Health Facility and School Surveys in the Indonesia Family Life Surveys

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I Introduction

The Indonesia Family Life Survey is a continuing longitudinal socioeconomic and health survey of households, communities and the service providers in Indonesia. It is based on a random sample of households residing in 13 of the nation’s 26 provinces in 1993. These 13 provinces include about 83% of the population of Indonesia as of 1993. The survey collects data on individual respondents, their families, their households, the communities in which they live, and the health and education facilities they use. The IFLS data are unique in several ways, including the panel nature of the data, the depth of the questionnaires, and the collection of data from the communities in which households reside. The availability of facility data among the information collected from communities is the focus of this paper.

The first wave (IFLS1 in 1993) was conducted on individuals living in 7,224 households (Frankenberg and Karoly, 1995). The IFLS2 sought to re-interview the same respondents four years later, including tracking respondents who had migrated from their 1993 (IFLS1) dwelling. This includes efforts to follow individuals who moved out of their previous household, such as young adult children moving away from parents. In the IFLS2, about 7,500 households were interviewed (Frankenberg and Thomas, 2000). The IFLS3, was fielded in 2000 and resulted in a sample of over 10,000 households, again reflecting the protocol of tracking respondents who have split from the original households and formed new households (Strauss et al., 2004a).

The IFLS contains a wealth of information collected at the individual and household level, including multiple indicators of economic well-being (consumption, income, and assets); education, migration, and labor market outcomes; marriage, fertility, and contraceptive use; health status, use of health care, and health insurance; relationships among coresident and non-coresident family members; processes underlying household decision-making; transfers among family members and inter-generational mobility; and participation in community activities. By simultaneously collecting data on a wide range of topics (as in the Living Standard Measurement Study surveys), the IFLS allows analyses of interrelated issues not possible in other single-purpose surveys. The data allows researchers to study the effects of

1 We thank Sumeet Bhatti for excellent research assistance.
2 A follow-up survey (IFLS2+) was conducted in 1998 with 25% of the sample to measure the immediate impact of the economic and political crisis in Indonesia. This survey will not be discussed in detail, in part because it covered one-quarter of the total sample and because it deviated from the existing procedures for surveying facilities. Specifically, in the IFLS2+, the facilities are a panel (i.e. the sample of facilities interviewed in IFLS2) rather than a re-drawn sample as was done in IFLS2 and IFLS3. For details, see Frankenberg et al. (1999).
changes over time in both government programs and household decisions during a period of rapid
demographic and economic change. More interestingly, since the waves of the IFLS span the period from
several years before the economic crisis hit Indonesia, to one year prior to the crisis as well as three years
after the incident, extensive research can be carried out regarding the living conditions and coping
mechanisms of Indonesian households during this tumultuous time period.

In addition to individual and household-level information, the IFLS provides detailed information
on communities in which IFLS households reside and the health and education facilities that serve
residents of these communities. The data cover different aspects of the physical and social environment,
ranging from information on infrastructure, employment opportunities, food prices, to information on
access to health and educational facilities, and the quality and prices of services available at these
facilities. In addition, the health facility survey in IFLS1 and IFLS2 includes five hypothetical patient
scenarios or "vignettes" that probe the facility respondent’s knowledge of the process in patient care at the
health care facilities. The vignettes covered information on the provision of IUDs and oral contraceptives,
prenatal care, treatment of children with vomiting and diarrhea problems and treatment of adults with
respiratory illnesses. In IFLS3, the facility surveys introduced new questions on budget issues to capture
aspects of decentralization of services in Indonesia.

By linking data from IFLS households to data from their communities, the analyst can address
many important questions regarding the impact of policies on the lives of the respondents, as well as
document the effects of social, economic, and environmental change on the population. The facility data
along provide insight and information on the supply of health and education services to these 321
communities.

