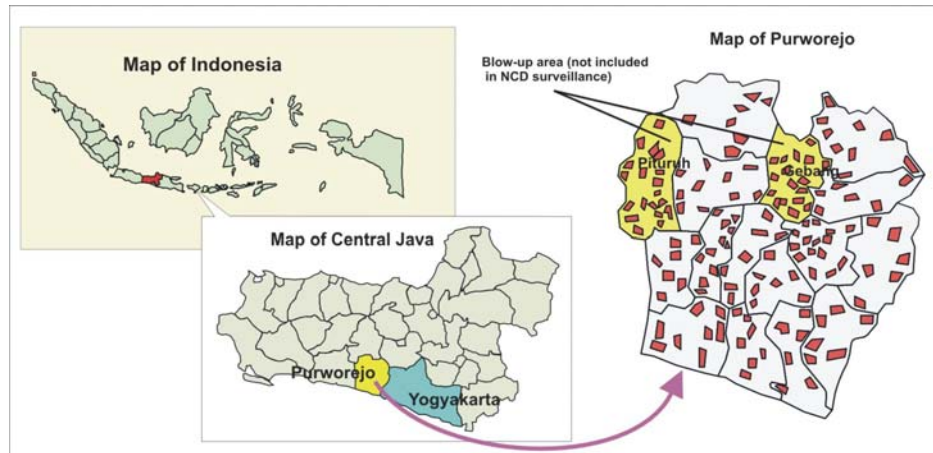


PURWOREJO DEMOGRAPHICS SURVEILLANCE SYSTEM INDONESIA

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1. INTRODUCTION

The collection of up-to-date information through surveillance on the community health and nutritional status is becoming more and more important because of its usefulness to a wide variety of decision-makers. At the district and local levels this information is needed for health program management and evaluation. Despite the growing need for information on health and nutritional status at the community levels, there is very little information on infant, child, and maternal nutritional status, morbidity, and mortality rates at the district and lower administrative levels in Indonesia. For that reason on earlier 1993 we established a Community Health and Nutrition Research Laboratory to support the Ministry of Health of Indonesia in developing and implementing a community health and nutrition programs. The main goal of the activities is to develop surveillance models which are effective and efficient and can be used by program implementors to improve the health status, reduce morbidity and mortality, especially of women and children through better planned and implemented programs. This CHN-RL received assistances from the national and international supports, including the World Bank, The Johns Hopkins University, WHO, UNICEF, SAREC and other agencies.

The Community Health and Nutrition Research Laboratories (CHN-RL) offer tremendous potential to support the development of public health programs in Indonesia. This potential is especially obvious in relationship to the need for health information for planning at the district level as part of the health decentralization programs. Furthermore the training linked to the CHN-RL activities has both short and long term benefits. Its influence should be exerted by increasing knowledge and skills to collect, process, analyze and use health data to improve and develop public health programs.

In addition, the applied research conducted in the field area will add to the insight of program managers in the district about the process of how public health information is gathered although these activities may not always produce results directly applicable to programs. The indirect benefits will come from identifying public health problems that need to be addressed by national programs or evaluations of possible health interventions before upscaling at a provincial or national level.

The Community Health and Nutrition Research Laboratories that has been established in the Purworejo District and has been expanded to the Belu District in Nusa Tenggara Timor province. The research activities include the collection of longitudinal data with the aim of estimating level and trends of health status, morbidity and mortality, and disease risk factors on the population. However, the Belu site will mainly provide a testing experience on the improvement of surveillance system conducted by the existing health providers and less depend on the community or household information. The data are analyzed, interpreted and reported to local health program managers to assist them with planning and evaluating health programs.

With experiences from other countries and looking at the future prospect of CHN-RL, GMU, we could made important contributions in the following five areas. *First*, to

document an abundance of basic demographic and health status information about populations in Purworejo. It has also demonstrated changes in these indices and are a key to understanding health transitions. This descriptive health and demographic information is fundamental to health planning and provision of health care services. *Second*, it would play a key role in improving health surveillance systems by providing information to interpret routine surveillance data and identify its weaknesses. They have also made many valuable contributions to the development of epidemiological tools for public health practice, for example the role of tuberculin skin testing for TB control. By way of these discoveries community health research laboratories have made fundamental contributions to improving the quality of health programs. *Third*, through the use of longitudinal study designs we would play an essential role in identifying causal factors for illnesses and disability. It can also revealed that often ill health has multiple causes that interact. Effective health programs require a clear understanding of the interactions of social, economic, cultural, environmental, and biological factors as they relate to disease causation. Appropriate health planning can only be optimally carried out if data are available that are relevant to the social-cultural-ecological setting of the areas being served. *Fourth*, CHN-RL, GMU will be the site for many major impact evaluations of public health programs, for example vitamin A distribution. It is only with carefully controlled studies that the effectiveness of broad-based health and family planning programs can be evaluated. The information obtained from these types of studies is essential before embarking on major investments in public health programs. *Fifth*, CHN-RL have had an important function in training of program managers and research personnel. Usually the training of program mangers has focused on the role of epidemiology and surveillance in the management of community health programs.

The aim of this article is to introduce briefly the CHN-RL activities, especially on the aspect of design and analysis issues. It is expected that reader of this seminar will be more aware about the nature, quantity, and quality of the data collected. These information are extremely important as consideration for analyzing longitudinal data on the community health and nutrition issues.

2. STUDY POPULATION

The community health and nutritional research laboratory is placed in the District of Purworejo, Central Java. This district is comprised of 16 sub-district (kecamatan) and 494 Villages (kelurahan). Total area of Purworejo is 1034.82 kilometer square which are inhabited by 729,825 persons (357,081 male and 372,744 female). The land contour of Purworejo is vary from 2 meter above sea level to 325 meter above sea level so that some areas are considered mountainous.

Using the data from 1990 census, the crude death rate is estimated to be 9.9 per 1000 population. The crude birth rate is 27.9 per 1000 population. An infant mortality rate has shown declining pattern in the past 5 years with the current estimates from our baseline data and census 52 per 1000 birth. The total fertility rate 3.13 per women. However, because of the migration neto is minus 1.74 per 1000 population per year, the annual growth rate of this district is 0.05 percent per year which is a lower than

national's estimate.

The district of Purworejo has a Government's Hospital type D, 22 Primary Health Center (Puskesmas), and 48 sub-PHCs. There are also one privates mother and child hospital, one surgery, 3 birth centers, and some drug stores. According to the District Health authority, the health condition of population in Purworejo is still dominated by infectious diseases, especially among children. In addition, the nutritional deficiencies of the women and children are also a major problem in Purworejo. The details of health conditions of this district can be seen from our baseline study.

3. SAMPLING DESIGN AND SAMPLE SIZE

Cluster sampling design with probability proportionate to size (PPS) was used to select a household member as a primary sampling unit (PSU). Thus the basic sampling unit is household and village is chosen as cluster. Sampling frame is based on topographical subdistrict area, villages are listed systematically by urban, low land/coastal and high land areas. The clusters list is in accordance with the list reported by the subdistrict authority.

Sample size is estimated to cover most of the surveillance specific objectives (multiple objectives). The calculations of the number of cluster is based on the expected outcome prevalence, design effect, precision and rate of homogeneity. The number of clusters will cover 10% or about 50 villages, justified by equation calculations, cost and feasibility. Selection of sample by PPS results in sampling interval of 14590 and 4058 is four digit numbers obtained from random table for identifying the first cluster.

3.1 Sampling Design and Method

The following part describes the sampling design for the field surveillance area in Purworejo District, Central Java. A similar sampling method has been used for Belu District in NTT. The sampling design was based on standard methods developed by the Central Bureau of Statistics which have been specifically designed to support population survey needs during the 1990s. A two stage cluster sampling method was used to select a sample of households representative of the district. To improve the reliability of the estimates the clusters for the first stage were selected with probability proportional to the number of listing units in the cluster (probability proportional to size sampling). The clusters used were the standard statistical enumeration areas or "wilcah" developed by the Central Bureau of Statistics for the 1990 census. The listing units used were the households in each cluster. In the second stage, the same number of households were systematically sampled from each "wilcah. This self weighting design allows the use of single weighting factor for the district during data analysis.

3.2 Sample Size Estimates

Sample size was designed to represent three different areas: district level, sub-district control area, and sub-district for intervention area. The sample size required to obtain

stable estimates of key health and nutrition status indicators at the district level is approximately 13,000 households. For the sub-district estimates of the outcome indicators was approximately 2000 households. Thus the sample size consists of the following:

- A total of 12,928 households taken from all 16 sub-districts in the Purworejo District to represent the district.
- A total of 1,919 households to represent the sub-district of Pituruh. This includes 909 households from the district level sample.
- A total of 1,717 households to represent the sub-district of Gebang. This includes 707 households from the district level sample.

3.3 Construction of the Sampling frame

Out of 16 sub-districts or 493 villages, there were divided into 793 "wilcah" with a total population of 729,455. A different sampling frame was used for the district and sub-district level samples. The frame for the first stage consisted of a 20 percent sample of the "wilcah" in the district that were used in the 1990 census. The frame for the second stage was the household listings prepared for the 1993 Agricultural Census.

