

HARMONISATION OF SUSENAS AND RISKESDAS

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THE NATIONAL TEAM FOR THE ACCELERATION OF POVERTY REDUCTION

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Abstract

To succeed in implementing programs to reduce the number of stunted children, accurate and timely data and information are required to serve as the basis for target and goal setting. The use of Riskesdas (Riset Kesehatan Dasar: Basic Health Research) is highly important to generate indicators on the Indonesian people's health status and monitor the success of various government programs in the health sector. Susenas (*Survei Sosial Ekonomi Nasional*: National Socioeconomic Survey) is used to generate indicators associated with household and individual welfare status.

Since 2018, there have been measures to harmonise Riskesdas, which is produced by Balitbangkes (*Badan Penelitian dan Pengembangan Kesehatan*: National Centre for Health Research and Development), Ministry of Health (MoH), with Susenas, which is produced by Statistics Indonesia (*Badan Pusat Statistik*: BPS). The MoH and BPS have been collaborating for quality assurance in the Riskesdas data collection. Quality assurance aims to ensure that the implementation of Riskesdas data collection is in accordance with the Standard Operating Procedures (SOP). Quality assurance also aims to identify any signs of content error and provide early warnings throughout the enumeration. The outcome of this activity is expected to serve as a reference tool for the MoH to follow up the findings of the Riskesdas enumeration to reduce content error that might have a broader impact.

Background

Stunting—often referred to as runt or short stature—is a failure of growth amongst children under the age of five (toddler). It is due to chronic malnutrition and repetitive infection—particularly within the child's first 1,000 days of life (Hari Pertama Kehidupan: HPK). A child is considered to be experiencing stunting if his/her body's length and height are more than two standard deviations below the World Health Organization Child Growth Standards median.

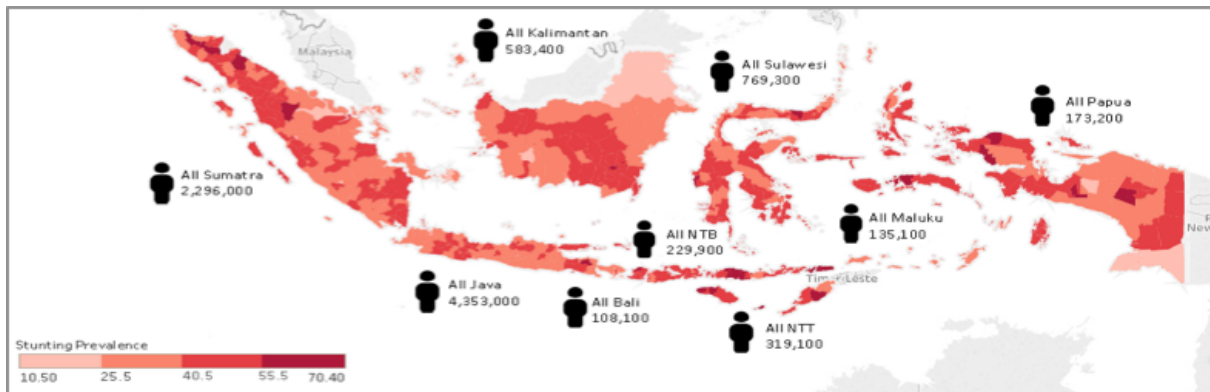
Indonesia is one of 47 countries with the worst rate of toddler stunting and anemia amongst women of reproductive age in the world. Since 2017, the Government of Indonesia through TNP2K has, therefore, been raising stunting as a national priority issue. The Global Nutrition Report 2016 (IFPRI 2016) noted that the stunting prevalence in Indonesia ranked 108th of 132 countries, while the 2014 report (IFPRI 2014) noted that Indonesia was one of 17 countries undergoing a double nutritional burden of overnutrition and undernutrition. In Southeast Asia, the stunting prevalence in Indonesia is the second highest after Cambodia (IFPRI 2016). Riskesdas 2018 results show there was an increase from 48.6 percent (2013) to 57.8 percent (2018) in the proportion of children with a normal development status at the national level and a fall of 6.4 percent in stunting prevalence over the same period—namely, from 37.2 percent (2013) to 30.8 percent (2018). The remaining 11.4 percent suffered from other nutritional conditions.

