National Journal of Community Medicine Vol 2 Issue 2 July-Sept 2011: www.njcmindia.org/home/download/135

⁶⁴ <http://www.indmedica.com/journals.php?journalid=3&issueid=91&articleid=1274&action=article>

⁶⁵ <http://searednet.org/documents/INSEARCH%20ASTHMA.pdf>

4.6% among children.⁶⁶ Putting these together, along with population data for Delhi, leads to an estimate of 436,372 individuals affected by the court cases. (This may be an underestimate because it does not include individuals with other chronic respiratory disorders). We simply average this figure with the previous one for our estimate of the effects of the case in Delhi: 523,532 individuals.

But the Supreme Court also directed sixteen additional Indian cities to adopt similar policies for air quality.⁶⁷ These additional cities had a population of 67.8 million in 2001. If one assumes that the number of people affected by these policies is the same as in Delhi, on a per capita basis, then these policies would have affected 2,794,922 individuals. But the establishment of CNG outlets and the phasing out of “grossly polluting vehicles” is still at an early stage in Agra, Ahmedabad, Faridabad, and other cities that the Supreme Court addressed. We estimate, roughly, that the overall level of implementation is only 1% of that in Delhi, so 27,949 people in other cities have been significantly affected. The total estimate is, then, $523,532 + 27,949 = 551,481$ people. Note that these are all very conservative estimates.

For the estimate of *disadvantaged* beneficiaries, we assume the distribution of these illness episodes follows the same distribution of asthma in the general population. WHO data show that 47% of diagnosed asthma sufferers in India come from the lowest two income quintiles.⁶⁸ Then the number of disadvantaged beneficiaries is $551,481 \times 47\% = 259,196$ people. This is again very likely to be an underestimate because (unlike the Brazilian cases, in which contact with the health care system was necessary to benefit) the court decision benefitted all asthma sufferers, not just diagnosed asthma sufferers, and rates of diagnosis are likely to be significantly lower for the lower income groups.

⁶⁶ http://cpcb.nic.in/upload/NewItems/NewItem_162_Children.pdf

⁶⁷ http://cpcb.nic.in/upload/NewItems/NewItem_104_airquality17cities-package-.pdf

⁶⁸ http://www.who.int/healthinfo/survey/whs_hspa_book.pdf

Alternative Dispute Resolution. A Supreme Court ruling allowed patients to pursue claims of medical negligence in Consumer Tribunals under the Consumer Protection Act (COPRA). The WHO estimates that there were 645,825 doctors in India in 2004.⁶⁹ A study estimated that in Gujarat this mechanism was resulting in 28 claims per month.⁷⁰ Gujarat had population 51 million in 2001, 5% of total population of India, so we estimate that there were 5% of total doctors there, or 32291 doctors. If there were 28 law suits per month in Gujarat, say 336 per year for 32291 doctors; that would be .01 per doctor per year, or 6458 per year for the country. So a physician in India had a 1% chance of being the subject of a COPRA claim in a given year. If 71% of cases are disposed in favor of doctors (as was the case in Gujarat), then 0.29% of doctors in India lose claims each year, or 1873 doctors per year. We estimate that for each who loses a claim, another one significantly changes his behavior. So the cases affect 3,746 physicians per year. If each physician sees 10 patients per day, or 2000 per year, then these doctors see 7,492,000 patients per year. We estimate that of these patient encounters, 1 in 50 is significantly affected by the prospect of a potential claim. Then, there are 149,840 patients per year who benefit.

Note that all this only applies to the private sector physicians. As noted above, of all private sector hospitalizations, the lower income quintiles accounted for 13.3%. So the total number of disadvantaged beneficiaries were $149,840 \times 13.3\% = 19,929$ per year. So, from 1996-2006, there were $11 \times 149,840 = 1,648,240$ total beneficiaries and 219,216 disadvantaged beneficiaries.

HIV/AIDS treatment and prevention. There was a stream of litigation on workplace discrimination and public health policies; but these did not have direct, identifiable effects on particular policies. The same is true with cases on treatment for the armed forces. For the case

⁶⁹ <http://apps.who.int/globalatlas/>

⁷⁰ <http://heapol.oxfordjournals.org/content/11/3/265.full.pdf+html?ck=nck>

dealing with the provision of AIDS treatment to the general population, we estimated that 10,000 people benefited. In the distribution of household assets, the lowest two quintiles account for 34% of HIV cases. If AIDS treatment were to follow the same distribution, 3,400 of the 10,000 people who benefited from AIDS treatment as a result of court rulings would be disadvantaged, according to this criterion.

Bhopal hospital for victims of the Union Carbide incident. In 1992, the courts confirmed a settlement for gas leak victims that included financing for a hospital, but the hospital opened to the public only in 2001. The secretary of the hospital trust wrote that 370,000 Bhopal Union Carbide gas victims were treated free of cost at the hospital or at its mini units. There are no data on the income levels of Bhopal gas victims.⁷¹ We assume that the distribution of gas affected people evenly across the income distribution. As a result, 40% of 370,000 = 148,000 individuals were disadvantaged.