For the sub-district of control and intervention areas, the sampling frame was based on all the "wilcah" in the district selected plus those wilcah which represent the district level. Thus a new "wilcah" is included in the sample; and it is not just those used in the 1990 census. Because of the new or additional "wilcah" selected to represent sub-districts are not having a household list from the 1993 Agricultural Census, the CHN-RL's staffs and District Statistics Office's staffs conducted census for those new or additional "wilcah". Thus a new household listing was specially prepared for a new or additional "wilcah" to represent sub-district Gebang and Pituruh. This listing used the same method employed for the listings used from the 1993 Agricultural Census.

3.3.1 Method of Selecting the District Level Sample

At the district level, the "wilcah" have been selected to represent numbers at the district level.

1. Selection of "wilcah": All of the 128 "wilcah" used in the 1990 census were selected for the sample. These "wilcah" consist of 16 from urban areas and 112 from rural areas.
2. Selection of the households: An equal sample of households were selected from each "wilcah". The number to be selected was calculated by $13,000/128 = 101$ households. If the "wilcah" had less than 101 households then all were included in the sample. Otherwise the households listed in the "wilcah" were given a sequence number and were selected in the following manner.

- An interval (I), a number with two decimal places, was determined using the formula:
 - $I_i = M_i/m$ where
 - $i = 1$ through 128
 - I_i = the interval for the i th "wilcah"
 - M_i = the total number of households in the i th "wilcah"
 - m = the total number of households to be selected from each "wilcah", in this case 101.

- A random number (R_1) that was less than I_i was selected. The subsequent numbers were selected with using:

$$\begin{aligned} R_2 &= R_1 + (002-1)I_i \\ R_3 &= R_1 + (003-1)I_i \\ R_{101} &= R_1 + (101-1)I_i \end{aligned}$$

Thus the households with sequence numbers matching the integer portion of $R_1, R_2, R_3 \dots R_{101}$ were selected for the sample.

3.3.2 Method of Selecting The Sub-district Level Samples

There are two sub-districts (kecamatan) that have been selected to represent more details characteristics at the Puskesmas level. Sample have been selected a similar to the district level.

1. Selection of subdistricts: Two subdistricts, Pituruh and Gebang, were purposively selected because there had relatively similar socioeconomic and health characteristics but were widely separated. This selection offers the possibility of conducting quasi experimental studies on health services at the sub-district level.
2. Selection of "wilcah": The frame used was all "wilcah" not used in the 1990 census that were in the selected sub-districts. Probability proportional to size sampling was used to select the required ten "wilcah" from each sub-district. A table listing all the villages and "wilcah" and the total number of households was prepared and the interval (I) calculated by $M/10$.

A random number (R_1) that was less than I was selected. The subsequent numbers were selected with using:

$$\begin{aligned} R_2 &= R_1 + (2-1)I \\ R_3 &= R_1 + (3-1)I \\ &\dots\dots\dots \\ R_{10} &= R_1 + (10-1)I \end{aligned}$$

Thus the wilcah with sequence numbers matching $R_1, R_2, R_3 \dots R_{10}$ were selected for the sample.

3. Selection of households: A sketch map and listing was made of all the households and buildings in the selected "wilcah" using the standard methods employed by the Statistics Office. The households were then selected from this list using a similar method to that described for the selection of households for the district level sample.

4. VARIABLES IN THE LONGITUDINAL SURVEILLANCE

There are 4 groups of indicators which are routinely collected: basic demographic indicators (birth, marriage, migration and death); morbidity status; nutritional status and health services indicators. The nature of data collected can be viewed as three types of data: a) cohort for individual data; b) panel of group or household data that can be linked longitudinally when necessary, and c) a cross-sectional data which are collected occasionally according to the need of the investigators. From the point of view of geographic coverage, there are two levels of variables collected. These are variables represent for a district level and a variable which represent for a sub-district of intervention or control area. It should be noted that the sample size for those sub-district areas has been limited for observing an outcome of health service utilization. Therefore an expected outcome which has a small proportion (i.e.: below 10 percent) can not be presented by this sample size.

4.1 Basic Demographic Indicators

1. **Birth rates.** A summary crude rate based on the number of live births in a known population over a given period of time.
2. **Fertility rates.** Similar to the crude birth rate, except that the denominator is restricted to women of childbearing age, i.e. 15-49 years.
3. **Maternal mortality rate.** A measure of a women's risk of dying from causes associated with pregnancy. A maternal death is the death of a woman while pregnant or within 42 days of the termination of pregnancy, irrespective of the duration and the site of pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.
4. **Infant mortality rate.** A measure of the rate at which deaths occur in children less than one year old.
5. **Death rate.** The proportion of a population who die from any cause during a specified period of time. The rate can be made specific for a particular cause, or group of causes, of death. The rate can also be calculated for each sex and for any age group, thus providing disease-, sex- and age-specific rates. In addition, cause of death will be examined using a verbal autopsy method.

4.2 Nutritional Status Indicators

1. **Exclusive breast-feeding rate.** Proportion of infants less than 4 months (120 days) of age who are exclusively breastfed.
2. **Prevalence rate.** The total number of cases or events or conditions (protein-calory malnutrition, height of school-age children, vitamin A deficiency, iodine deficiency disorders, nutritional anemia) at a particular point in time divided by the total population at risk at the same point in time.
3. **Low birth weight infants rate.** Percentage of babies weighing less than 2500 grams recorded at the first 24 hours of birth.

4.3 Under-Five and Reproductive Morbidity Indicators

1. **Incidence rate.** A measure of the rate at which new cases or events (diarrhea, acute respiratory infection, malaria, measles and other preventable disease by immunization, and accidents) occur in a defined community within a given period of time.
2. **Incidence rate of reproductive events.** these include incidences of ectopic pregnancy, abortion, hydatidiform mole, pre-eclampsia, infection, obstructed labor, postpartum hemorrhage.

4.4 Health Services Indicators

Coverage. A measure, usually expressed as a percentage, of people or households who have actually received a particular service compared to all those who need it. The coverage of health service utilization include immunization, antenatal care, family planning method and other health services.

5. DATA COLLECTION AND INSTRUMENTS

The community health laboratories in Purworejo uses a data collection cycle in which each of the monitored households would be visited every 90 days. There are over 200 full-time surveyors working in the Purworedjo field study. The frequency of visitation could be increased if needed for a given study.

The major steps in establishing the monitoring system are as follows:

5.1 Listing of Households

The first step was to list all households and prepare maps of the villages in the field area. A basic set of information about the households was be entered into the computer to obtain a frame for sampling.

5.2 Initial Enumeration and Baseline Survey

This data collection is made over the stand visitation cycle of 90 days and gives sufficient information to construct a household file that has information about all members of the sampled households. Additional socio-economic data had also been collected at this stage.

5.3 Editing Data and Printing Household Record Book

Data have been checked in the field to minimize errors while in the computer center are rechecked by computer software. This software is called dSurvey which was developed in the earlier Morvita Study. Logical inconsistencies encountered during data entry would be returned to the field staff for correction. The data entry and editing process had been completed within the 90 day cycle. A record of the status of the members of each of the monitored households printed for use by the field staff on their next visit to the household.

5.4 Updating The Household Record Book

During each visitation cycle the interviewer uses the household record book and special forms to update the status of the household and record events such as births, deaths, pregnancies etc. since the last visit. This information is sent regularly to the computer team for updating. Again logical inconsistencies would be reported to the field team for correction or review.

This process would continue with the status of the household being updated every 90 days. Specific event data such as a verbal autopsies would be completed by a specially trained team of public health nurses. Other teams of interviewers will collect data on nutritional, under-five and maternal morbidity, health service problems with their determinants or risk factors.

The cycle of field data collection, editing in the field, data entry, identification of errors and logical inconsistencies would continue every 90 days and ensure that soon after the end of a given cycle the data files would be available for routine surveillance analysis or further analysis as part of a research project. The surveillance system is also used to evaluate the validity and efficiency of the existing institutional based surveillance system.

The first phase of the establishing the longitudinal household surveillance system was to list all the members of the households selected for the surveillance sample. A form for listing household members was prepared together with a guide on how to complete the listing. This guide represents the first portion of a more complete guide for field staff on the surveillance system.

The data on the household listing forms was entered into microcomputers, cleaned and checked for logical errors before being used to print household listing books for use in subsequent household visitations.

In district level sample a total number of 12,721 households with 43,982 members were contacted during the census, while with the extended sample for the 2 sub-districts a total of 3,485 households with 13,594 members were contacted.

The community health research laboratory is employing a microcomputer-based population surveillance system as the main tool for monitoring demographic and health events. Our surveillance system is a modified form of Household Registration System (HRS) developed at the International Center for Diarrheal Disease Research Bangladesh (ICDDR/B, Phillips et al., 1988). The existing community health field research areas located in Purworejo already used a modified form of the HRS for their basic surveillance activities. Short and long terms of international consultants participated in designing the household listing form, in designing the system for data entry and in the modification of the Household Registration System software to make it compatible with the census forms designed for Purworejo.

This data collection system is a combination of field methodologies, relational databases and data analysis programs that run on microcomputers. The system is able to monitor events over time and count the population at risk of these events. It produces data that is accurate and complete by actively linking the various components of the data and through a series of checks to make sure the data is logically consistent.