The main government source of stunting data is Riskesdas, a household survey that is conducted by the MoH every 3-5 years and collects information on individual health, including measurements of stunted children. The Riskesdas conducted in April 2018 and its data collection was coordinated with the implementation of Susenas that had been carried out in March 2018. Through this coordination, household and individual samples from Susenas of March 2018 also became samples in Riskesdas of April 2018.

Riskesdas data has been utilised several times to measure stunting with the following results: 35.6 percent (2010), 37.2 percent (2013), and 36.8 percent (2017). Errors in the accuracy and timeliness of data and information used as inputs results in plans that are not useful or even detrimental if they are implemented. The use of Riskesdas is highly important to produce indicators to observe Indonesian people's health status and monitor the success of various government programs in the health sector. Since 2018, Riskesdas has been routinely conducted by Balitbangkes in the expectation that, in 2018, there would be an integration between Riskesdas data and socioeconomic data issued by BPS through Susenas.

The incidence of stunting is widely spread across different regencies/cities in Indonesia (Figure 1). The highest prevalence of toddler stunting occurred in 2013 in the regency of South Timor Tengah (TTS) at 70.43 percent (38,772 people), while the highest absolute number of toddlers suffering from stunting occurred in the regency of Bogor which composed of 148,764 children and a stunting prevalence of 28.29 percent.

Figure 1: Stunting Incidence by Region 2013



Source: Data on Prevalence of Stunting, Basic Health Research (Riskesdas) 2013, Ministry of Health

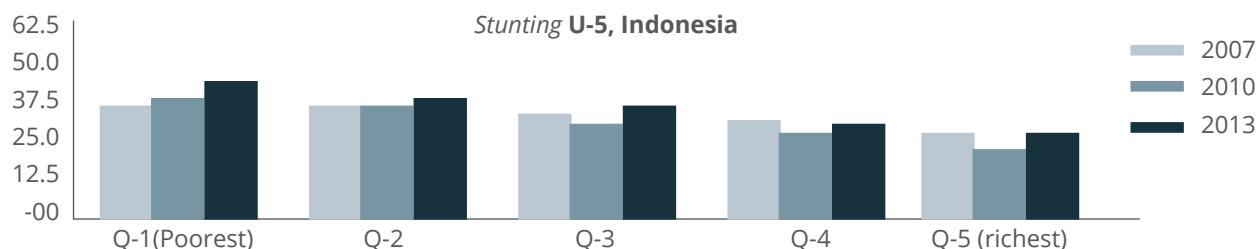
Goals

The harmonisation of Susenas with Riskesdas is very important—especially to enable the mapping of a toddler’s nutritional and welfare status, particularly those associated with stunting—and has two goals: (i) data integration; and (ii) improving data quality. Firstly, integrating the data from Riskesdas 2018 with those from Susenas 2018 is expected to enable the mapping of the health status condition of households and individuals and their welfare level which is based on the level of household expenditure. The second objective is to increase the quality of Riskesdas data through quality assurance of Riskesdas data collection (integration between BPS and the MoH). This is crucial to maintaining consistency between surveys conducted by the respective agencies.

Consideration for Harmonisation

Stunting Prevalence Happened in All Income Groups

When viewed from the distribution of income of those households with a stunted toddler, the prevalence of stunted children amongst the poorest population is significantly higher than that of other groups (Figure 2). The incidence of stunting in the middle income group and up to the richest one is also fairly high at above 25 percent. This indicates that the high number of stunted toddlers is not only related to poverty, which is measured by household income and expenditure, but is also highly related to other factors, such as nutritional consumption of the toddler and mother, parenting, access to and quality of health services, and environmental health. To find out more details about factors associated with stunting prevalence, the integration of Susenas and Riskesdas aims to ensure that the information on household socioeconomic characteristics that is often found in Susenas can be connected to the basic health data that are often found in Riskesdas.