The focus of this paper is on the IFLS interviews of health care providers and schools. The
discussion that follows focuses on describing the approach used in the IFLS to include a survey of health
care providers and schools, and how it differs substantially from the traditional large-scale household
surveys. Following that discussion is a conversation on the advantages and caveats of using this particular
form of facility survey data. The last section reviews studies that used the dataset and the potential ways
in which its use can be explored.

II Health Facility and School Surveys in the IFLS

It is often hypothesized that the characteristics of communities affect individual behavior, but
rarely are multi-topic household survey data accompanied by detailed data about the communities in

3 The term community here refers to the enumeration area, a geographic area defined by the Indonesian Statistics
Bureau. It can be part of a village or a neighborhood in an urban setting.
which households are sampled. For example, of the more than 60 Living Standards Measurement Study (LSMS) surveys, while many have an accompanying survey of communities (where community informants report on the physical, economic and social infrastructure of communities), very few include an accompanying survey of facilities. 4 The Demographic and Health Surveys (DHSs) rarely include community surveys or facility interviews. Fifty-two out of the 217 DHS survey include either community or facility surveys, but most of these are community surveys. Likewise, the three other Family Life Surveys (Malaysian Family Life Surveys, Guatemalan Survey of Family Health, and Matlab Health and Socioeconomic Survey) only include community surveys. In that respect, the IFLS is an exception to the rule. For each IFLS community in which households are interviewed, extensive information is collected from community leaders and staff at the education and health care facilities that available for use to the community residents.

One alternative to collecting facility data in conjunction with a household survey would be to use existing data on facilities which could then be linked to the household survey. This requires that these alternative facility data: 1) cover the same communities 2) include a the unique facility ID, such as name or official statistical ID numbers and 3) are collected in the same time period as the household survey. It is rarely the case that these 3 conditions are met. Thus, it is necessary to collect the facility data as part of the household survey effort.

The IFLS community and facility surveys sought information about the communities of household respondents. Most of the information was obtained in one of the three ways. First, the official village/township leader and a group of his/her staff were interviewed about various aspects of community life. In addition, supplementary information was obtained by interviewing the head of the community women’s group (PPK). Secondly, staff representatives were interviewed about the staffing, operation, and on usage of their facilities during visits to local health care facilities and schools. In addition to the first two methods, statistical data was also extracted from community records, and data on local prices was collected through interviews with 2-4 informants per village. 5

All three rounds of the IFLS use the same protocol for selecting health service providers and schools for survey. In IFLS2 and IFLS3, it was decided not to simply go back to the same facilities that were visited in previous rounds, because it was judged to be important to refresh the sample in 1997 and


5 The second and third waves of the IFLS expanded the scope of information on communities. The IFLS2 included two interviews, one of them was conducted with someone considered an expert in the adat (traditional law) about the customary laws that influence behavior in the community and the second interview was with a social activist from the community on a project in which he or she was involved. The IFLS2 and the IFLS3 also included visits to three markets per community to obtain additional information about prices.
2000 to allow for new facilities. Refreshing the sample was consistent with the goal of the community-facility survey, which is intended to portray the current nature of the communities and the facilities in which IFLS households resided. Although, as facility identification codes are maintained over time, it is possible to identify the sample facility across rounds, if a facility was interviewed more than once. Moreover, as described in the section on the service availability roster, some information is known on the status of a facility interviewed in previous rounds even if it is not selected for re-interview.

Health care facilities

The health care facilities surveyed in the IFLS are designed to be from a probabilistic sample of facilities that serve households in the community. The sample is drawn from a list of facilities known by household respondents. Moreover, some facilities serve more than one IFLS community. The sampling frame is different for each of the 312 communities of the IFLS and for each of the three strata of health care facilities: government health centers/sub-centers (puskesmas and puskesmas pembantu, or pustu), community health posts (posyandu) and private facilities (including private clinics, doctors, nurses and paramedics, and midwives [kliniks, praktek umum, perawats, bidans, paramedis, mantra]).