The system is flexible and easily expanded or contracted depending on the data needed for a given research project. It can be expanded to monitor additional events not included in the basic surveillance system and to collect cross-sectional information about health risk factors or social and economic determinants of health. It is portable and can be implemented quickly at different sites. It is designed to produce routine analyses for reports soon after the data have been collected. The system is relatively simple and places minimal technical demands on the users. The method can be used for large populations and yet remains compatible with microcomputers. Finally it produces data files that can be used by other statistical application programs allowing investigators to conduct more detailed analyses.

5.5 Instruments

The laboratory routinely collects demographic and health data using field and computer methods similar to those developed in Bangladesh for the Sample Registration System at ICDDR,B (Phillips et al., 1988). This system was modified in the first year of the project to meet the special needs found in Indonesia. These modifications were undertaken with the original computer programmer through a series of communications by electronic mail and site visit from America to Indonesia.

This microcomputer based system involves a combination of field methods, relational databases and data analysis and reports. The data is collected during a 90 day cycle of home visitations. However data will be collected in Purworejo for pregnancy monitoring and determination of cause of death with a shorter one month cycle. For this surveillance system nine forms were developed and pilot tested during the first year.

These forms are attached to the report and each is briefly described below.

1. Household Members Card. This form is generated from the census database by a module in the Household Registration System (HRS) program. The form has the household's address and identification number and lists all current household members including their name, date of birth, gender, essential information about reproductive status for recording event data for each cycle during the year. The event codes are printed at the bottom of the form. This form is the central place for recording events that are captured by the surveillance system.
2. Quarterly Follow-up Form. This form is a control form for other detailed event forms that might be completed in the field. It also has sections to record details about migrations, corrections to data and details for new household members.
3. Registration of New Households. This form collects baseline census data for new households.
4. Death Report. This form records the name and address of women and preschool children who are discovered by the field interviewer to have died, It is used to prompt the field nurse follow-up and complete a verbal autopsy form.
5. Report of Change of Individual's Status. This form captures information about the change in status of individual household members, for example if there is a change in marital status.
6. Preschool Child Form. This form captures detailed information about basic health status of the child and health service utilization. It also records arm circumference measurements.
7. Sick Child Form. Records information about illnesses experienced by the preschool children during the week prior to the interview A structured questionnaire is used to capture symptom data and allow for diagnosis of diarrhea, acute respiratory illness, measles, other febrile illnesses and accidents, information about the costs of care.
8. Women's Health Form. This questionnaire is completed for all women of reproductive age who were not pregnant at the previous visit. It provides a structured approach to screen for pregnancies, guides the interviewer on how to complete the event column for reproductive events in the Household Members Card. It also collects information about family planning practices.
9. Pregnancy Monitoring Form. This questionnaire is completed for all women who were pregnant at the previous visit. It records the outcome of the pregnancy if the women is not longer pregnant. It also records health status during pregnancy.

Besides the forms a guide to interviewers and supervisors was also completed. This material forms the basis for training the field team on how to do follow-up visits.

6. DATA PROCESSING

For occasional surveys or forms that will only be collected infrequently collected data is entered in to the computer by a general purpose data entry program (d-Survey). However for the main forms for the core surveillance activities a special purpose program (Household Registration System-HRS) has been developed for data entry as well as data cleaning, basic data analysis and reporting.

The HRS system includes modules for data entry of baseline census data, follow-up visits and special screens for correcting data already in the system. These data entry screens check for errors such as mismatching data types, out of range values, incorrect identifiers, duplicate identifiers and out of range dates. The validation modules is run at the end of a period of data entry and check data integrity, linkage of lists the type of error and identifiers to allow data cleaning staff in the computer room or field staff to identify the form for which there is possibly incorrect data. The errors are categorized in grades from fatal errors that must be corrected to warnings about values that should be checked at the next home visit.

The HRS also produces a Household Card with a list of all the members of the household, a selection of basic data about each member and columns to record events at each of four visits during the year.

These household cards are updated every year and provide the field staff with a picture of what is in the database for each household. Routine reports for vital events have been developed and software has provided results since at the end of the second data collection cycle. Data can also be exported in various forms to a variety of data analysis packages, including SAS and SPSS programs.

7. PURWOREJO DSS DEMOGRAPHIC OUPUT

The population under Purworejo DSS was 50,000. The age-sex composition of the area is presented in the population pyramid in figure below. The population structure consists of: 0-4 yrs (6.0%); 5-14 yrs (19.1%); 15-64 yrs (62,1%); and 65+ yrs (12.8%). The male and female ratio is 99.3:100. The age dependency ratio is 61:100. The total fertility rate is 5.58 Children per woman age 15 to 49 years. The infant mortality rate is 10.9 per thousand live-births. The under-five mortality ratio is 19.8 per 1000 live-births. Average household size is 3.4 persons.

POPULATION PYRAMID OF PURWOREJO DISTRICT, 2003

Based on CHNRL data



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PUBLICATION LIST
COMMUNITY HEALTH AND NUTRITION RESEARCH LABORATORY
APPLIED RESEARCH

NO	NO AR	TITLE (Judul)	COLLABORATION (Kerjasama)		INVESTIGATORS (Peneliti)
1.	001.A R	Development of an Intervention Program to Address the Cognitive Dissonance of Mothers of Children With Diarrhoea in Relation to Knowledge and Behaviour of Hygiene Practices in Indonesia	Fak. Psikologi dan Fak. Kedokteran Universitas Gadjah Mada	INCLEN	Kwartarini Wahyu Yuniarti
2.	003.A R	Impact Evaluation of Vitamin A Supplementation on maternal & neonatal infection & prematurity	Community Health & Nutrition Research Laboratories, Faculty of Medicine Gadjah Mada University	Mother Care Applied Research Program. John Snow Inc. Arlington, Virginia, U.S.A	Mohammad Hakimi Achmad Surjono, Michael J. Dibley, Detty S. Nurdianti, Siti Dawiesah, Th.Ninuk.
3.	004.A R	An Impact Evaluation of zinc supplementation on maternal & neonatal infection & prematurity	Community Health & Nutrition Research Laboratories, Faculty of Medicine Gadjah Mada University	UNICEF Applied Micronutrient Research Program	Mohammad Hakimi Achmad Surjono, Michael J. Dibley, Detty S. Nurdianti, Siti Dawiesah, Th.Ninuk.
4.	005.A R	The effect of Reproduction on the energy stores of women	Community Health & Nutrition Research Laboratories, Faculty of Medicine Gadjah Mada University	Swedish Agency for Research Cooperation with Developing Countries (SAREC)	Anna Winkvist, Mohammad Hakimi, Michael J. Dibley.
5.	006.A R	Development of Simple Breastmilk Indicators to Assess Vit A and Iodine Deficiencies in Communities. (Yodivita)	Community Health & Nutrition Research Laboratories, Faculty of Medicine Gadjah Mada University	The John Hopkins University	Siti Dawiesah, Michael J.Dibley, Rebecca Stoltzfus, Barbara Underwood, Jean-Pierre Habicht
6.	007.A R	Improving Private Sector : Child and Maternal Health Service in Rural Indonesian District.	Community Health & Nutrition Research Laboratories, Faculty of Medicine Gadjah Mada University	Partnership for Child Health Care, Inc./BASICS Project 1600 Wilson Boulevard, Suite 300. Arlington, Virginia 22209	Djauhar Ismail, Tonny Sadjimin, Retna Siwi Padmawati, Robert Nortrup (Basics, USA)
7.	019.A R	A Randomized controlled trial of iron and/or zinc supplementation to infants between 6 and 12 months of age in central Java: Effect on hematological and functional outcomes.	Community Health & Nutrition Research Laboratories, Faculty of Medicine Gadjah Mada University	Department of Epidemiology and Public Health, Umeå, Sweden	Djauhar Ismail
8.	020.A R	The effect of Reproduction on the energy stores of women (part II)	Community Health & Nutrition Research Laboratories, Faculty of Medicine Gadjah Mada University	Department of Epidemiology and Public Health, Umea University, Sweden	Anna Winkvist, Lars Ake Person, Hans Stenlund, Mohammad Hakimi, Detty Nurdianti, Michael J. Dibley