Figure 2: Stunting Prevalence (%) by Distribution of Income Group (2007-13)

Source: Estimate from Riskesdas (stunting rate) and population projection by BPS.

Stunting Rate Is A National Development Target

Data on stunting can also be obtained from the Nutritional Status Monitoring (*Pemantauan Status Gizi*: PSG) which is a monitoring activity of toddler nutritional status development that is carried out annually to provide a description of a toddler's nutritional status. The 2017 PSG was conducted in 34 provinces and 514 regencies/cities. PSG implementation aims to safeguard and hence make community nutrition improvement effort more effective and efficient, by monitoring the change of nutritional status and program performance from time to time, so as to accurately determine the appropriate measures, change of policy formulation, and relevant program planning needed. In PSG 2017, a Nutritional Consumption Monitoring (*Pemantauan Konsumsi Gizi*: PKG) on toddlers was also conducted.

Another source of data on stunting is the National Health Indicator Survey (*Surkesnas*) of 2016, which is one of the inter-Riskesdas national health research activities conducted by Balitbangkes. The survey was conducted since there was no assessment system to comprehensively measure the achievements of indicators in the Renstra (*Rencana Strategis*: Strategic Plan) and RPJMN (*Rencana Pembangunan Jangka Menengah Nasional*: National Medium-term Development Plan) 2015-19 in the health sector. The routine recording and reporting system has not fulfilled all the health indicators and there is a need to strengthen and support the survey. *Surkesnas* 2016 measured and observed primary data and explored secondary data in health facilities and the community to determine the most updated situation of the community health status. This was obtained from the regency/city Health Office, community health centre (*Pusat Kesehatan Masyarakat*: puskesmas), and household/individual. Data on coverage in regency/city and puskesmas refers to the record of 2015.

Since the commencement of his term of office, President Jokowi's administration has prioritised the growth disturbance that is caused by a lack of nutrition in toddlers. All determinant data and indicators on stunting, wasting, and overweight were obtained from anthropometric measurement in Riskesdas. The Riskesdas has been conducted since 2007 by Balitbangkes and the data are sectoral data that are under the responsibility of the MoH.

Riskesdas Sampling Method

Riskesdas is a survey with a cross-sectional design. The Riskesdas of 2007, 2013 and 2018 aimed to describe population health problems in all parts of Indonesia with population sampling at the national, provincial, and regency/city level, while Riskesdas 2010 conducted a representative sample only at the national and provincial level (Table 1).

Table 1: Riskesdas Sample (Various Years)

Unit	RKD 2007	RKD 2010	RKD 2013	RKD 2018
Household Sample	280,000	70,000	300,000	300,000
Representation	District	Province	District	District
Sample Unit	Census Block	Census Block	Census Block	Census Block
Number of Census Blocks	18,000	2,800	12,000	30,000
Choice of Census Block Sample	Same as Susenas	Independent	Independent	Same as Susenas
Number of Households per Census Block	16	25	25	10

Note: RKD: *Riset Kesehatan Dasar* (Basic Health Research).

The number of Riskesdas and Susenas samples was relatively the same but varied across the individuals and households that were surveyed. Riskesdas samples of 2007 and 2018 were the same as the Susenas samples of 2007 and 2018, however, there was no data integration process and weighting in the analysis of Riskesdas and Susenas for 2007. The Riskesdas Sample Framework of 2007 and 2013 were also similar to what was done in Susenas.