At the end of the household survey for each strata and within each of the 312 communities, the facilities reported as known in the household questionnaire (reported by the household head or most knowledgeable respondent) are arrayed by the number of times they are mentioned. Health care facilities are then chosen randomly up to a set quota for each strata as follows:

- Government health centers/sub-centers: quota=3
- Private facilities: quota=6
- Community health posts: quota=2

The single, most frequently reported facility is always chosen. Thereafter, two to four more facilities (depending on the strata quota) are selected at random from the entire listing.

There are two exceptions to this random selection process. Not all identified facilities are eligible for interview. Facilities were excluded from the sample frame if: 1) they had been interviewed in connection with a previous community (this would occur for bordering IFLS communities), 2) the facility was more than a 45 minute motorcycle trip (in practice this is rare), or 3) if the facility was located in

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6 Because of time and money constraints, IFLS2 and IFLS3 did not interview traditional practitioners, as did IFLS1. And whereas IFLS1 grouped doctors and clinics in a different stratum from midwives, nurses, and paramedics, those strata were combined in IFLS2 and IFLS3 because of the difficulty of categorizing practitioners correctly. An advantage of grouping all private practitioners in one stratum is that the mix of provider types interviewed within the stratum better reflects what is available in the community. For example, in communities where paramedics were more plentiful than doctors, the mix of interviewed providers reflects that fact.
another province (for which the survey team did not have research permission to conduct field work). Secondly, in a small number of communities, the list of all facilities from the household survey did not generate a sufficient number of facilities to fill the quota, in which case information from the community leaders was used to supplement the sample.

Table 1 shows the distribution of sampled health care facilities in the three rounds of the IFLS. (Annex 1 Table 1 shows a more detailed breakdown by type. As can be seen, the fraction of puskesmas went up slightly in IFLS3, compared to puskesmas pembantu. Within private facilities, the fraction of private physicians and nurses dropped slightly while midwives increased from IFLS2 to IFLS3.)

**Schools**

Schools are basically sampled in the same way, except that the list of schools are those in which households members under 25 years of age are currently enrolled. Thus, the sample frame for schools includes only those that are actually being used by IFLS households. The school sample has three strata: primary, junior secondary and senior secondary levels.

For schools, there are very few compositional changes across IFLS waves (Table 1 and Annex 1 Table 1) by school strata.

**Service Availability Roster**

The Service Availability Roster (SAR) was added in the IFLS2 and continued in the IFLS3. It was added after analysis of the IFLS1 data showed that community informants provided incomplete listings of the health care facilities and schools to which household respondents had access (based on the knowledge and use of facilities as reported by households in the IFLS household survey). The SAR gathered information in one place on all the schools and health care facilities available to residents of the IFLS communities as reported by three sources. These sources are: facilities identified by household respondents (household survey modules PP and AR), facilities interviewed in IFLS1 but not mentioned in IFLS2 by community leaders and households, and any other facilities mentioned by the head of the village/township or the women’s group head in the IFLS2 community surveys (Book 1 or Book PKK).

Once the SAR is compiled, for each facility listed, the head of the village/township or the women’s group head was asked to estimate the distance, travel time, and travel cost to the facility. In addition, the interviewer went to the facility to obtain a GPS reading of latitude and longitude. These readings were used to construct measures of distance to the facilities from the center of the IFLS cluster and from the office of the village/township leader.
III  Key Features of the IFLS Health Facility and School Surveys

The IFLS offers unique data on health care facilities and schools. In this section we highlight some of the key features that make the IFLS facility survey advantageous compared to alternative approaches. We also discuss some of the shortcoming or caveats of the IFLS facility survey data.

