Reform of the Calculation of Premium Contributions for State Administrator Participants

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Abstract: This study aims to assess the impact of the reform of the calculation of premium contributions from state administrators collecting based on Presidential Regulation Number 64 of 2020 with Local Government Contribution Reconciliation Application (ARIP), which involves a collaboration with stakeholders, namely the regional government, which is related to increasing the receipt of contributions from regional civil servants in revenue and stakeholder involvement for the sustainability of the National Health Insurance Program. ARIP is an information system that aims to ensure accountability in calculating contributions from regional officials through reconciling contributions between local governments and BPJS Kesehatan. The research used a population of 547 regional governments that used ARIP during 2020-2023. Each sample was analyzed before and after using ARIP quantitatively and descriptively based on receiving contributions from regional civil servants. The hypothesis was tested using paired samples t-test, with significance $0.001 < 0.05$ and value of t-count $= 6.973 >$ t-table $= 1.964$, then Ha was accepted. Thus, the acceptance of contributions from regional civil servants differs before and after the implementation of ARIP. According to the Cohen classification table, ARIP had a medium impact on accepting the receipt of contributions from regional civil servants, with an effect size of 0.298. Based on the analysis, implementing ARIP increases the receipt of contributions from regional officials, which was 41.303 billion rupiah and increased by 3.234 billion rupiah to 44.537 billion rupiah.

Keywords: ARIP; the receipt of contributions; regional civil servant

INTRODUCTION

BPJS Kesehatan is a public law institution that administers the National Health Insurance Scheme (JKN). It is a government effort to achieve Universal Health Coverage (UHC) through Law No. 40 of 2004 on the National Social Security System (SJSN). This law guarantees equal rights for everyone to access safe, quality, and affordable health services (Anggriani et al., 2020). These efforts align with the Sustainable Development Goals (SDGs) to achieve UHC by 2030 (Herawati et al., 2020).

The JKN program has successfully increased access to health services for the Indonesian population (Cut Nurul Aidha & Chrisnahutama, 2020). The increasingly efficient and affordable access correlates with the healthcare costs borne by BPJS Kesehatan as the purchaser (Yusuf et al., 2020). The positive impact of the JKN program, directly felt by the community, can be seen from the increasing number of registered participants nationwide and the utilization rate of the JKN program (Johar et al., 2018).

Through the premium assistance scheme, the JKN program has improved the fulfillment of fundamental health rights for all layers of society, including people experiencing poverty (Lauranti et al., 2018). JKN directly reduces the costs in the community to access healthcare facilities and has been proven to improve the overall welfare of the Indonesian population (Mediaty et al., 2015).

However, since its implementation in 2014, the program has consistently experienced deficits amounting to 28 trillion rupiahs by the end of 2019 (Agustina et al., 2019). BPJS Kesehatan must address the deficit of the JKN program as it can impact the declining quality of healthcare services, provider trust, and service utilization, thus directly affecting the welfare of the population and hindering the achievement of UHC in Indonesia (Stoye, 2018).

The main problems of the JKN program deficit are the contribution premiums, which are still below actuarial calculations, low awareness among participants to pay premiums, and high healthcare service costs for chronic diseases (Marshall et al., 2014). "Ability to pay" (ATP) and "willingness to pay" (WTP) are economic concepts used to assess the success of health insurance (Muttaqien et al., 2021). The government's efforts to address the JKN deficit include injecting funds amounting to 14 trillion rupiahs and enacting Presidential Regulation Number 75 of 2019 to adjust premiums, including for the segment of state administrators.

Presidential Regulation Number 75 of 2019 stipulates that state administrator participants, including Central Civil Servants, Leaders and Members of Regional Representative Councils, Regional Civil Servants, Soldiers, Police Officers, Village Heads and Village Officials, and Workers/Employees, will have some changes in the calculation of their contribution. Previously, the employer paid 3%, now 4%, while the participant paid 2%, now 1%. Additionally, the premium calculation is based on salary with an upper limit of 12 million rupiah, modifying the premium amount set in Presidential Regulation 82 of 2018.

The state administrators' contribution calculation changes have disrupted the local government sector. Nevertheless, BPJS Kesehatan continues to mitigate risks and monitor the realization of contribution payments by ensuring the availability of local government budgets to pay state administrators' contributions in their respective areas per Presidential Regulation No. 75 of 2019. (Innocenti et al., 2019).

According to the Minister of Home Affairs Regulation Number 14 of 2023, Civil Servants work in local government agencies and Regional Work Units responsible for implementing Regional Government Affairs. These civil servants receive income that includes structural position allowances or functional position allowances, base salary, additional income allowances (based on workload considerations, place of duty, working conditions, scarcity of professions, work performance, and other objective considerations based on the region's financial ability), teacher income allowances, and medical service income.

Per the Decision Letter issued by the Director of Finance and Investment of BPJS Kesehatan (Number 336 of 2022), a Technical Team is being established to oversee policy implementation and Aplikasi Rekonsiliasi Iuran Pemda (ARIP). The purpose of this team is to ensure accountability in collecting premium contributions for mandatory premiums by Regional Governments. An information system to reconcile regional government premium contributions is necessary to accurately and quickly calculate JKN Program Contributions of the Regional Civil Servants' Health Insurance segment.