Sampling was undertaken in two phases:

The first phase was the selection of the primary sampling unit (PSU) list in the main sample. The number of PSUs in the main sample was 30,000, which was selected using the probability-proportional-to-size method with the number of households from the population survey of 2010. The PSU is a merger of several census blocks which is the work area of the enumeration team for the 2010 population census. The PSU was also equipped with information on numbers and names of household heads, their address, and educational background—classified by urban/rural area.

The second phase selection sample was the entire census building which included normal households but did not include institutional households (orphanage, police/military barrack, prison) of the full enumeration result of the 2010 population census (SP2010-C1). Data on census building were selected, and the selected households within the census were updated first. Data updating was conducted by the Riskesdas 2013 enumerator prior to conducting an interview.

Harmonisation Phase

The fact that Riskesdas data collection was conducted partially by the MoH resulted in the data rarely being used by stakeholders from outside the health sector. It is referred to as a partial data collection due to the fact that there is a difference between the sample framework and sample selected in the socioeconomic survey conducted by BPS, while the sample framework aimed for by Susenas and Riskesdas was actually the same as the representative target at the regency/city level.

The unit of analysis that became the target of interviews and its implementation period were relatively similar. The integration of Riskesdas and Susenas means both surveys use the same sample framework. This will enable an analysis of households or individuals with much richer information due to the integration of variables existing in both surveys.

It is hoped that integrating Riskesdas with Susenas data can provide for the wider use of Riskesdas data for policies to accelerate the reduction of prevalence and stunting numbers in Indonesia. As already known, the cause of stunting is multidimensional. The framework for handling stunting is by: (i) Specific Nutritional Intervention (contributes 30 percent) that is an intervention aimed at children in their first 1,000 HPK. The activity is generally conducted by health sector, is short-term, and its results can be recorded in a relatively short time; and (ii) Sensitive Nutritional Intervention (contributes 70 percent) that is an intervention conducted through various development activities outside the health sector. The targets are the general public, and not specifically for the first 1,000 HPK. Most data and information needed to handle the Sensitive Nutritional Intervention are unavailable in Riskesdas data and, therefore, with the integration of Riskesdas and Susenas data of 2018, information needed to support sensitive nutrition intervention can be obtained.

The plenary session of ministers that was chaired by the Vice President of Indonesia on 12 July 2017 on an Action Plan to Address Stunting (Chronic Malnutrition) came up with five pillars of stunting mitigation, one of which—where TNP2K plays an important role—is Monitoring and Evaluation, which comprises:

- 1. Monitoring exposure to national campaign, understanding and behavioural change as the result of a national campaign on stunting;**
- 2. Conducting monitoring and evaluation routinely to ensure the delivery and quality of stunting program services;**
- 3. Routinely measuring and publishing the results of stunting handling and childhood development on an annual basis for accountability;**
- 4. Results-based planning and budgeting program at national and sub-national level; and**
- 5. Controlling stunting handling programs.**

Routine monitoring and evaluation is needed—supported by data that are accurate and integrated with data on socioeconomic conditions—so that all programs can be simultaneously implemented to accelerate a reduction in the incidence of stunting.