Sample Frame. By sampling facilities based on those known or used by households as reported in preceding household survey, the survey avoids designating arbitrary boundaries with the exception of facilities more than 45 minutes by motorbike which are few in practice. Probably in most communities (Indonesian or other), the catchment area for facilities that serve households can vary. A priori, there is no clear way to establish boundaries to define the enumeration area for facilities, such as boundaries defined by distance (e.g. 30 kilometers from the community centroid) or by time (such as 1 hour by main transport). An exception to this might be rural areas that have very poor infrastructure. For example, villages in rural areas might only be served by one well-defined primary school. The sample frame for the selection of facilities to be surveyed is not constrained to the requirement of having the facility with the village’s administrative boundary.

The IFLS guarantees information on facilities of relevance to household survey respondents, rather than relying on a small sample of selected community informants who may or may not be reliable sources for listing of facilities. Moreover, since the facilities are picked based on the tally of the frequency of mention, the IFLS allows for creation of weights to reflect the importance of interviewed facilities in the constellation of all available facilities. To-date, facility weights have only been constructed for the IFLS1. Annex 2 describes the facility weights for the IFLS1.

Service Environment. The facility surveys are by definition a subsample of all the service providers available to the community. However, as noted, the entire list of reported facilities is recorded in the SAR. Thus, one is able to describe the general service delivery environment of households in terms of number and distance to existing facilities. In addition, there is information on turn over since the SAR in the IFLS2 and IFLS3 includes information on all providers reported in the previous IFLS, including those that are closed or inoperative (such as date of closure).

Matching Facilities to Users. In addition to being able to describe the service delivery environment for the IFLS households based on facilities sampled to reflect the relevant universe of providers to the community, the IFLS also allows one-to-one matching of respondents to the facilities that they actually use. For both health care utilization and school enrollment, the household questionnaire records the identification code of the facility used. This identification code allows the analyst to match the respondent to the facility (be it an adult getting treated by a private physician or a child attending a private primary school). For all the facilities reported by households, we have at least some basic information in
the SAR. For those facilities that are actually interviewed, there is detailed information in the facility questionnaire. Table 2 shows the percent of all facilities in the IFLS1 reported by the household (either as a known facility or actually used, depending on the questionnaire section) and where the facility was then subsequently interviewed. Match proportions vary by strata, reflecting the numbers of unique facilities identified by household respondents, the proportions of identified facilities eligible for interview, and the target number (quota) of facilities per strata. Among health care facilities, match rates were highest for health centers. Among schools, primary and junior secondary schools were more likely to be matched than senior secondary schools. We expect that match rates to decline with subsequent rounds of the IFLS, as a greater portion of households are interviewed in new communities, outside the baseline 321 communities in which the facility surveys are implemented.

**Completeness of the Sample Frame and Sample.** The sampling frame for the facility surveys are designed to reflect all facilities which serve the households in the community. The selected and interviewed facilities are not necessarily representative of the facilities in the area without weights which reflect the sampling probability. Moreover, the sample frame is incomplete to the extent that the sample of the IFLS household respondents fail to identify all facilities of relevance to the population in the community. Examples of how or why the sample frame could be incomplete differ for health care facilities and schools. Recall that the sample frame for health care facilities is developed on the basis of the identification of known facilities by the IFLS households; schools are listed based on actual use by students in the IFLS household. It is possible that older health care facilities are more likely to be sampled interviewed since they are more well-known than the new clinics that have recently opened. For schools, poorer, low quality schools may be missed from the sample frame if households switch to better schools.

Likewise, with respect to the sample selected, the quotas for facilities may result in an insufficient number of matches between the household survey (service users) and the service utilized. For example, the matching rates in Table 2 would get smaller as the type of user, e.g. poorer households by province, or use, e.g. private primary schools, gets more specific. This would depend on the precise questions to be addressed. For more narrow topics, it could be advantageous to interview more facilities (with a fixed budget implying a shorter questionnaire).