One of BPJS Kesehatan's efforts to minimize shortfalls in premium payments from the regional civil servant segment is an innovation in the form of ARIP. Launched in 2022, ARIP involves collaboration with stakeholders such as department heads and treasurers of each regional apparatus organization and work unit in Local Governments. The involvement of local governments is critical to the successful implementation of ARIP as it affects the level of discipline in data input, such as basic salary, additional allowances, teachers' income allowances, medical service income, and premium payments according to the invoices generated by ARIP. Currently, the government uses ARIP to ensure the accuracy of premium amounts paid by regional civil servants and as a reference in the budgeting process at the local government level.

This study aims to determine the relationship between the implementation of ARIP and increased stakeholder engagement toward improving the collection of JKN premiums for the Regional Civil Servant segment.

METHOD

This study uses a quantitative approach with analysis based on existing facts. Quantitative research aims to test objective theories by examining the relationships between measurable variables using instruments that allow numerical data to be analyzed using statistical procedures (Creswell & Clark, 2010). The research is deductive as it describes the findings based on empirically measurable phenomena through total samples. The type of research is causal with minimal intervention by only collecting research data from the number of premium receipts for the regional civil servant segment and the number of local governments throughout Indonesia that have used ARIP, a total of 547 Local

Governments from 2020-2023. The study population consists of 547 local governments across Indonesia. In addition, this study relies on secondary data.

The type of research used is quantitative in the form of effect size. The effect size method is a quantitative category that measures the magnitude of the effect or relationship between the variables under study. The secondary data of this study includes the effectiveness of ARIP implementation on the receipt of contributions from the regional civil servants during 2020 - 2023 with a sample population of 547 regional governments. For each sample, data will be collected in the form of the mean value of the receipt of contributions from the regional civil servants before and after the implementation of ARIP.

Paired samples t-test with a quantitative approach is a parametric data analysis method researchers use to test hypotheses and obtain valid values using SPSS version 29. The effect size is then calculated to analyze the magnitude of the effect of the implementation of the ARIP on the increase in the receipt of contributions from regional civil servants. The steps of quantitative descriptive data analysis include:

1. Analyze sample data regarding the mean value of contributions received before and after the implementation of ARIP.

2. Perform a paired sample t-test to compare the receipt of contributions after and before the implementation of ARIP as a basis for accepting or rejecting the hypothesis using SPSS software.

3. Perform an effect size test based on Cohen's d to measure the effect caused between the receipt of contributions after and before the implementation of ARIP.

RESULT

This study analyses the aggregation of contributions received by 547 local authorities for 2020-2023, before and after using ARIP.

Table 1. The result of the Analysis

Total of Local Government	Receipt of Contribution		
	Before using ARIP	**After using ARIP**	**Gain**
547	22,592.52 billion Rupiah	24,361.74 billion Rupiah	1,769.22 billion Rupiah
Mean	41.30 billion Rupiah	44.54 billion Rupiah	3.23 billion Rupiah

Table 1 shows that the use of ARIP to reconcile the contributions of regional civil servants has increased the receipt of their contributions. The increase in contributions from the study population is 1769.22 billion Rupiah. The result of receiving contributions before the

implementation of the ARIP application has an average (mean) of 41.30 billion Rupiah, which then increased to 44.54 billion Rupiah after the implementation of ARIP. The following table interprets the results of the paired sample statistical test output using the SPSS application.

Table 2. Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Before	41.30209	547	46.606102	1.992733
	After	44.53702	547	46.904711	2.005501

Based on Table 2 above, the use of ARIP affects receiving contributions from the regional civil servants. The mean value of donations received from regional officials before using ARIP was 41.302 billion Rupiah. Then, after using ARIP, it increased to 44.537 billion Rupiah. The statistical analysis of these results is the mean value after the use of ARIP > before the use of ARIP, so descriptively, it can be interpreted that there is a difference or difference in the average value of receiving contributions from the regional civil servants. In addition, the researchers check the data to ensure that the difference in the mean is not due to sampling error by interpreting the analysis of the paired sample test results as follows:

Table 3. Paired Samples Test

		Paired Differences					T	df	Significance	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				One-Sided p	Two-Sided p
					Lower	Upper				
Pair 1	Before - After	3.2349	10.8508	0.4639	2.3235	4.1462	6.973	546	0.000	0.000

The result of the paired sample test in Table 3 is the most important part of the study because this section can answer the research objectives regarding the effectiveness of ARIP implementation based on receiving contributions from regional civil servants. The rules for accepting or rejecting hypotheses in the paired sample test when it is based on the significance value, namely

1. Significance > 0.05 means that Ha is rejected, and Ho is accepted.
2. Significance < 0.05 means that Ha is acceptable, and Ho is rejected.

It is known that the significance result in Table 3 is 0.001, so it is declared to be less than 0.05. Statistically, it can be written as 0.001 <0.05, so based on the exposure of the significance value, Ha, which shows a difference between the mean value of the receipt of contributions from regional civil servants before and after the implementation of ARIP, can be accepted.