Midday meals. A stream of litigation related to the right to food converted the government's food supplementation schemes into constitutional entitlements. Its effect on the ground was largest for the midday meals program in schools, which is also the program for which the most detailed studies exist. Estimates of introducing cooked mid-day meals (compared to the counterfactual of the previously existing program that distributed uncooked grains to attending kids and their families) range from 9-18% for grades 1 and 2⁷² to a 10% increase in enrollment of girls in grade 1.⁷³ The last estimate is more conservative. Total enrollment in government schools in 2000 was 114 million total. Of this, 80% was in government schools, so there were a total of 91.2 m kids in government schools. Of these 42 million were girls, and of these an estimated 5.5 million were in grade 1. So the potential impact of the program was to bring 550,000 girls into school each year, but we estimate, conservatively, that three-fourths of

⁷¹ <http://www.thehindu.com/opinion/op-ed/article518949.ece>

⁷² http://www.isid.ac.in/~pu/conference/dec_10_conf/Papers/RajiJayaraman.pdf

⁷³ <http://www.isid.ac.in/~pu/dispapers/dp10-02.pdf>

all districts are actually implementing the program. Then the program resulted in 412,500 new girls in school each year from 2001-2006, or 2,475,000 girls in total. All of these were likely disadvantaged.

But, significantly, there is also evidence that the midday meals program increased the caloric, protein, and carbohydrate intake of children by an average of 49-100%.⁷⁴ So an upper bound for people who benefited nutritionally from this program is all children enrolled in government primary schools in India, or about 91 million in year 2001, plus all the new children who entered school from 2001-2006, which was an estimated 14 million per year for five years, for a total of 163 million students. If we estimate, again, that three-fourths of districts were implementing the program effectively, the number would be 124 million. Of the enrollment in government schools, an estimated 49% come from the lowest two income quintiles.⁷⁵ So the number of disadvantaged children benefiting nutritionally from the program would be 124 million x 49% = 60.8 million children, in the years 2001-2006.

But how many people benefited in a robust sense from this increase in nutrition? One way to think of this is to identify students who suffer nutritional deficits. Possible categories include children “stunted,” “wasted,” or clinically “underweight.” We use the smallest of these categories – those wasted. (This is also consistent with the stronger observed effect of school meals programs in drought stricken areas, where acute, rather than chronic, nutrition is the problem). An estimated 20% of children under the age of five are “wasted” (low weight for height).⁷⁶ Although this is a different age group than the school age population, it is likely close to accurate for school age children in their first year. At the same time, it is a conservative number because it does include micronutrient deficiencies among school age kids, which, if

⁷⁴ <http://www.sciencedirect.com/science/article/pii/S0304387809000169>

⁷⁵ <http://siteresources.worldbank.org/INTINDIA/2132853-1191444019328/21497941/SankarProgressinElementaryEducationusingNSS.pdf>

⁷⁶ <http://www.measuredhs.com/pubs/pdf/OD56/OD56.pdf>

included, would dramatically increase the number of beneficiaries (70% of school age children in India suffer from anemia, and 26% from severe anemia). We assume that the wasting rate in children not in school is twice that of the general population, or 40%, and that the rate of wasting in children enrolled in private school is half that of the general population, or 10%. An estimated 25 million children of primary school age were not attending school during the 2004/2005 school year, and an estimate 30 million were in private unaided schools around the same time period.⁷⁷ So the share of kids enrolled who are wasted is γ , where $((91 \text{ million} * \gamma) + (25 \text{ million} * 40\%) + (30 \text{ million} * 10\%))/(146 \text{ million}) = 20\%$, or $\gamma = 17.8\%$. Then the wasting rate among students not enrolled is $40/18=2.2$ times higher than that of the population enrolled in government schools. And it means that the number of beneficiaries is $124 \text{ million} * 17.8\% = 22.1 \text{ million}$ children. All of these would be considered biologically disadvantaged.⁷⁸ But because of

⁷⁷ <http://siteresources.worldbank.org/INTINDIA/2132853-1191444019328/21497941/SankarProgressinElementaryEducationusingNSS.pdf>

⁷⁸ But how many children who benefited in this sense were from the lowest income quintiles? At the population level, only 49% of “wasted” children in India come from the lowest two income quintiles. We assume that 60% of those wasted children not in school come from the lowest two income quintiles (others may be nutritionally better off but still not enrolled because of gender or caste discrimination, or because of handicaps). We also assume that 60% of those wasted children in private schools come from the lowest two income quintiles. Recall that we estimated that the wasting rate in children not in school is twice that of the general population, or 40%, and that the rate of wasting in children enrolled in private school is half that of the general population, or 10%. An estimated 25 million kids of primary school age were not attending school during the 2004/2005 school year, and an estimated 30 million were in private unaided schools around the same time period. Then we know that the total number of wasted children in government schools is 22.1 m, that 10 million of the 25 million students not enrolled are wasted, that there are 4 m who are wasted and out of school and in the top three income quintiles, 6 m are wasted and out of school and in the bottom two income quintiles, that 3 million of the 30 million children in private schools are wasted, that there are 1.2 million wasted kids in private schools are from the top two income quintiles, that 1.8 million wasted kids in private schools are from the bottom two income quintiles, that there were $17.8\% * 91 \text{ million} = 16.2 \text{ million}$ wasted students in government school that year, and that the total share of kids wasted in the bottom two quintiles is 49%.