**Weighting.** If the facility data are to be used to describe the service delivery environment, the facility data has to be appropriately weighted. To date, we know of no studies that have actually used the weights that exist for the IFLS1, or constructed new weights for the IFLS2 and IFLS3 facility interviews.

**Representativeness over time.** As a longitudinal survey, the IFLS follows households that have moved since the baseline survey from the 321 communities (that includes households that moved together and individuals who have split-off from their original household to a new location). However, for households residing outside of the baseline 321 communities in the IFLS2 or IFLS3, there are no facility
interviews and no SAR compiled. As the sample frame is compiled from household reports of knowledge of health service providers and use of schools, for migrant households, in most cases there are only 1 or 2 IFLS households in the new community from which to construct the sample frame. Thus, there is no facility sample frame from which to draw a facility sample for these new communities (to which IFLS household have migrated). Even if there was an alternative sample frame, it would be costly to interview facilities for only 1-2 households the facilities serve. This raises two issues. First, the extent to which original 321 communities and the facilities associated with the non-migrant IFLS households therein after 1993 are representative of the overall service delivery environment is unclear, and presumably depends on the patterns of migration. Second, facility information pertains only to non-migrant households/respondents for the second and third IFLS rounds.

**Costs.** Operationalizing the facility survey requires coordination with the household survey team. The data collected by the household survey team in the household questionnaire is handed over to the community-facility survey team (appropriate survey pages in the paper questionnaire are printed in triplicate to keep the actual household questionnaire intact); the community-facility survey team then compiles the sample frame for the facility selection and interviews as well as the SAR. The process iterates back to the household questionnaire. After the SAR is compiled, the community-facility survey team attached identification codes for individual facilities, based on previous IFLS rounds, or newly created for facilities never previously interviewed. In order to link the respondent knowledge and use of specific facilities to the SAR and facility surveys, the household survey team goes back to completed questionnaires to enter these identification codes.

**Role of Community Questionnaire.** As an alternative to a complete facility survey, it might be feasible that a community questionnaire can be used to collect facility information (i.e. asking the community informants about whether there is a doctor at the nearest health clinic, etc...). For example, Frankenberg et al (2003b) evaluate the impact of a health program expansion on health outcomes of Indonesians. Specifically, they study the Village Midwife Program; the percent of the IFLS communities with access to a rose from 9.4% to 45.6% between 1993 and 1997. These data about health care provision in the community are collected through the community questionnaire rather than a direct facility questionnaire. This is a much less costly means of complementing the IFLS household data with information on health services in the community.

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7 The IFLS field work is organized around two sets of field teams: the household survey team and the community-facility survey team which follows the household survey team to the 321 enumeration areas during the field work by a lag of about 2 weeks.
Panel of Facilities. As noted above, the facilities surveyed in the IFLS2 and IFLS3 are not, by design, a panel of facilities interviewed in the previous IFLS. As shown in Table 3, a large fraction of facilities in the IFLS1 are not re-interviewed in the IFLS2.8

IV Analysis of the IFLS Facility Surveys

Several studies present summary statistics from the survey of health care providers and schools to document changes in the prices, quality, and availability of health and education services at public and private facilities in the IFLS facility data (examples include: Frankenberg et al. 1999, Frankenberg et al. 1998, Strauss et al. 2004b). These studies not only highlight how changes in the quality of services provided to the household affects the well being of the Indonesians, but also state how these services are most amenable to policy intervention. However, these studies do not directly assess the impact of changes in services in the facility data on individual outcomes measured in the IFLS household survey.9

Some studies look within the facility survey data to understand the determinants of availability of specific services at health care facilities and health facility quality. Barber et al. (2006a) examine the determinants of “technical quality” measured by completion of the case scenarios (i.e. the vignettes described above), focusing on the role that qualified staff in the facilities play in improving technical quality outcomes. Barber et al. (2006b) also utilized the vignette data. Their outcomes include completion of the case scenario (and, by proxy, a measure of availability of the treatment) and the proportion of correct procedures mentioned (scoring the quality of the completed vignette) as functions of facility type (public/private), district GDP, and facility infrastructure.