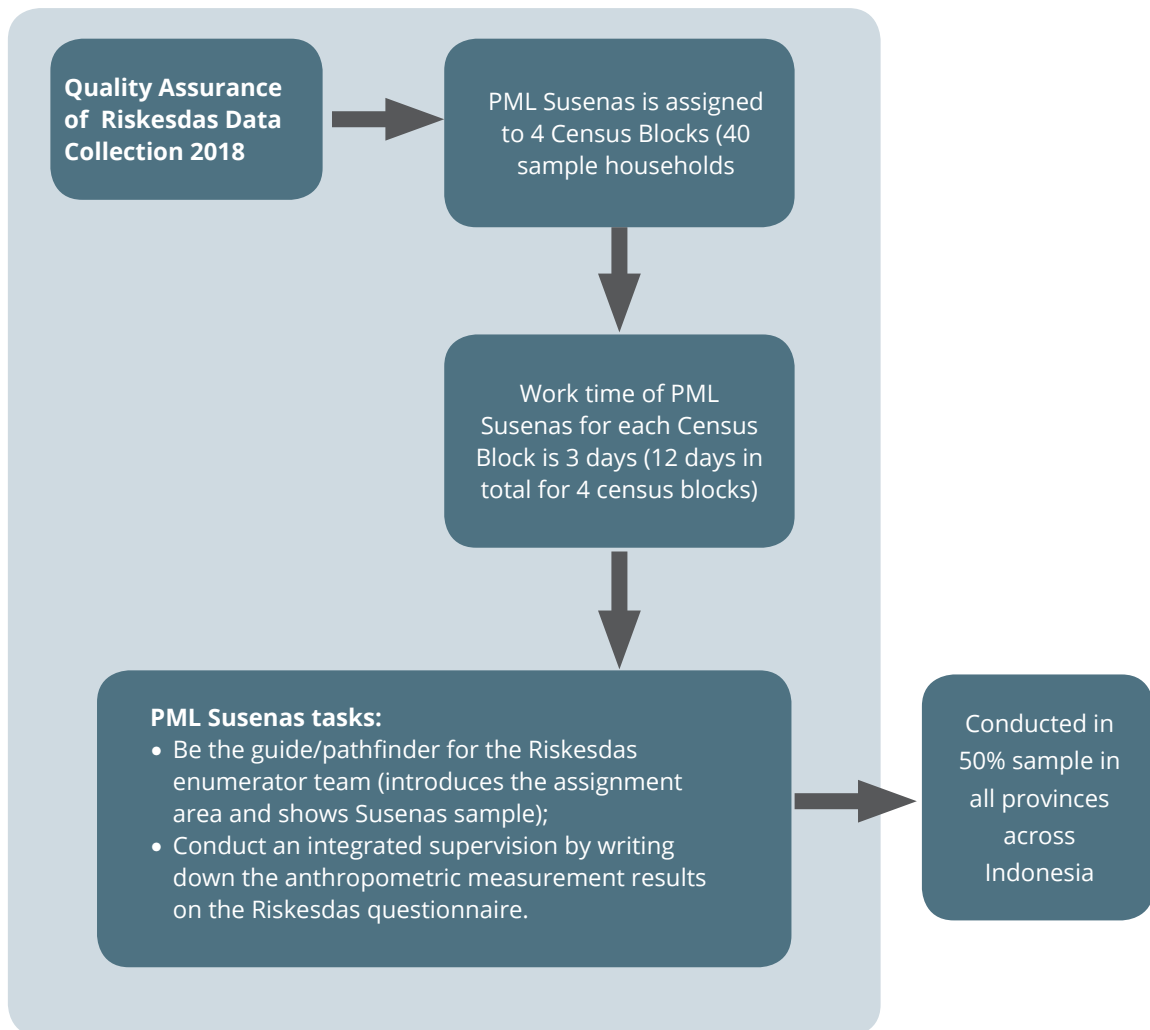
Quality Control

The quality of evidence-based data obtained from Riskesdas 2013 must be maintained through various measures including instrument testing and validation. The test was carried out by researchers from Balitbangkes, academics, and professional organisations, with validation by a university team (University of Indonesia, Airlangga University, and Hasanuddin University). In general, the quality control steps have met the standards required in a survey, but due to the strategic value of the data to be measured, quality control of data collection of Riskesdas is needed. This is done by collaborating with BPS and the MoH in the effort to control data collection quality in the field.

The MoH has vast experience in sectoral data collection down to the regency/city level, especially for the Basic Health Research data that was collected in 2007, 2010, and 2013. Unlike that commonly used by BPS, the data for this particular Riskesdas were collected by data collectors who have strong knowledge of the health sector. Data collectors who have the necessary knowledge and skill in the health sector can understand specific information on health, and yet BPS is the most experienced institution with regard to field mastery and management in survey process, hence it needs integrated supervision to assure the quality of Riskesdas 2018 data.