NO	NO AR	TITLE (Judul)	COLLABORATION (Kerjasama)		INVESTIGATORS (Peneliti)
9.	027.A R	Assessment Of Food And Nutrient Intakes And Child Feeding Practices In Purworejo District, Central Java	CHN-RL	UNICEF	Mohammad Hakimi, Th. Ninuk Sri Hartini
10.	028.A R	Management Practices for Child Illnes	CHN-RL	UNICEF	Djauhar Ismail, Retna Siwi, Tony S.
11.	069.A R	Impact of Domestic Violence on Maternal and Infant Health and Nutritional Status : A Cohort Study in Purworejo District	CHN-RL	<ul style="list-style-type: none"> - Department of Public Health and Clinical Medicine Umeå University - Rifka Annisa Women Crisis Center, Yogyakarta, Indonesia - Center for Health and Gender Equity Washington, USA 	Anna Winkvist, Mohammad Hakimi, Elli Nur Hayati, Mary Carroll Ellsberg
12.	008.A R	Drug Management Study	Faculty of Medicine, Gadjah Mada University, Yogyakarta	Division Chief of Project Management, Community Health and Nutrition III Project, Nusa Tenggara Timur	Siswanto Agus Wilopo
13.	011.A R	The Mid-Term Review For The Third Community Health And Nutrition Project (CHN3)	Faculty of Medicine Gadjah Mada University	Sub Project Community Health and Nutrition Development Directorate General of Higher Education, Ministry of Education and Culture	Siswanto Agus Wilopo
14.	012.A R	Longitudinal study on nutritional status and intestinal parasite infestation during pregnancy	Fakultas kedokteran Universitas Gadjah Mada Yogyakarta	Bag. Proyek Pengembangan Kesehatan dan Gizi Masyarakat, Dikti, Depdikbud	Detty SN, Sri Sumarni, Mohammad Hakimi, Suyoko
15.	013.A R	Action research on the development of a social and behavior intervention program to reduce morbidity and increase nutritional status of under five children using participatory approach	Fakultas kedokteran Universitas Gadjah Mada Yogyakarta	Bag. Proyek Pengembangan Kesehatan dan Gizi Masyarakat, Dikti, Depdikbud	Kwartarini WY, Achmad Surjono, Retna Siwi P, Lina Kurniawati

NO	NO AR	TITLE (Judul)	COLLABORATION (Kerjasama)		INVESTIGATORS (Peneliti)
16.	015.A R	Kinerja Polindes di Kabupaten Purworejo	Fakultas kedokteran Universitas Gadjah Mada Yogyakarta	Bag.Proyek Pengembangan Kesehatan dan Gizi Masyarakat, Dikti,Depdikbud	Ekawati L.Haksari, Prasetyastuti, Punik Mumpuni
17.	016.A R	Faktor-faktor yang mempengaruhi ibu hamil dalam memilih penolong persalinan di Kabupaten Purworejo, Jawa Tengah	Fakultas kedokteran Universitas Gadjah Mada Yogyakarta	Bag.Proyek Pengembangan Kesehatan dan Gizi Masyarakat, Dikti,Depdikbud	Detty S. Nurdianti, Abdul Wahab, Made Alit Gunawan
18.	022.A R	Pengaruh Ibu Hamil Penderita Malaria terhadap Kejadian Berat Bayi Lahir Rendah	Fakultas Kedokteran Universitas Gadjah Mada	Bag.Proyek Pengembangan Kesehatan dan Gizi Masyarakat, Dikti,Depdikbud	Dwikisworo Setyowireni
19.	025.A R	Longitudinal Study on Nutritional Status and Intestinal Parasite Infestation during Pregnancy (Tahap II)	Fakultas Kedokteran Universitas Gadjah Mada	Bag.Proyek Pengembangan Kesehatan dan Gizi Masyarakat, Dikti,Depdikbud	Detty SN, Sri Sumarni, Mohammad Hakimi, Suyoko
20.	033.A R	Studi Pengembangan Puskesmas Model dalam Implementasi Manajemen Terpadu Balita Sakit (MTBS)	CHN-RL Fakultas Kedokteran Universitas Gadjah Mada Yogyakarta	Bag.Proyek Pengembangan Kesehatan dan Gizi Masyarakat, Dikti,Depdikbud	Achmad Surjono,L. Endang Dewi Lestari, Alan R.Tumbelaka,Nasi bah, Kuswantoro
21.	034.A R	Pusat Pengamatan dan Penanggulangan Dampak Krisis Terhadap Status Kesehatan dan Gizi di Kabupaten Purworejo	CHN-RL Fakultas Kedokteran Universitas Gadjah Mada Yogyakarta	Bag.Proyek Pengembangan Kesehatan dan Gizi Masyarakat, Dikti,Depdikbud	Diah Rumekti, Siswanto A. Wilopo, Djaswadi Dasuki, Abdul Wahab,J. Haryanto
22.	035.A R	Pengembangan dan Studi Validasi Metode Autopsi Verbal Kematian Maternal Sederhana Oleh Pemuka Masyarakat	CHN-RL Fakultas Kedokteran Universitas Gadjah Mada Yogyakarta	Bag.Proyek Pengembangan Kesehatan dan Gizi Masyarakat, Dikti,Depdikbud	Hasto Wardoyo, Djaswadi dasuki, Abdul Wahab, Mohammad Hakimi, Eko Sulistyono
23.	036.A R	Perbandingan Efektivitas Misoprostol Per Oral Dengan Oksitosin Untuk Prevensi Perdarahan Post Partum	CHN-RL Fakultas Kedokteran Universitas Gadjah Mada Yogyakarta	Bag.Proyek Pengembangan Kesehatan dan Gizi Masyarakat, Dikti,Depdikbud	Djaswadi Dasuki, Diah Rumekti, Ulfah Hidayah, Hari Kusnanto
24.	037.A R	Peningkatan Cakupan Ibu Menyusui Eksklusif	CHN-RL Fakultas Kedokteran Universitas Gadjah Mada Yogyakarta	Bag.Proyek Pengembangan Kesehatan dan Gizi Masyarakat, Dikti,Depdikbud	Yati Soenarto, Djaswadi Dasuki, Retna Siwi Padmawati, Kusmanto, Solichin
25.	038.A R	Peningkatan Vitalitas Posyandu Sebagai Akibat Dampak Krisis	CHN-RL Fakultas Kedokteran Universitas Gadjah Mada Yogyakarta	Bag.Proyek Pengembangan Kesehatan dan Gizi Masyarakat, Dikti,Depdikbud	Abdul Wahab, Yati Soenarto, Punik Mumpuni, Lina Kurniawati

NO	NO AR	TITLE (Judul)	COLLABORATION (Kerjasama)		INVESTIGATORS (Peneliti)
26.	039.A R	Sosialisasi Program Social Safety Net Untuk Pemberdayaan Keluarga Dalam Upaya Peningkatan Partisipasi dan Ketepatan Identifikasi Sasaran Program	CHN-RL Fakultas Kedokteran Universitas Gadjah Mada Yogyakarta	Bag.Proyek Pengembangan Kesehatan dan Gizi Masyarakat, Dikti,Depdikbud	Ova Emilia, Rukmono, Hasto, Wardoyo, Djaswadi Dasuki, Dwijo Kuncoro
27.	040.A R	Pengaruh Krisis Moneter Pada Kehamilan Kesehatan, Permintaan Untuk Pelayanan dan Biaya Pengeluaran	CHN-RL Fakultas Kedokteran Universitas Gadjah Mada Yogyakarta	Bag.Proyek Pengembangan Kesehatan dan Gizi Masyarakat, Dikti,Depdikbud	Mohammad Hakimi, Siswanto A. Wilopo, Abdul Wahab, Detty S. Nurdiati, Solichin
28.	009.A R	Focused Ethnographic Study on Acute Respiratory Infection in Middle Java	Faculty of Medicine, Gadjah Mada University, Yogyakarta	Departemen of Health, Republic Of Indonesia	Djauhar Ismail, Hadianto Ismangoen, Indria L. Gamayanti.
29.	010.A R	Case Management postpartum Haemorage at PHC	Kelompok Epidemiologi Perinatal, Fakultas Kedokteran Universitas Gadjah Mada	Dinas Kesehatan Kabupaten Dati II Purworejo	M. Hakimi, Achmad Surjono Detty S Nurdiati Dwi Kisworo S. Lina Kurniawati
30.	024.A R	Sisitem Informasi Kesehatan Melalui Lembaga Ketahanan Masyarakat Desa (LKMD)	Proyek Penelitian dan Pengembangan Kesehatan	Fakultas Kedokteran Universitas Gadjah Mada	Mohammad Hakimi
31.	026.A R	Studi Diagnostik Klinis Demam Tinggi pada Balita di Daerah Endemik Malaria	Proyek Penelitian dan Pengembangan Kesehatan	Fakultas Kedokteran Universitas Gadjah Mada	Agnes Muryati, Ahmad Surjono, L.Endang Dewi Lestari, Kusumanto
32.	002.A R	Prescribing Pattern of Village Midwives for Non-obstetrics Cases in Purworejo, Central Java, Indonesia	CEBU, Sardjito General Hospital	Public Health Dept. FK- Universitas Gadjah Mada	Ali Gufron Mukti, Mohammad Hakimi, Rusdi Lamsudin, Aryanti.
33.	029.A R	Antropometri Anak 0-4 tahun (Studi Cross-Sectional)	CHN-RL	Departemen Pendidikan dan Kebudayaan	Ahmad Surjono, Sumali M.Atmojo
34.	053.A R	Determinan Pemilihan Penolong Persalinan dan Tempat Pertolongan Persalinan di Kecamatan Gebang dan Pituruh, Kabupaten Purworejo	CHN-RL	Pusat Penelitian UGM	Mohammad Hakimi, Yayi Suryo Prabandari, Punik Mumpuni
35.	071.A R	Uji Klinis Pemakaian Pil Oral Kontrasepsi (Buatan RRC)	CHN-RL	Bagian Farmakologi Klinik UGM	Djaswadi Dasuki, Sri Suryawati, Rukmono Siswishanto, Hasto Wardoyo
36.	014.A R	The Impact of a quality Assurance Program on improving performance of village Midwives in Purworejo Central Java, Indonesia.	CHN-RL	New Castle University	Ali Gufron Mukti
37.	042.A R	Situasi Analisis Garam Iodium di Daerah Gondok Enemis	CHN-RL	Fakultas Kedokteran	Pungky Ardani