An analytically more complex use of the facility survey is to link it to household or individual-level outcomes. For example, one could use the facility data to describe the effect of the characteristics of the health or education services available to households on their individual outcomes.10 To date, a few papers have used the data in this way and the ones we found are all related to the health facility data. Frankenberg et al. (2004) and Frankenberg et al. (2003a) use information on the family planning supply (including prices and other characteristics) to assess the impact of supply on women’s contraceptive use reported in the household survey. Frankenberg (2004) evaluates the use of preventive care for children

8 Table 3 excludes the community health posts because no health post interviewed in IFLS3 has the same ID number as in previous IFLS waves. That is because both the locations and volunteer staff change over time, making it very difficult to label a health post as the same as one interviewed previously.

9 Although Frankenberg et al. (1999) do not explicitly link the facility survey data to the household survey data, they do draw conclusions based on the two separate analysis of changes in facility characteristics and household health care utilization, among these are: i) high private sector prices in 1997 discouraged use of the private sector in 1998 for the youngest children and ii) increases in public sector drug stock outages encouraged use of private sector facilities for older children and adults in 1998.

10 One caveat of the health facility data to describe the service environment for households is that it excludes hospitals.
from the household survey as a function of provision of supplementary food at the community health posts (posyandu), finding strong effects of food supplements on children’s use of health posts. She controls for quality of government health centers by constructing a quality index from the health center surveys, averaged across the health centers interviewed in the community. 11 Barber and Gertler (2002) link child health outcomes (height and weight) to the quality of community health care facilities; they conclude that children in communities with high quality care are healthier than their counterparts in areas with lower quality services.

However, depending on the questions being addressed, the facility data might not necessarily be appropriate for describing the supply of services related to particular outcomes measured in the IFLS household survey. This would be the case if the outcomes in the household survey reflect past facility-service environments or utilization decisions. That it, its use might be limited to those respondents who have recently used the facility. For example, Newhouse and Beegle (2005) examine the impact of school type on school test scores, using supply-side measures to identify the school choice. They use the IFLS household data that have student test scores and school types. As a measure of availability, they use data from the school census, but they also could have used the IFLS SAR. In a previous version of this paper, they did compute the share of schools by type within 25 miles of the village center that are public. For schools that are not interviewed directly in the IFLS facility survey, public or private status was inferred from the school name in the SAR. However, the village-availability measure from the IFLS is only applicable to the subsample of students who were interviewed in the same sub-district where they attended junior secondary school (for which we have test score), which reduced the total sample by about 40 percent. Because limiting the sample to students who did not move after graduation caused selection bias, the final version of the paper only used the measures of access derived from the school census.

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11 In a similar study, although not identical, Frankenberg et al. (1999) also found that in 1998 visits to health posts by young children were more likely when supplementary food was available.
Table 1
IFLS Health Care facilities and School Samples

<table>
<thead>
<tr>
<th></th>
<th>IFLS1 1993</th>
<th>IFLS2 1997</th>
<th>IFLS3 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Care Facilities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government health center, subcenter</td>
<td>993</td>
<td>919</td>
<td>943</td>
</tr>
<tr>
<td>Private clinic and practitioner (private doctor, clinic, nurse, midwife, paramedic)</td>
<td>2065</td>
<td>1832</td>
<td>1904</td>
</tr>
<tr>
<td>Community health post (<em>posyandu</em>)</td>
<td>899</td>
<td>619</td>
<td>630</td>
</tr>
<tr>
<td>Schools</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>944</td>
<td>964</td>
<td>960</td>
</tr>
<tr>
<td>Junior Secondary</td>
<td>900</td>
<td>945</td>
<td>951</td>
</tr>
<tr>
<td>Senior Secondary</td>
<td>584</td>
<td>618</td>
<td>618</td>
</tr>
</tbody>
</table>