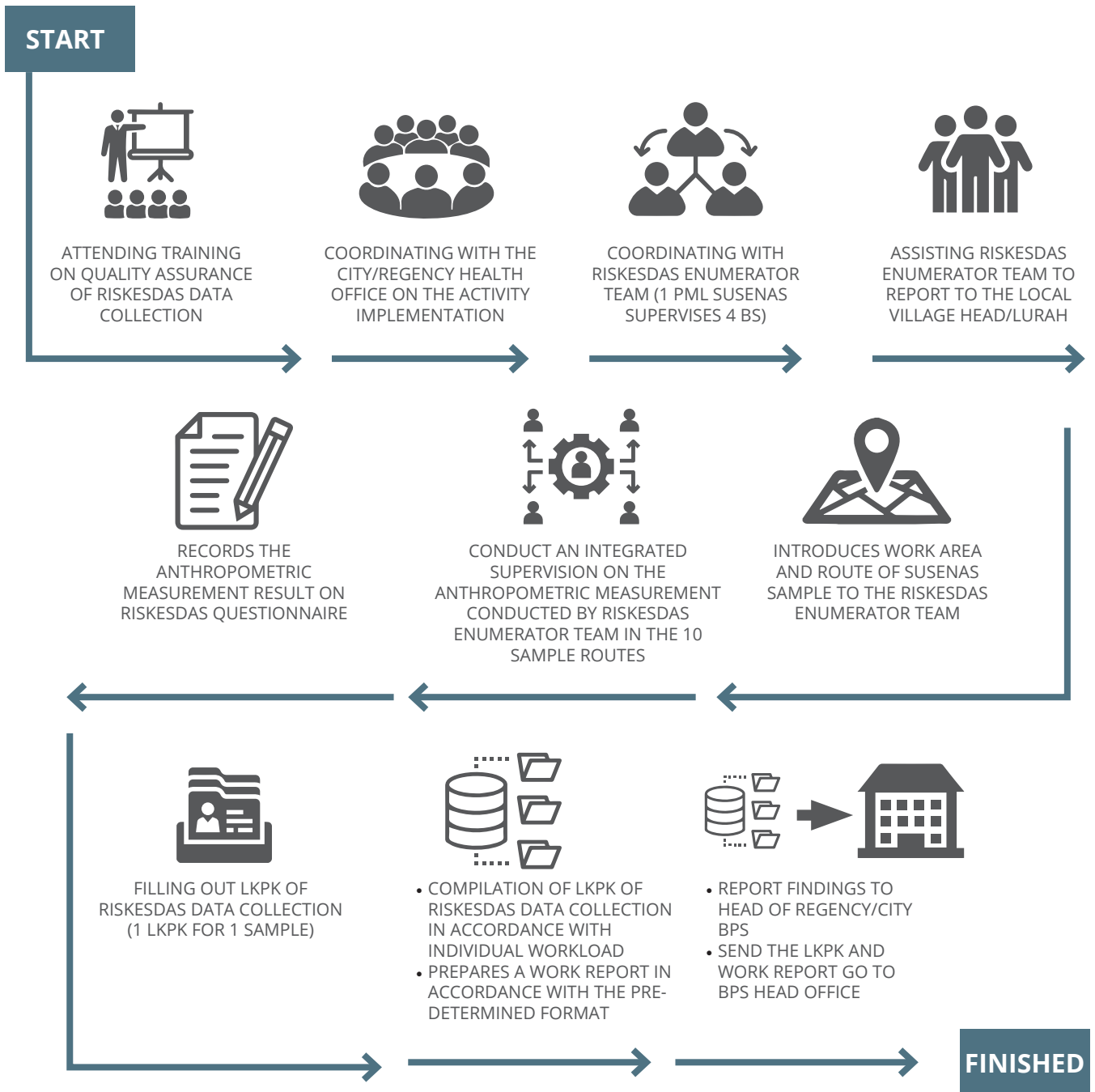
The MoH and BPS coordinate to ensure the quality of the Riskesdas data collection. Quality assurance aims to ensure that the implementation of Riskesdas data collection is in accordance with the SOP. In addition, quality assurance also aims to identify indications of content error and provide early warning throughout the enumeration. The outcome of this activity is expected to serve as a reference for the MoH regarding the findings in Riskesdas enumeration to reduce content error that might cause broader impact. It can also be used to deploy a supervision team or taskforce when necessary.