NO	NO AR	TITLE (Judul)	COLLABORATION (Kerjasama)		INVESTIGATORS (Peneliti)
				Universitas Gadjah Mada	
38.	041.A R	Tinggi Badan Anak Baru Masuk Sekolah (TBABS) di Kabupaten Purworejo Tahun 1994/1995	CHN-RL	Fakultas Kedokteran Universitas Gadjah Mada	M. Syafak Hanung
39.	018.A R	Pengukuran pengetahuan dan konsumsi energi ibu hamil di Kabupaten Purworejo	CHN-RL	Fakultas Kedokteran Universitas Gadjah Mada	Inayatullah
40.	021.A R	Persepsi-perilaku Ibu Hamil dan Masyarakat terhadap Risiko kehamilan Persalinan si Kabupaten Purworejo	CHN-RL	Fakultas Kedokteran Universitas Gadjah Mada	Ismail Joko Sutresno
41.	023.A R	Social Cultural Dimensons of Anemia Among Pregnant Women in Rural Area of Java, Indonesia	CHN-RL	Mahidol University, Thailand	Atik Triratnawati
42.	032.A R	Analisa Perilaku Gizi Ibu Hamil dan Status Gizi di Wilayah Puskesmas Banyuurip I Kab. Purworejo Jawa Tengah	CHN-RL	Fakultas Kedokteran Universitas Gadjah Mada	Tjarono Sari
43	049.A R	Nutritional Status Among Non-pregnant Women In Purworejo, Central Java, Indonesia	CHN-RL	Department of Epidemiology and Public Health, Umea University, Sweden	Detty Siti Nurdiati
44	050.A R	Effect of Socio-Demographic Factors On Infant Mortality In Purworejo, Central Java, Indonesia	CHN-RL	Department of Epidemiology and Public Health, Umea University, Sweden	Abdul Wahab
45	051.A R	Self-Reported symptoms of Pregnancy and Health Care Seeking Pattern In Purworejo District, Central Java	CHN-RL	Department of Epidemiology and Public Health, Umea University, Sweden	Fatwa Sari Tetra Dewi
46	052.A R	Effect Of Morbidity On Change In Mid-Upper-Arm Circumference In Children Under Five Years Of Age A Cohort study In Purworejo, Central Java, Indonesia	CHN-RL	Department of Epidemiology and Public Health, Umea University, Sweden	Soeroyo Machfudz
47	043.A R	Exclusive Breastfeeding in the Purworejo District, Central Java, Indonesia	CHN-RL	Department of Epidemiology and Public Health, Umea University, Sweden	Charlota N. And Sophie Ramberg
48	055.A R	Efektivitas promosi ASI terhadap lamanya menyusui di Kabupaten Purworejo 1999	CHN-RL	Safe Motherhood Project	Nurul Hidayah

NO	NO AR	TITLE (Judul)	COLLABORATION (Kerjasama)		INVESTIGATORS (Peneliti)
49	056.A R	Hubungan Kualitas Pelayanan dengan Kelangsungan Pemakaian AKDR di Kabupaten Purworejo	CHN-RL	Safe Motherhood Project	Y. Edy Priyono
50	057.A R	Pengaruh ANC dan Penolong persalinan terhadap kematian neonatus berdasarkan studi longitudinal di Purworejo	CHN-RL	Safe Motherhood Project	Moch Agus Wakhid
51	058.A R	Analisis pola konsumsi makan status Gizi ibu hamil keluarga prasejahtera di Kab. II Purworejo, Jawa Tengah	CHN-RL	Safe Motherhood Project	Any Gunawati
52	059.A R	Determinan kemandirian peserta KB di Kabupaten Purworejo	CHN-RL	Safe Motherhood Project	Harjono
53	060.A R	Analisa nilai anak di Kabupaten Purworejo	CHN-RL	Safe Motherhood Project	Karnadi Sigit
54	061.A R	Pengaruh status sosial ekonomi terhadap kesertaan KB di Kab. Purworejo	CHN-RL	Safe Motherhood Project	Kanthi Aryekti
55	062.A R	Pemanfaatan pelayanan bidan desa dal am pertolongan persalinan di Kab. Purworejo	CHN-RL	Safe Motherhood Project	Arief Prawira
56	063.A R	Hubungan perilaku dengan anemia ibu hamil di Purworejo 1999	CHN-RL	Safe Motherhood Project	Fitri Yetti Yumna
57	064.A R	Dampak krisis ekonomi terhadap suntik mandiri di Kab. Purworejo	CHN-RL	Safe Motherhood Project	Agoes Poedjianto
58	065.A R	Analisis kualitatif pelayanan KB terhadap unmetneed di Kab. Purworejo	CHN-RL	Safe Motherhood Project	Rr Iswari H
59	066.A R	Pemanfaatan pelayanan pemeriksaan kehamilan di Polindes kab. Purworejo	CHN-RL	Safe Motherhood Project	Elzadeba Agustina
60	067.A R	Pemanfaatan pelayanan kesehatan dan sanitasi lingkungan sebagai determinan kelangsungan hidup bayi di Purworejo	CHN-RL	Safe Motherhood Project	Edi Puji Harto
61	068.A R	Hubungan antara pendidikan ibu dan pendapatan keluarga dengan status gizi balita di Kab. Purworejo	CHN-RL	Safe Motherhood Project	Ninik Ratih Himawati
62	031.A R	Reduction of The Prevalence of Micronutrient Deficiency (Iron, Iodine, Vitamin A, Zinc, Selenium and Copper) In Pregnancy and Under-Five Children	CHN-RL	Dikti Progam Pengembangan Pascasarjana	Mohammad Hakimi, Siswanto A.Wilopo, Djaswadi Dasuki, Djauhar Ismail, Achmad Surjono
63	017.A R	Pengetahuan, Sikap, dan Praktek Ibu Hamil hubungannya dengan Anemia Gizi	CHN-RL	URGE Project	Sri Achadi Nugraheni
64	045.A R	Hubungan Proses Persalinan dengan Kerja fisik Selama Hamil dan Status Zn serta Vitamin A	CHN-RL	URGE Project	Marwi Soerohardjo

NO	NO AR	TITLE (Judul)	COLLABORATION (Kerjasama)		INVESTIGATORS (Peneliti)
65	046.A R	Pengaruh Interaksi Bidan dan Ibu Hamil pada Ketaatan terhadap suplementasi Fe dan Status Fe	CHN-RL	URGE Project	Emiliana Maryiah
66	047.A R	Hubungan Defisiensi Vitamin A dengan Prevalensi Servisititis Klamidia	CHN-RL	URGE Project	Widjajanto
67	048.A R	Kadar Cu Wanita Hamil Pasca Semprot dengan Pestisida	CHN-RL	URGE Project	Sri Sutarni Sudarmadji
68	030.A R	Kadar Selenium dan Aktivitas Glutation Peroksidase Plasma Darah Wanita Hamil Dengan Umur Kehamilan Sembilan Bulan Di Daerah Endemik Gondok dan Di Daerah Non Endemik Gondok	CHN-RL (URGE)	Fakultas Kedokteran Universitas Gadjah Mada	Sunarti
69	054.A R	Hubungan Lingkar Lengan Atas dan Faktor Sosio Ekonomi dengan Kematian Balita di Kabupaten Purworejo Tahun 1995-1998	CHN-RL	Fakultas Kedokteran Universitas Gadjah Mada	Linawaty
70	044.A R	Faktor-faktor Yang Mempengaruhi Cakupan Program Pemberian Kapsul Vitamin A pada Balita di Purworejo Tahun 1996	CHN-RL	Fakultas Kedokteran Universitas Gadjah Mada	Tundjungsari Ratna Utami
		SEMI-QUE			
71	070.A R	University-Governemnt-Community Partnership Program to Overcome Impact of the Economic Crisis on Reproductive Health	CHN-RL	Direktorat Jenderal Pendidikan Tinggi, Departemen Pendidikan dan Kebudayaan	Djaswadi Dasuki, Djauhar Ismail
		Sub-Judul:			
		1. Analizing of Emergency Obstetric Care (EOC) Barries (A community Need Assessment)			Rukmono Siswishanto
		2. Cost Effective Method in Overcoming Prolonged Labour Using Misoprostol			Djaswadi Dasuki
		3. Development Study of Health Service Insurance of Maternal and Infant (JPKIB) Program			Hasto Wardoyo
		4. Revitalization of Polindes Performance as Place for Antenatal Care and Delivery			Abdul Wahab
		5. Assessing the Sources of Payment for Child Health Problems in Rural Indonesian District: A Projection Toward the Implementation of Community Health Insurance			Retna iwi Padmawati

PUBLICATION LIST
COMMUNITY HEALTH AND NUTRITION RESEARCH LABORATORY
Fakulty of Medicine, Gadjah Mada University Yogyakarta