Source: Strauss *et al.* (2004a)
Table 2. IFLS1 Match Rates between Health Facility and School Surveys and Household Questionnaire

<table>
<thead>
<tr>
<th>PANEL A</th>
<th>Facility Knowledge (Book I Section PPO)</th>
<th>Facility Use (Book III Section RJ)</th>
<th>Facility Use (Book V Section RJ)</th>
<th>Facility Use (Book IV Section CX)</th>
<th>Facility Use (Book IV Calendar / Prenatal Care)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Care Facilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government health center, subcenter</td>
<td>92%</td>
<td>89%</td>
<td>92%</td>
<td>90%</td>
<td>92%</td>
</tr>
<tr>
<td></td>
<td>(6283)</td>
<td>(1052)</td>
<td>(630)</td>
<td>(2787)</td>
<td>(470)</td>
</tr>
<tr>
<td>Doctor/Clinic</td>
<td>40</td>
<td>39</td>
<td>62</td>
<td>33</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>(4656)</td>
<td>(746)</td>
<td>(506)</td>
<td>(482)</td>
<td>(89)</td>
</tr>
<tr>
<td>Nurse/Paramedic/Midwife</td>
<td>65</td>
<td>57</td>
<td>64</td>
<td>65</td>
<td>78</td>
</tr>
<tr>
<td></td>
<td>(4607)</td>
<td>(508)</td>
<td>(239)</td>
<td>(1118)</td>
<td>(309)</td>
</tr>
<tr>
<td>PANEL B</td>
<td>School Use (Book I Section AR)</td>
<td>School Use (Book V Section DLA)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schools</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>83%</td>
<td>79%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(5160)</td>
<td>(4657)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junior Secondary</td>
<td>72</td>
<td>71</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1619)</td>
<td>(810)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senior Secondary</td>
<td>48</td>
<td>n/a</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1137)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: Numbers in parentheses are the denominators to which the rates apply. The denominators reflect frequency in the household questionnaire, based on eligibility for the particular section and question about facility knowledge/use.

Table 3. IFLS Cross-Wave Interviews, by Facility Type

<table>
<thead>
<tr>
<th>Facility Type</th>
<th>IFLS1 Facilities Interviewed</th>
<th>IFLS2</th>
<th>IFLS3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>N</td>
<td>New Facilities in IFLS2</td>
</tr>
<tr>
<td>Health Care Facilities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government health centers</td>
<td>993</td>
<td>66.6</td>
<td>662</td>
</tr>
<tr>
<td>Private clinics and practitioners</td>
<td>1,439</td>
<td>40.4</td>
<td>582</td>
</tr>
<tr>
<td>Schools</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>944</td>
<td>64.8</td>
<td>612</td>
</tr>
<tr>
<td>Junior Secondary</td>
<td>900</td>
<td>55.3</td>
<td>498</td>
</tr>
<tr>
<td>Senior Secondary</td>
<td>584</td>
<td>44.2</td>
<td>258</td>
</tr>
</tbody>
</table>

Source: Strauss et al. (2004a)
# Annex 1: Table 1  
**IFLS Health Care Facilities and School Samples**