a= number of wasted kids, enrolled, top three income quintiles
b= number of wasted kids, enrolled, bottom two income quintiles
c=number of wasted kids, not enrolled, top three income quintiles
d=number of wasted kids, not enrolled, bottom two income quintiles
e= number of wasted kids, private schools, top three income quintiles
f= number of wasted kids, private schools, bottom two income quintiles
 $(b+d+f)/(a+b+c+d+e+f)=0.49$
c= 4 m
d= 6 m
e=1.2 m
f=1.8 m
a+b=16.2 m

concerns about whether these results can be generalized (food quality is not uniform across India, and some households may be providing less food at home to program beneficiaries), we cut this number by two-thirds, to 7,366,667 students.⁷⁹ Then, adding in the above estimates for the effect on school attendance, the total number of beneficiaries is 9,841,667. All of them are disadvantaged.

One could argue that not all of these “wasted” children are from the lower two income quintiles (see note 76), and that these “richer” students are capturing benefits intended for the poorest individuals in India. But it is difficult to maintain that “wasted” children, even if they are not from the lowest two income quintiles, are advantaged individuals “capturing” benefits not intended for them. One could also argue that the program benefits all Indian children, wasted or not, whether from the lowest income quintiles or not. But the extent of the “benefit” for other families is not large – an average of 2-3% of household spending on food. This does not appear to be a program that middle class Indian families lobbied for, and that incidentally benefits poor and stunted children. Rather, the program was designed for poor and disadvantaged children. Universal provision in schools, rather than means testing, seemed the most cost-effective way of reaching them. That is why we argue that almost all of the beneficiaries of the program were disadvantaged. But for comparison, alternative figures, based on note 76, are given below.

Extend teacher qualification posts. A series of cases moved to fill vacant teaching posts.

We previously estimated that there were 21,000 of these posts. If one estimates an average of 40

We can then calculate the total number of wasted kids in government schools from the lower two income quintiles as 6.5 million, or 40% of all wasted kids in government schools. Then there were 22.1 million x 40% = 8.9 million wasted students from the lower two income quintiles in government schools in the period 2001-2006. We do not use this estimate because we think it misses the fact that stunted children are disadvantaged; whatever their family’s wealth or consumption quintile, these children are suffering (intrahousehold allocations in India work to their disadvantage); and they are not advantaged in a global sense.

⁷⁹Retika Khera, 'Mid-day meals in primary schools: Achievements and challenges', in Rama V. Baru (ed), School Health Services in India: The Social and Economic Contexts (Sage Publications, 2008).

Abhijeet Singh, Do School Meals Work? Treatment Evaluation of the Midday Meal Scheme in India (2008) (University of Oxford).

students per teacher, that means that these cases benefited 84,000 students. An estimated 37% of these came from the lower two income quintiles.⁸⁰

Enhancing access to tertiary education. A series of court cases opened up access to tertiary education for individuals and groups. We estimate that 20,000 students were affected. Of these, only 11% are from lower income quintiles, or 2200.⁸¹

Table 22 shows the final calculations. Overall, we estimate that 83.6% of the beneficiaries of socio-economic rights litigation were disadvantaged. This number is driven largely by the midday meals case. Without the right to food litigation altogether, the share would have been 24.7%. Leaving out both the midday meals cases and the COPRA case - the two largest cases in terms of impact - the share would have been 41.7%.

Table 22: India Distributive Impact of Litigation Streams

Litigation Stream	N of people affected up to the year 2006	Share of disadvantaged people among people affected	N disadvantaged people affected
Blood banks	62,000	0.23	14260
Vehicular pollution	551,481	0.47	259196
Extending Consumer Protection Act to health care providers	1,648,240	0.133	219216
Free anti-retrovirals for AIDS patients	10,000	0.34	3400
New hospital for Union Carbide victims	370,000	0.4	148000
Midday meals in schools	9,841,667	1.00	9,841,667
Extend teacher qualification	84,000	0.37	31080
Expand access to tertiary education	20,000	0.11	2200
Total	12,587,388	0.84	10,519,019

⁸⁰ <http://siteresources.worldbank.org/INTINDIA/2132853-1191444019328/21497941/SankarProgressinElementaryEducationusingNSS.pdf>

⁸¹ http://imagebank.worldbank.org/servlet/WDSContentServer?IW3P/IB/2008/12/09/000158349_20081209111153/Rendered/PDF/WPS4793.pdf