R E P R I N T

No.	Publication Title	Author
1.	Community health and nutrition research laboratories to support development of provincial health and nutrition programs in Jawa Tengah and Nusa Tenggara Timur	Siswanto Agus Wilopo and CHN-RL Team)
2.	Community health and nutrition research laboratory CHN-RL Gadjah Mada University, Faculty of Medicine, Yogyakarta : Key issues on The research design, data collection and management	Siswanto Agus Wilopo and CHN-RL Team)
3.	Karakteristik rumah tangga di kabupaten Purworejo	Abdul Wahab, Hari Kusnanto, Achmad Surjono, Harun Rusito
4.	Tingkat, tren dan deferensial kematian bayi dan anak serta angka harapan hidup di kabupaten Purworejo : Metode tidak langsung	Siswanto Agus Wilopo, Abdul Wahab, Hari Kusnanto, Harun Rusito, Lina Kurniawati
5.	Parental education and socioeconomic correlates of child mortality in Purworejo	Hari Kusnanto, Adi Prasajo, Achmad Surjono
6.	Studi validasi autopsi verbal kematian maternal di kabupaten Purworejo	I.G. Made Bagiadha, Mohammad Hakimi, Djaswadi Dasuki
7.	Pemanfaatan pelayanan bidan desa dalam pemeriksaan kehamilan di kabupaten Purworejo	Ali Ghuftron Mukti, Abdul Wahab, Mohammad Hakimi
8.	Evaluasi efektivitas perawatan kehamilan di kabupaten Purworejo	Djaswadi Dasuki, Mohammad Hakimi, Siswanto Agus Wilopo, Lina Kurniawati
9.	Morbiditas maternal dan pemanfaatan upaya kesehatan ibu di kabupaten Purworejo	Detty S. Nurdiati, Djaswadi Dasuki, Mohammad Hakimi
10.	Pengetahuan, sikap dan praktek ibu hamil hubungannya dengan anemia	S.A Nugraheni, Djaswadi Dasuki, Djauhar Ismail
11.	Pengukuran pengeluaran dan konsumsi energi ibu hamil di kabupaten Purworejo, Jawa tengah	Djaswadi Dasuki, Saribin Hasibuan, Inayatullah
12.	Persepsi perilaku ibu hamil dan masyarakat terhadap resiko kehamilan di kabupaten Purworejo	Djaswadi Dasuki, Ismail Joko Sutresno, Saribin Hasibuan
13.	Nutritional status among non-pregnant women in Purworejo, Central Java, Indonesia	Detty Siti Nurdiati
14.	Socio cultural dimensions of anemia among pregnant women in rural areas of java, Indonesia	Atik Triratnawati
15.	When Behaviour does not increase equally with the knowledge : A Qualitative study on diarrhoea among children under five in a longitudinal health surveillence system geared toward deelopment of a social and behaviour	Kwartarini Wahyu Yuniarti

16.	Situasi analisis garam iodium di daerah gondok endemis	Pungky Ardani, Achmad Surjono
17.	Pencapaian program imunisasi pada anak usia 12-23 bulan di kabupaten Purworejo	Hari Kusnanto, Siswanto Agus Wilopo, Achmad Surjono, Harun Rusito
18.	Indikator keberhasilan praktek menyusui di kabupaten Purworejo	Achmad Surjono, Mohammad Hakimi, Djaswadi Dasuki, Lina Kurniawati
19.	Injury in preschool age children, a population based study	Achmad Surjono, Soenarto Sastrowijoto, Siswanto Agus Wilopo, Harun Rusito
20.	Markov model in estimating the transition probabilities of rhinitis in children, Purworejo longitudinal surveillance study	Soenarto Sastrowijoto
21.	Pelayanan kontrasepsi dan peran bidan : Analisa dan kecenderungan biaya pelayanan di Purworejo tahun 1995-1997	Siswanto Agus Wilopo, Djaswadi Dasuki, Ali Ghuftron Mukti, Ina Agustina, Lina Kurniawati
22.	Pola konsumsi makan ibu hamil di wilayah kabupaten Purworejo	Djaswadi Dasuki, Imanuddin Sugihartomo
23.	Tinggi badan anak baru sekolah di kabupaten Purworejo	M. Syafak Hanung, Achmad Surjono, Sunarto
24.	Prescribing pattern of village midwives for non obstetric cases in Purworejo, Central Java, Indonesia	Ali Ghuftron Mukti, Aryanti Radyowati, Mohammad Hakimi, Rusdi Lamsudin
25.	The relationship between socioeconomic standard, knowledge about breastfeeding and prevalence of exclusive breastfeeding in the Purworejo district, Central Java, Indonesia	Charlotta Nordenhall, Sophie Ramberg
26.	Faktor-faktor yang mempengaruhi cakupan program pemberian kapsul vitamin A pada balita di Purworejo tahun 1996	Tundjungsari Ratna Utami, Mohammad Hakimi, Achmad Surjono
27.	Studi etnografi terfokus pada ISPA di propinsi Jawa Tengah	Djauhar Ismail, Hadianto Ismangoen, Indra L Gamayanti
28.	Studi analisis faktor-faktor yang mempengaruhi status gizi anak balita di kabupaten Purworejo, Jawa Tengah	Sumali M. Atmojo
29.	Effect of socio-demographic factors on infant mortality in Purworejo, Central Java, Indonesia	Abdul Wahab
30.	Self reported symptoms of pregnancy and health care seeking pattern in Purworejo district, Central Java	Fatwa Sari Tetra Dewi
31.	Effect of morbidity on change in mid-upper-arm circumference in children under five years of age a cohort study in Purworejo, Central Java, Indonesia	Soeroyo Machfudz
32.	Faktor-faktor yang mempengaruhi kualitas lingkungan rumah tangga di kabupaten Purworejo, Jawa Tengah	Sumali M. Atmojo
33.	Faktor-faktor yang mempengaruhinya kejadian diare anak balita di kabupaten Purworejo, Jawa Tengah	Sumali M. Atmojo

34.	Studi pengembangan Puskesmas model dalam implementasi manajemen terpadu balita sakit (MTBS)	Achmad Surjono, L. Endang Dewi Lestari, Alan R. Tumbelaka, Nasibah, Kuswanto, Tunjung Wibowo
35.	Pengembangan dan study validasi metode autopsi verbal kematian maternal sederhana oleh pemuka masyarakat	Hasto Wardoyo, Djaswadi Dasuki, Abdul Wahab, Mohammad Hakimi, Eko Siswanto
36.	Pusat pengamatan dan penanggulangan dampak krisis terhadap status kesehatan dan gizi di kabupaten Purworejo	Diah Rumekti Hadiati, Djaswadi Dasuki, Sururi
37.	Perbandingan efektivitas misoprostol per oral dengan oksitosin untuk prevensi perdarahan post partum	Djaswadi Dasuki, Diah Rumekti Hadiati, Ulfah Hidayah, Hari Kusnanto J
38.	Peningkatan cakupan ibu menyusui eksklusif	Yati Soenarto, Djaswadi Dasuki, Retna Siwi Padmawati, Lina Kurniawati, Solichin
39.	Peningkatan vitalitas posyandu sebagai akibat dampak krisis	Abdul Wahab, Yati Soenarto, Punik Mumpuni, Lina Kurniawati
40.	Sosialisasi program <i>social safety net</i> untuk pemberdayaan keluarga dalam upaya peningkatan partisipasi dan ketepatan identifikasi sasaran program	Ova Emilia, Rukmono, Hasto Wardoyo, Djaswadi Dasuki, Dwijo Kuncoro
41.	Pengaruh krisis moneter pada kehamilan kesehatan, permintaan untuk pelayanan dan biaya pengeluaran	Mohammad Hakimi, Siswanto A. Wilopo, Abdul Wahab, Detty S. Nurdiati, Solichin
42.	Hubungan lingkaran lengan atas dan faktor sosio ekonomi dengan kematian balita di kabupaten Purworejo tahun 1995-1998	Linawaty, Achmad Surjono, Mohammad Hakimi
43.	Hubungan frekuensi penerimaan vitamin A terhadap resiko terjadinya ISPA pada balita di kabupaten Purworejo tahun 1996	Tisha Irmadiyani, Achmad Surjono, Mohammad Hakimi
44.	The dynamic contraceptive use in Purworejo district, Central Java, Indonesia	Riris Andono Ahmad
45.	Hubungan konsumsi dan pengeluaran energi pada ibu hamil trimester III dengan bayi berat lahir rendah	Inayatullah, Djaswadi Dasuki, Mohammad Hakimi
46.	Metoda partisipatif untuk memperbaiki persepsi wanita usia subur tentang tanda bahaya kehamilan dan pemanfaatan pelayanan ANC	Rukmono Siswishanto, M. Rosadi Seswandhana, Fatwasari Tetra Dewi, Jumeri
47.	The influence of weaning pattern on nutritional status among 12-24 months old children Purworejo, Central Java Indonesia	Z. Eko Firdos
48.	Does poor nutritional status lead to morbidity ? (A longitudinal study of infants 6-12 months in Purworejo Central Java, Indonesia)	Tunjung Wibowo