<table>
<thead>
<tr>
<th></th>
<th>IFLS2 1997</th>
<th>IFLS3 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Public Health Care Facilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Puskesmas</td>
<td>61.4</td>
<td>65.9</td>
</tr>
<tr>
<td>Puskesmas Pembantu</td>
<td>37.9</td>
<td>34.1</td>
</tr>
<tr>
<td>Don't know</td>
<td>0.7</td>
<td>0.0</td>
</tr>
<tr>
<td>Number of observations</td>
<td>920</td>
<td>944</td>
</tr>
<tr>
<td><strong>Private Practioners</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private physician</td>
<td>28.5</td>
<td>25.4</td>
</tr>
<tr>
<td>Clinic</td>
<td>8.0</td>
<td>11.3</td>
</tr>
<tr>
<td>Midwife</td>
<td>28.6</td>
<td>29.4</td>
</tr>
<tr>
<td>Paramedic/Nurse</td>
<td>25.5</td>
<td>24.4</td>
</tr>
<tr>
<td>Village midwife</td>
<td>7.3</td>
<td>9.5</td>
</tr>
<tr>
<td>Don't know</td>
<td>2.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Number of observations</td>
<td>1,832</td>
<td>1,904</td>
</tr>
<tr>
<td><strong>Schools</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary, public</td>
<td>33.0</td>
<td>32.2</td>
</tr>
<tr>
<td>Primary, private</td>
<td>5.1</td>
<td>5.8</td>
</tr>
<tr>
<td>Junior secondary, public</td>
<td>23.1</td>
<td>23.5</td>
</tr>
<tr>
<td>Junior secondary, private</td>
<td>14.3</td>
<td>14.1</td>
</tr>
<tr>
<td>Senior secondary, public</td>
<td>12.0</td>
<td>11.6</td>
</tr>
<tr>
<td>Senior secondary, private</td>
<td>12.4</td>
<td>12.8</td>
</tr>
<tr>
<td>Number of observations</td>
<td>2,525</td>
<td>2,530</td>
</tr>
</tbody>
</table>

Source: Strauss *et al.* (2004b)
Annex 2: IFLS1 Facility Weights

This annex discusses the facility weights in the IFLS1. No facility weights have been constructed for the IFLS2 or IFLS3. The discussion below is drawn directly from the IFLS1 User’s Guide (Frankenberg and Karoly, 1995).12

Ideally a facility should receive a weight equal to that facility's sampling probability, where the sampling probability is a function of the sampling scheme and the sampling frame. Sampling frame of the facility surveys is incomplete to the extent that the sample of household respondents fails to identify all facilities of relevance to the population of the EA. The sampling scheme specifies that the probability of being sampled is proportional to market share. The construction of weights based on sampling probabilities is complicated by the fact that we do not know each facility's true market share. Instead, we know the market share that a particular facility captures among the sample of household respondents in the EA. We use a model of market shares to simulate observed market shares, assuming a fixed number of household respondents and multinomial sampling. Comparison of the simulated outcomes to the observed outcomes yields an estimate of the true number facilities in each EA. The estimated number of facilities in each EA specifies the estimated market share and thus the rank for each facility in the EA.

The next step is to determine the place of each observed facility in the estimated distribution of all facilities and their associated market shares. We do not know the true market share (or even the rank) of an observed facility among all facilities. Instead, we observe a facility's rank (as determined by the number of respondents mentioning that facility) among those facilities identified by our sample of EA residents. This observed rank may or may or not be the true rank. For example, the most frequently mentioned facility among sampled EA residents might be only the second or third most frequently mentioned facility if one were to interview all EA residents. Although the observed rank does not necessarily equal the true rank, it provides information about the true rank. Using the observed rank we make a probabilistic determination of each facility's true rank. We then determine its sampling probability using this model. Our final weight can be summarized as an estimate of the probability that we would sample an observed facility if we conducted another survey using the same sample design.

12 An alternative would be to construct facility weights based on a complete listing of all facilities. This assumes that the government (either the ministry of education, ministry of health, or bureau of statistics) maintains an accurate listing of all facilities by type and private status.
References


Barber, Sarah L., Paul J. Gertler, Pandu Harimurti. 2006b. “Promoting High Quality Care in Indonesia: Private Ambulatory Care Providers.”


Frankenberg, Elizabeth and Duncan Thomas. 2000 "The Indonesia Family Life Survey (IFLS): Study Design and Results from Waves 1 and 2." RAND, Santa Monica, CA. DRU-2238/1-NIA/NICHD.


