Children's Use of Preventive Health Care: Can Community Programs Make a Difference?

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Although scholars and policymakers acknowledge the potential importance of community attributes for child well-being, establishing a causal relationship between the two is difficult. In this paper we use longitudinal data from Indonesia to examine how investments in children responded to a large and unexpected economic downturn, and whether children were protected by community efforts to put a social safety net in place.

After three decades of strong growth, Indonesia's economy took a major turn for the worse in 1998—a year in which per capita GDP declined by 15%. The economic changes in Indonesia were large and unexpected. In the space of less than a year, the average household found itself facing dramatically higher prices for food, health care, and other goods and services. Wages nowhere near kept pace.

1998 was the year of greatest chaos and volatility in Indonesia. Policymakers and donors responded by providing funds to communities to establish a variety of social safety net programs, several of which targeted children. By 1999 the economic growth rate in 1999 was positive, although low (1.5%), but had rebounded to almost 5% by 2000.

We examine changes over time in use of health care by young children and analyze whether children living in communities with strong safety net programs were protected from the most negative impacts of the economic crisis. We focus on use of care for children under five because at this age a number of preventive health care activities, such as growth monitoring, immunization, and provision of micronutrient supplements, can have important impacts on child well-being. Our research speaks to the questions of whether and how neighborhood activities can protect children during hard times, and whether debt-financed efforts to put an effective social safety net in place during a financial crisis succeeded.

DATA

Our data are from three rounds of the Indonesia Family Life Survey (IFLS), a longitudinal survey of individuals, households, communities, and facilities.

The IFLS represents 83 percent of the Indonesian population and contains information on over 30,000 individuals living in 321 communities. IFLS1, conducted in 1993, interviewed a total of 7,224 households (Frankenberg and Karoly 1995). IFLS2 was fielded in 1997 with the goal of reinterviewing all households that participated in IFLS1. IFLS2 succeeded at interviewing 94 percent of IFLS1 households and 91 percent of target respondents (Frankenberg and Thomas, 2000).

By January, 1998 it was clear that Indonesia would not be spared from the economic downturn gripping much of Asia. To provide information on the immediate impact of the crisis, we conducted another round of the survey one year after IFLS2. This survey, IFLS2+, interviewed a 25 percent sub-sample of IFLS households in 90 of the 321 original IFLS communities. IFLS2+ successfully interviewed over 98 percent of target households and 95 percent of target respondents. In 2000, a full resurvey of all IFLS households was conducted, again achieving a recontact rate of 95%.

In addition to the data collected about households and individuals, each wave of the IFLS contains extensive information on the communities in which individuals reside. Within each community interviews are conducted with the elected community leader, the head of the community women's group, and at up to 12 providers of health and family planning services. For the 2000 survey we designed an extensive set of questions on the social safety net programs that were put in place in response to the crisis. These questions were administered to the elected community leader, to the person in the community with responsibility for implementing the social safety net activities related to health, and at facilities that provide some form of preventive or curative care.

CHILDREN'S USE OF HEALTH CARE

In Indonesia children typically obtain health care from three types of places. Public health centers are government-operated clinics that provide both preventive and curative care to children and adults and conduct outreach activities in nearby communities. Many of the staff at these clinics also operate private practices. Private practices typically emphasize curative rather than preventive care, since it is a more lucrative activity. Users pay for services at public health centers and at private practices, but prices are

much higher at private practices, which are not subsidized by the government. In addition, at the neighborhood level, village volunteers organize a monthly activity, known as a community health post, which routinely provides three types of services for children: nutritional monitoring, immunization, and oral rehydration solution to children with diarrhea. The volunteers who staff the posts also organize twice yearly campaigns to distribute high-dose Vitamin A capsules to children. Vitamin A supplements strengthen their immune systems and protect them from eye problems brought on by Vitamin A deficiency. The services provided at the community health posts and the Vitamin A tablets are free.

The IFLS asks about children's use of health care in the four weeks before the survey, and about receipt of Vitamin A in the six months before the survey. The results for 1997 and 1998 are presented in the table below:

Table 1: Use of Care in 1997 and 1998

	1997	1998
Use of a Community Health Center	11%	10%
Use of a private practitioner	14	15
Use of a community health post	46	28
Receipt of Vitamin A	65	47

Children age 0 to 4 years in survey year.

Changes in use of a community health center and use of private services are small and not statistically significant. For use of community health posts and for receipt of Vitamin A, however, very large declines in use occur between 1997 and 1998. Such large changes in use of services that are free and that are meant to prevent childhood illnesses and conditions of ill health are troubling.

SOCIAL SAFETY NET PROGRAMS

In 1999 Indonesia launched a variety of social safety net programs designed to protect its population from the effects of the crisis. These included the distribution of free or subsidized rice, creation of jobs, provision of credit and scholarships, and several health programs. The health programs involved issuing cards that entitled the bearer to free health services at public clinics, efforts to revitalize the health posts, and provision of supplementary food to young children and pregnant women. The social safety net programs that focused on health were intended to protect use of services among the vulnerable (young children and pregnant women, in particular) and among those who could least afford them. In this paper we explore whether these programs had their intended effect.