**INDEPTH NETWORK
QUESTIONNAIRE ON HUMAN RESOURCE CAPACITY OF MEMBER SITES**

SITE NAME: PURWOREJO, INDONESIA

A. ABOUT INDIVIDUAL STAFF / PERSONNEL IN THE DSS SITE

	QUALIFICATION	POSITION	AREAS OF EXPERTISE
SCIENTIFIC STAFF (<i>People who spend the majority of their time in research design, investigation, data analysis, scientific communication</i>)			
Siswanto Agus Wilopo, MD, SU, MSc.	Medical doctor, demographer, biostatistician	Chair	Demography, Epidemiology, Biostatistics
Prof. Mohammad Hakimi, MD, PhD	Obstetrician, clinical epidemiologist	Vice Chair	Epidemiology, Child and Reproductive Health
Prof. Djaswadi Dasuki, MD, PhD	Obstetrician, epidemiologist	Program Manager	Epidemiology, Child and Reproductive Health
Sri Suparyati Sunarto, MD, PhD	Pediatrician, gastroenterologist	Senior Researcher	Epidemiology, Diarrhea
Ali Gufron Mukti, MD, PhD	Medical doctor, clinical epidemiologist	Senior Researcher	Epidemiology, Health Financing
Hari Kusnanto, MD, DrPH	Medical doctor, epidemiologist	Senior Researcher	Epidemiology, Health Planning and Management
Ova Emilia, MD, MSc	Obstetrician, Medical Education	Senior Researcher	Child and Reproductive Health
Abdul Wahab, MPH	Social scientist, demographer	Senior Researcher	Demography
Rukmono Siswishanto, MD	Obstetrician, clinical sciences	Junior Researcher	Reproductive Health
Hasto Wardoyo, MD	Obstetrician, clinical sciences	Junior Researcher	Reproductive Health
Nawi Ng, MD, MPH	Medical doctor, epidemiologist	Junior Researcher	Non-Communicable Disease Epidemiology, Biostatistics
ADMINISTRATIVE STAFF (<i>Head of sections such as finance, human resource, facility management, security, counts of other staff categories</i>)			
Handayani, Dra. MBA, Akt.	Economist, accounting	Chief Administrator	Accounting and Project Financing
R.Ruliyandari, SE	Economist, public health	Vice Chief Administrator	Project Administration
Dewi Sintawati	Accounting	Treasurer and Accounting	Computer spreadsheet, accounting database, Dac Easy Comp.
Christina Tri Ratna Dewi	Diploma in Secretary	Administrator	Computer spreadsheet, Internet, administration
Tri Megasuri Januati, SH	Bachelor of Law	Administrator	Computer spreadsheet, Internet, administration
Antini Kurniawati, Dra.	Bachelor of Education	Administrator	Computer spreadsheet, Internet, administration
Dra.Utami Dwiastuti	Bachelor of Administration	Administrator	Computer spreadsheet, Internet, administration
Akto Adhi Kuntoro	Diploma in Secretary	Administrator	Computer spreadsheet, Internet, administration
Indri Astuti	High School	Administrator	Computer spreadsheet, Internet, administration

Please provide additional information on supplementary sheets and send to us preferably by email

INDEPTH NETWORK
QUESTIONNAIRE ON HUMAN RESOURCE CAPACITY OF MEMBER SITES
SITE NAME: PURWOREJO, INDONESIA

Nur Cahyani Fatimah	High School	Treasurer	Computer spreadsheet, accounting database
DATA SYSTEMS STAFF (<i>Name senior members, counts for categories such as data entry clerks</i>)			
Althaf Setiawan, S.Si	Statisticians	Data Analysis	Statistical program: S, R, EpiInfo
M.Rosyid Budiman, S.Si	Computer Science	Computer Programmer	Database program: FoxPro, HRS
Yusuf Saryono	Diploma in Computer	Computer Administrator	Database program, Internet
Sutanto	Diploma in Computer	Computer Staff	Computer spreadsheet, Internet, administration
M.Boedi Soetanto, Drs.	Social Scientist	Computer Staff	Graphics program
Sugeng	High School	Data Management	Database program: FoxPro, HRS
TDW Nurwicaksono	Bachelor	Computer Operator	Database program, data entry module
Dwi Ari Susanto	High School	Computer Operator	Database program, data entry module
Maryadi Gandung Widodo	High School	Computer Operator	Database program, data entry module
M.Bagus Kurniawan	High School	Computer Operator	Database program, data entry module
Triwahyu Yuliana	Diploma in Environmental Engineering	Computer Operator	Database program, data entry module
OPERATIONAL STAFF (<i>Name senior members, counts for field workers, supervisors and other operational staff</i>)			
Sukarman	Statisticians	Field Coordinator	
Agung Nugroho, MPH	Nutritionist	Field Coordinator	
Muhtadi, Drs.	Sociologist	Field Coordinator	
Sadiyem, Dra.	Sociologist	Field Coordinator	
V. Utari Marlinawati, Dra., MPH	Anthropologist	Field Coordinator	
R. Ahmad Yusuf, Drs.	Sociologist	Computer Operator	
Sai Abdillah Akhmad	Management Diploma	Field Administrator	
Kismiyati	Economics Diploma	Field Administrator	

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**INDEPTH NETWORK
QUESTIONNAIRE ON HUMAN RESOURCE CAPACITY OF MEMBER SITES**

SITE NAME: PURWOREJO, INDONESIA

OTHER CATEGORIES OF STAFF (*Name senior members, counts for other categories*)

Subandriyo	High School	Driver	
Dwi Yantoro	High School	Driver	
Maryono	High School	Housekeeping	

B. HR NEEDS

Senior Biostatisticians	Longitudinal data analysis
GIS Expert	Setting-up and Application of GIS in the surveillance are

Please provide additional information on supplementary sheets and send to us preferably by email

**INDEPTH NETWORK
QUESTIONNAIRE ON HUMAN RESOURCE CAPACITY OF MEMBER SITES**

SITE NAME: PURWOREJO, INDONESIA

C. SITE PROJECTS

1.	Title	Non-Communicable Disease Risk Factors Surveillance
	Collaborators	Epidemiology, Department of Public Health and Clinical Medicine, Umea University, Sweden World Health Organization Headquarter, Geneva
	Funded by	SIDA/SAREC Sweden World Health Organization Headquarter, Geneva
	Period	2000 – 2002 (3 years)
	Result	<p>Background: The increase burden of non-communicable diseases (NCD) as a result of epidemiological transition should lead our attention toward preventive measures. NCD risk factors have not yet been comprehensively studied in many developing countries. Putting NCD risk factors under surveillance will allow one to determine the burden of NCD risk factors and NCD in the future, as well as to monitor the NCD risk factors trend over time.</p> <p>Objectives: To determine the prevalence of NCD risk factors in Purworejo and to monitor the trend of these risk factors over time.</p> <p>Summary: Baseline data has been collected during Sept 2000-Mar 2001. The first follow-up was conducted during Sept 2002 – Dec 2002. A high prevalence of smoker was found among male, and it is widely distributed through all age-groups. High prevalence of overweight and obesity was observed among female. This study also showed a high prevalence of hypertension both in male and female, and the prevalence increased and peaked in older age-group.</p>
2	Title	Hospital-Based System And Strain Surveillance For Rotavirus Diarrhoea And Estimates Of Disease Burden Inindonesia
	Collaborators	CHN-RL(Community Health And Nutrition-Research Laboratory And Department Of Child Health, Faculty Of Medicine, Gadjah Mada University, Yogyakarta, Indonesia, Department of Paediatrics Faculty of Medicine Gadjah Mada University and Center For Disease Control And Prevention, Georgia, USA
	Funded by	CHN-RL(Community Health And Nutrition-Research Laboratory And Department Of Child Health, Faculty Of Medicine, Gadjah Mada University, Yogyakarta, Indonesia, Department of Paediatrics Faculty of Medicine Gadjah Mada University and Center For Disease Control And Prevention, Georgia, USA
	Period	2 years (2001-2003) – to be extended 1 year

You may attach list of publications to the questionnaire

**INDEPTH NETWORK
QUESTIONNAIRE ON HUMAN RESOURCE CAPACITY OF MEMBER SITES**

SITE NAME: PURWOREJO, INDONESIA

	Result	<p>Background: Rotavirus is the most common cause of severe diarrhoea and dehydration in young children in both industrialized and developing countries, including Indonesia. In 1986, it was estimated that 130 million children developed diarrhoea caused by rotavirus each year. In Indonesia, death due to diarrhoea is around 150 to 200 thousands per year. This disease is also the main cause or malnutrition and the highest rank of hospitalized children (10-20%) in Indonesia. Estimation of disease burden, including health and economics burden will allow appropriate allocation of financial and health resources to deal with this problem.</p> <p>Objectives: The general objectives of the study are to determine the disease burden associated with rotavirus at hospital level in Indonesia, and to characterize of rotavirus strains in this hospital-based surveillance. The specific objectives of the study are to estimate direct and indirect costs of treatments due to rotavirus diarrhoea; to characterize the epidemiology of rotavirus strains in urban and rural hospitals; and to estimate the disease burden of rotavirus in this country using parameters calculated from this study and existing national data on mortality and morbidity or Rotavirus infection.</p> <p>Summary: By October 2002, five periods of data collection have been performed. During August 2001-October 2002, a number of 743 hospital based samples hve been collected from three district hospitals. From the total of 444 stools sample that have been tested, rotavirus is found positively in 235 samples (53%). The study is still going on, and more stools sample will be analysed provided the rotaclone kits has been available from the CDC.</p>
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3	Title	Clinical Trial on Oral Contraceptive Pills and Implant from the Republic of China (side effects, clinical signs and symptoms): Hormonal and Biochemical profile.
	Collaborators	Department of Clinical Pharmacology, Faculty of Medicine, Gadjah Mada University, Indonesia. Department of Obstetric Gynaecology, Faculty of Medicine, Gadjah Mada University, Indonesia.
	Funded by	PT Borimex Jakarta
	Period	2002
	Result	<p>Background: A lot of clinical trial on low doses of oral contraceptive have been conducted without appropriate follow up to monitor withdrawal, drop out and loss to follow up. A new oral contraceptive has been introduced into Indonesian market, yet its effectiveness and safety should be studied.</p> <p>Objectives: This study was conducted to evaluate the effectiveness and safety of new low doses oral contraceptive compared to available one used.</p> <p>Summary: No significant difference of subjective signs and complains health status, nutritional status and blood pressure were observed between the use of new oral contraceptive pills compared to available pills.</p>