Figure 3: Mechanism of Quality Assurance of Riskesdas Data Collection



Quality assurance for the Riskesdas data collection is conducted by PML (Field Supervisor) of Susenas (Figure 4). The PML must have had previous experience before he/she can supervise the Susenas in March 2018. It is expected that the PMLs can show the location of households whose data was collected in Susenas March 2018 for the Riskesdas data collection which was about to start in May 2018. In addition, PMLs will also conduct an integrated supervision by ensuring that the anthropometric measurement process in Riskesdas 2018 has been undertaken. This has an impact on controlling the data collection process that has already been conducted in line with SOP that had been previously agreed and helps to check whether Susenas also undertook field visits, since the same households will be visited by officials for Riskesdas 2018.

Figure 4: Susenas Supervisor Activity Scheme for Quality Assurance of Riskesdas Data Collection



Source: quality assurance mechanism of Riskesdas data collection (BPS-MoH integration) BPS, Jakarta, september 2017

Harmonisation Results

Riskesdas and Susenas are two surveys with different goals, yet each is expected to be mutually integrated, and their different results are also expected to complement each other. The two data collection periods in 2018 are expected to complement each other, although it also presents a risk that Susenas sample households will not be found by Riskesdas due to a relocation or a possible change in household structure caused by a household member who has moved. In addition, there is a difference in data collection between Riskesdas and Susenas, because BPS and Balitbangkes carried out their data processing in different places. of being different in the time of data collection will lead to the possibility of Susenas sample households that cannot be found due to relocation and the possibility of changes in the structure of the household because ART has moved.

Table 2: Comparison between Susenas and Riskesdas of 2018

Company's Legality	Susenas	Riskesdas
Result	Generate important indicators, particularly socioeconomic indicators.	Generate important indicators, particularly anthropometric measurement.
Period of data collection	March 2018	April-May 2018
Data Manager	Statistics Indonesia (BPS)	Balitbangkes-MoH
Sample	±300,000 sub-neighbourhoods (rukun tetangga: RT) in all regencies/cities, provinces across Indonesia.	Equal to Susenas

Source: Guideline for Susenas and Riskesdas of 2018.

Quality Control of Riskesdas Data

Quality control that is conducted jointly in Riskesdas 2018 is expected to create better results compared with internal quality control, be it by Balitbangkes or BPS. It is expected that the SOP for field data collection can be optimised effectively. The quality control process conducted by BPS focuses on field data collection through supervision or presence in the field, random spot-checks, and verification and validation of field data collection. Field visits by BPS are undertaken by the PML.

The duties and responsibilities of the Susenas PML include:

Participating in the quality assurance training for data collection of Riskesdas of 2018 which is integrated with training for regional instructors for Susenas of March 2018 in every province;

- **Coordinating with the health office in each regency/city to serve as a guide and conduct integrated supervision on the Riskesdas enumeration team;**
- **Discussing and coordinating the enumeration time with the Riskesdas team under his/her responsibility;**
- **Facilitating Riskesdas enumeration team to identify the work area and households that are sampled in Susenas March 2018;**
- **Carrying out an integrated supervision after anthropometric measurement by noting whether the enumerator of the Riskesdas questionnaire conducts any measurement;**
- **Filling out the Quality Assurance Worksheet (*Lembar Kerja Penjaminan Kualitas: LKPK*);**
- **Preparing a work report in accordance with the required format;**
- **Submitting the final report to the head of the local regency/city BPS on the supervision results; and**
- **Submitting the LKPK and work report to the Directorate of Community Welfare at BPS.**