PRELIMINARY RESULTS

With respect to overall use by children under five, levels in 2000 are almost identical to those in 1998. Just over 10% of children visited a community health center in the four weeks before the 2000 survey, while 16% visited a private practitioner, 27% visited a health post, and 45% received a Vitamin A tablet. Preliminary evidence from cross-sectional regressions (Table 2), however, suggests that the odds of use of health posts and receipt of Vitamin A were more than 30% higher in communities in which the health post revitalization program was implemented, and that the odds that children used public care in the four weeks before the survey were about 80% higher for children living in households that had been issued a health card. Possession of a health card has no effect on use of private care, as one might expect given that private practitioners typically did not provide free services to cardholders. These regressions include controls for a number of individual and household covariates, such as the child's age and gender, the mother's and father's age and educational levels, and household economic resources. The regressions also include controls for the average level of per capita expenditures in the community, and for aspects of the health service environment, such as availability within the community of a midwife (who is an important source of care for young children).

While suggestive that the social safety programs make a difference, cross-sectional results may well be biased by unobserved aspects of the community that affect both the availability of the social safety net programs and children's propensity to use health care. One approach to this problem is to pool the 1997 and 2000 data and include a dummy variable for the year 2000, and a community fixed effect (the equivalent of a dummy variable for each community). The results then reveal whether change in use of services differs depending on whether social safety net programs were available. This approach controls

for aspects of the community that are fixed over time and that affect both strength of social safety net programs and children's propensity to use care. Results from the fixed effects specification are almost identical to those from the cross-sectional regression, increasing our confidence that access to the social safety net programs did in fact protect children's use of care.

FUTURE WORK

Our results to date are suggestive that social safety net programs have affected behaviors in positive ways. We plan several other additions to the research. First, we will expand our outcome variables to include uptake of immunization, another key aspect of preventive care use. Second, we will estimate additional specifications that test the robustness of the results. For example, we will compare siblings' use of care over time, which will difference out fixed family-level features. We will also try, using the extensive community data from IFLS, to identify instruments that predict the availability and strength of health-related social safety net programs but that are otherwise unrelated to children's use of care. This will allow us to use an instrumental variables approach to eliminating bias from unobserved aspects of the community, and will free us from the assumption of the fixed effects model that such aspects are constant over time. Third, we will attempt to identify the mechanisms through which the health post revitalization program attracts user. Possible mechanisms include the regular provision of supplementary food at the health posts and availability of supplies and medicines at the health post.

Table 2
Preliminary Results for Children's Health Care Use and Access to Social Safety Net Programs

	2000 Cross-Sectional Regression				Pooled 1997 and 2000 data Community Fixed Effect			
	Use of Health Post	Receipt of Vitamin A	Use of Public Srv	Use of Private Srv	Use of Health Post	Receipt of Vitamin A	Use of Public Srv	Use of Private Srv
Mother's Ed 0 yrs	0.072	-0.53*	0.211	0.067	-0.044	-0.307*	-0.138	0.327
1-5 years	-0.169	-0.295*	-0.321	-0.088	0.014	-0.193*	-0.111	0.096
7-11 years	0.327*	0.112	0.079	0.43*	0.237*	0.094	0.074	0.381*
12 years or more	0.129	-0.045	-0.116	0.302*	0.111	-0.06	-0.093	0.187
Father's Ed 0 years	-0.164	-0.116	-0.133	-0.36	-0.188	0	0.211	-0.446
1-5 years	-0.011	-0.207	0.007	0.155	-0.104	-0.14	0.052	0.101
7-11 years	-0.126	-0.131	-0.038	-0.11	-0.162	0.001	-0.096	0.024
12 years or more	0.099	0.08	0.054	0.174	0.027	0.007	-0.071	0.293*
Child's age 0 yrs	0.488*	-0.505*	0.088	0.699*	0.6*	-0.773*	0.387*	0.729*
1 year	0.683*	0.64*	0.35*	0.728*	0.796*	0.443*	0.368*	0.818*
2 years	0.218	0.557*	0.114	0.264	0.389*	0.442*	0.23	0.413*
3 years	0.081	0.327*	0.089	0.126	0.257*	0.279*	0.168	0.037
Male	0.027	0.006	-0.046	0.047	-0.006	-0.006	0.001	0.056
HH per capita expenditures (ln)								
1st quartile	-0.435*	-0.124	-0.187	-0.516*	-0.367*	-0.231*	-0.296*	-0.615*
2nd quartile	-0.158	0.13	-0.036	-0.218	-0.137	-0.062	-0.092	-0.23*
4th quartile	0.064	-0.132	-0.31*	0.347*	-0.075	-0.123	-0.323*	0.365*
Urban residence	0.069	0.161*	0.17	0.054	-0.016	0.127	0.167	-0.032
Household has Health Card			0.594*	-0.07			0.538*	-0.161
Midwife present	0.088	0.212*	-0.069	0.133	0.133	0.083	0.147	0.047
Avg per capita exp (community)	0.089	0.196	0.011	0.218	-0.307*	-0.359*	0.193	-0.084
Community had Health Post Revital. Prg.	0.276*	0.265*			0.328	0.307		
Year 2000					-1.166*	-0.537*	-0.239	0.252
					(8.11)**	(3.94)**	-1.58	-1.93
Observations	4003	4003	4003	4003	6927	6945	5961	6430

Controls for maternal and paternal age, maternal and paternal presence in the household included. Logistic regression. Omitted category for maternal and paternal education is 6 years (completed primary school). Omitted category for children's age is 4 years. Omitted category for household per capita expenditures is the 3rd quartile.
* p<=.05.