You may attach list of publications to the questionnaire

INDEPTH NETWORK
QUESTIONNAIRE ON HUMAN RESOURCE CAPACITY OF MEMBER SITES
SITE NAME: PURWOREJO, INDONESIA

4	Title	Strengthening of Leadership Capacity of Human Resources on Reproductive Health Programs to Support the Decentralization of Health Services in Indonesia
	Collaborators	Bill and Melinda Gates Institutes and Bloomberg School of Public Health John Hopkins University
	Funded by	Bill and Melinda Gates Institutes
	Period	2 years (2003-2004)
	Result	<p>Background: Lack of strategic management and leadership often bring up to poor organization management. The learning organization introduced by Peter Senge become a good choice to be implemented at organization setting to improve organizational management and leadership capacity and to bring to better quality of service especially in reproductive health.</p> <p>Objective: This study aims to evaluate the impact of strengthening leadership capacity for policy and program managers on the decentralization of reproductive health programs. Specific objectives of this study are: identifying and building commitment of potential stakeholders in reproductive health at district levels, training on strategic leadership and learning organization and evaluating training process at district levels, followed by several booster training, monitoring changes expected to occur following the training at different level: individual, organizational, social and community changes; and developing best model for leadership training to strengthening leadership capacity at district level.</p> <p>Summary: Preparation has been done to initiate this project in July 2003. Workshop on leadership and learning organization has been conducted several times, and a coordination meeting between different organizations at district level has been held to build commitment from different organization.</p>

You may attach list of publications to the questionnaire

**INDEPTH NETWORK
QUESTIONNAIRE ON HUMAN RESOURCE CAPACITY OF MEMBER SITES
SITE NAME: PURWOREJO, INDONESIA**

5.	Title	Microfoundations of Health and Development
	Collaborators	Elizabeth Frankenberg, Bondan Sikoki and Duncan Thomas RAND and UCLA
	Funded by	National Institutes of Health
	Period	2001-2003
	Result	<p>Background: Pinning down the causal effect of health status on economic and social prosperity has been extremely difficult. This study is designed to shed light on this important topic will also measuring the benefits of a widespread iron supplementation program.</p> <p>Objectives: The project will provide new evidence on the inter-relationships between health, on one hand, and economic and social prosperity on the other hand, drawing on data that have been specially collected for this research study. In the Work and Iron Status Evaluation, subjects are randomly assigned to receive a weekly iron supplement or a placebo. The supplementation lasts for a year. Subjects are interviewed periodically to measure the impact of this nutrition intervention on general, physical and psychological health, time allocation and economic prosperity.</p> <p>Summary: The study consists of two main components: a socio-economic survey and a nutrition intervention. The socio-economic component collects demographic, socio-economic and health information from all members of households in the study. These data have been collected three times. There are about 4,000 households in the study. A census of communities in the study has been completed with information about health services and infrastructure recorded. Local price information is being collected on a monthly basis.</p> <p>The nutrition intervention was started in the middle of 2002 and is scheduled to last about a year</p>

RESIDENT COLLABORATORS (This may include Scientists who are actually engaged in research activity and visit regularly to contribute to research work)
Ruth Bonita, MD – World Health Organization Headquarter Geneva
Prof. Stig Wall – Umeå University Sweden
Prof. Anna Winkvist – Umeå University Sweden
Hans Stenlund – Umeå University Sweden
Duncan Thomas -- University California
Elizabeth Frankenberg -- University California

You may attach list of publications to the questionnaire

**INDEPTH NETWORK
QUESTIONNAIRE ON HUMAN RESOURCE CAPACITY OF MEMBER SITES**

SITE NAME: PURWOREJO, INDONESIA

You may attach list of publications to the questionnaire

INDEPTH –Network Clinical/Intervention Trials Questionnaire.

Note: Reply all with Y (yes) or N (No) except where numbers and details are required

Full name of institution	Community Health and Nutrition Research Laboratory (CHN-RL)				
Address	IKM Building 1 st Floor, Faculty of Medicine, Gadjah Mada University, Sekip Utara, Yogyakarta 55281, Indonesia				
Phone	+62-274-565076				
Fax	+62-274-548156				
Name/email of contact person.	1. Siswanto Agus Wilopo. , MD, SU, MSc., ScD Email: sawilopo@idola.net.id , sawilopo@hotmail.com 2. Mohammad Hakimi, MD, PhD Email: hakimi@yogya.wasantara.net.id				
		Malaria	TB	HIV/AIDS	Rotavirus
1. Staff	Public Health	√			
	Epidemiology	√			
	Immunology	√			
	Molecular Biology	√			
	Biostatistics	√			
	Sociology	√			
	Parasitology	√			
	Entomology	√			
	Virology	√			
	Bacteriology	√			
	Others	√			
2.Total number of Investigators	PhD's	7			
	MD's	14			
	Others	1 Biostatistician 2 Nutritionists 1 Sociologist 2 Anthropologist 2 Psychologist 1 Behavioral Scientist 2 Computer Programmers			
3. Data	Available epidemiological data from year 2000	Yes	Yes	No	Yes
4. Data	a) Capacity for data management	10 units of computers supported by two servers. Data entry and analysis use FoxPro Program and surveillance database based on HRS Program.			
	b) Available demographical data	Demographical data available since 1994, collected twice annually.			
5.Laboratory facilities	Public Health	√			
	Epidemiology	√			
	Immunology	√			
	Biochemistry	√			
	Molecular Biology	√			
	Parasitology	√			
	Entomology	√			
	Virology	√			
	Bacteriology	√			
	Others.	√			

6. List of clinical/intervention trials undertaken in field site	Zinc and Vitamin A Supplementation in Pregnant Mothers				
	Zinc and Iron Supplementation to Under-Five Children				
	Iron Supplementation to Adults				
	Oral Contraceptive Pills				
	Implant Contraceptive Method				
	Misoprostol for the Prevention of Postpartum Hemorrhage				
Quality Assurance Program for Midwives					
7. Do you consider your institution ready for clinical/intervention trials?	a) Phase I	Yes	Yes	Yes	Yes
	b) Phase II	Yes	Yes	Yes	Yes
	c) Phase III	Yes	Yes	Yes	Yes
	d) Phase IV	Yes	Yes	Yes	Yes
8. ARE YOU INTERESTED BUT NOT PREPARED?		-	-	-	-
9. Ethics Committee	a) Institutional	Yes			
	b) National	Yes			
9.1 Number of meetings per year.		Monthly			
10. Scientific review committee	Institutional	Yes			
10.1 Number of meetings per year.		Monthly			
11. Neighbouring clinical facilities supporting the site	Teaching Hospital	Dr. Sardjito Central General Hospital			
	Hospital	Purworejo District Hospital			
	Health Centres	17 Community Health Centers in the site			
12. Facilities for accommodation of visiting collaborators		University Guest House, Hotels			
13. Financial accountability and administrative systems.		2 fulltime accountants and 2 fulltime administrative secretaries, supported by 7 supporting staffs			
14. Operational/logistical system in place	a) Communication	Available via telephone, fax, email and internet.			
	b) Computer hardware/software	5 units of computers in Purworejo field offices 25 units of computers in Yogyakarta offices Internet facilities Microsoft Office, HRS Program, Visual FoxPro			
	c) Internet	Available widely			
	d) Vehicles	2 units of cars (in central office) 4 unit of motorcycles (in field office)			
	e) Logistics for drug delivery.	Available			
15. Institutional connection with	Ministry of Health	Yes			
	Ministry of Science	Yes			
	Ministry of Education/University	Yes			

16. Number of ongoing trials in other infectious diseases. (Name)		Bacterial Diarrhea for Under-Five Children Puerperal Fever
17. Affiliations with other institutions/identification.	a) National level	Ministry of Health National Family Planning Coordination Board
	b) Regional level (international)	WHO SEARO
	c) International and Networks.	World Health Organization RAND Corporation Bill and Melinda Gates Institution John Hopkins University Umea University, Sweden USAID Central of Disease Control UNICEF INCLIN INDEPTH