Integrated supervision by the Susenas PML in March 2018 on Riskesdas 2018 is conducted by distributing the workload as follows: one PML is responsible for four census blocks to facilitate and conduct integrated supervision on the Riskesdas team for every household sample (40 household samples).

Harmonisation of Household Samples

Harmonisation of the household samples between Susenas and Riskesdas is conducted by the Riskesdas field enumerator by copying Blok IV VSEN18.K. This contains the information of Susenas sample households undertaken by BPS in March 2018. From the field data collection conducted by Riskesdas enumerators in April 2018, we expect to obtain samples that are aligned with the households and household members to be visited by Susenas officials in March 2018.

The two sets of data that are obtained by Susenas (by BPS) and Riskesdas (Balitbangkes) teams will then be harmonised. Throughout two weeks at the end of November 2018, data harmonisation is conducted by using the information in the Blok IV VSEN 19.K, by looking at data on the name, relationship with the household head, marital status, sex, and individual—which are specified in Susenas and Riskesdas 2018.

After being processed, 72.60 percent of variables from the two data sets could be matched. Based on the name and order of household member (yet different order of household), the result is 0.56 percent, and matching by name and order of household (yet different order of household member) resulted in 0.49 percent. For matching by name but different order of household and household member, the result is 0.001 percent. From all the results, 17.70 percent of the data had no name match, however, information in Blok IV does match; unmatched data by gender is 0.27 percent, unmatched on marital status is 0.23 percent, and unmatched in Blok IV VSEN18.K due to moving in/out is 7.95 percent.

Policy Recommendation

TNP2K suggests several policy recommendations regarding the harmonisation of Susenas and Riskesdas:

- 1. Routine monitoring of health conditions through regular surveys.** The mini-anthropometry data collection should be integrated with Susenas annually if Riskesdas is not conducted.
- 2. Data management and processing of results of two integrated surveys.** Some of the separate data processing risks are: (i) possible variable differences used (length, type); and (ii) possible changes in household member ordering due to change of household structure. It is, therefore, necessary to ensure that the variables used are the same and ensure the order of household members does not change, despite the change of household structure.
- 3. Provision of a single identity as a link between the two surveys.** BPS has certain policies on Riskesdas 2018 data results, namely: (i) a one door system in data dissemination; and (ii) micro data will not be disseminated (Law on Statistics). The consequences of using Susenas data are: (i) Susenas data that can be accessed by data users comes from the data dissemination; (ii) the format of Susenas data is different because the microdata is not available; and (iii) data user will not be able to merge the Susenas-Riskesdas data. "Another identity" is, therefore, required before the data is disseminated, and the Susenas-Riskesdas data should have "one single identity" to enable the public to access the data that has been integrated between Susenas and Riskesdas of 2018. The use of Riskesdas 2018 data should be more transparent because it is now integrated with Susenas 2018, so that data on socioeconomic conditions and stunting can be obtained from the same household.
- 4. Development of toddler health information through harmonisation of the Maternal and Child Health Book (Kesehatan Ibu dan Anak: KIA) and Growth Chart (*Kartu Menuju Sehat: KMS*).** To date, the survey result at national level on mother and child health still does not have any accurate population comparison. This also has implications for the availability of information on mothers and children that is needed to determine targets, particularly who and where the targets are that need intervention. There is a need to develop an instrument to monitor mothers and children by modifying the KIA and KMS to include information on length/height of children under five years of age. This is important to help achieve the national priority target for prevention of stunting.

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