Another way to test the hypothesis, apart from comparing the significance value and the probability of 0.05, is to compare the calculated t-scores in Table 3 with the t-table value. The researcher used a two-sample test (before and after) to evaluate the treatment of a similar sample in two different observation periods. The basis for the hypothesis decision is:

1. t-table > t-count means Ho is accepted and Ha is rejected
2. t-table < t-count means Ha is accepted, and Ho is rejected.

It is known that the t-count is 6.973. The next step is determining the t-table value from the t-table statistics distribution. The value of the t-test can be found by knowing the value of the degree of freedom or validity (pdf), which is obtained from n - 1 = 547 - 1 = 546 and the significance value (α/2). If α (the degree of error) is 5% and a two-sample t-test is used, the significance value is 0.05 / 2 = 0.025. The t-table value obtained is, therefore, 1.964.

Based on the explanation, the t-table value = 1.964 < t-count = 6.971. According to the comparison results, Ho was rejected, and Ha was accepted, so it can be said that the acceptance of receipt of contributions from regional civil servants differed before and after the implementation of ARIP.

Table 3 of the paired sample test output also contains data on the paired difference mean 3.2349. This value is the difference in the average receipt of contributions before and after the implementation of ARIP. In addition, there is data on the 95% confidence interval of the difference, that is, the difference in the range of tolerated values.

Thus, with a 95% confidence level, the difference in the range of contributions received from regional civil servants before and after the implementation of ARIP is 2.3235 to 4.1462. Thus, in general, the results of the effective contribution income have increased because of the implementation of ARIP.

The effect size test can measure the magnitude of the effect of the implementation of ARIP. The Cohen's D test was used in the study, where the larger the effect size, the greater the significance. Size means that the effect of implementing ARIP is also greater on receiving contributions from regional civil servants. The provisions in the effect size measure can be categorized as shown in the table below:

Table 4. Classification of Effect-Size

The Effect Size	Classification
d > 0.8	Very Large
0.5 < d ≤ 0.8	Large
0.2 < d ≤ 0.5	Medium
0 < d ≤ 0.2	Small

The mean value before the implementation of ARIP was 41.30209 with a standard deviation of 46.606102, while the mean value after ARIP was 44.53702 with a standard deviation of 46.904711. If the paired sample test results are available, the data in Table 3 can be used directly. Details of the paired sample effect-size test results are shown in the table below:

Table 4 The Paired Samples Effect-Size Test

			Standardize	Point Estimate	95% Confidence Interval	
					Lower	Upper
Pair 1	After -	Cohen's D	1,085.095	.298	.212	.384
	Before	Hedges' correction	1,086.588	.298	.212	.383

Then, the effect size calculation results are 0.298, which is in the medium category (0.2 < d ≤ 0.5). Based on Table 4 of effect size classification, it can be concluded that the implementation of ARIP has a moderate impact on increasing the receipt of contributions from regional civil servants.

Based on the above results, BPJS Kesehatan can use the results of ARIP implementation to optimize collection in the form of:

1. Adopt a policy to automate the calculation of revenue and receipt of contributions from regional civil servants based on the ARIP data system in all BPJS Kesehatan branches.
2. Establish a closed payment system for regional civil servant invoices to improve the accuracy of contribution receipts.
3. ARIP can be used as an indicator in implementing the BPJS Health stakeholder engagement survey.

DISCUSSION

One of BPJS Kesehatan's efforts to maintain the sustainability of the JKN program is through collaboration with Local Governments to increase stakeholder engagement and organization capability so that the Local Government's concern and presence for the community and its workers is a real form of ensuring the health of civil servants (Ridwan & Siregar, 2021).

ARIP is a tool that aims to increase revenue and receipt of contributions and increase the validity of regional government segment data, so it is necessary to continue to use the tool and improve the system. By adding value to health data, collective statistical information can have application value (Lee et all, 2022)

The number of data inputs in ARIP can potentially increase revenue from the state administrators' segment, but it is insignificant. Therefore, it is necessary to have intense socialization with Local Governments so that willingness to pay will increase, and they can allocate budgets according to enough (Ridwan & Siregar, 2021).

While conducting this research, some limitations can affect the results of the study, which can be a factor to pay more attention to for future research as a form of improvement. Some of the limitations of this research are:

1. The data used is only the total amount of regional civil servants' contributions paid by the local government, without considering the payment of account debts and the potential income of regional civil servants' contributions in the current year.

2. The data collection process only uses secondary data to measure the effectiveness of ARIP's use, so it has not shown the effectiveness of the use from the user or local government side or the difference in the completion time of the reconciliation of regional civil servants' contributions before and after the implementation of ARIP.

CONCLUSIONS

The result of receiving contributions before the implementation of the ARIP application has an average (mean) of 41.30 billion Rupiah, which then increased to 44.54 billion Rupiah after the implementation of ARIP. The results of the effect-size calculation are 0.298, which is in the medium category ($0.2 < d \leq 0.5$), so the implementation of ARIP has a moderate impact on increasing the receipt of contributions from regional civil servants. Implementing ARIP has significantly improved the collection of premium contributions from regional civil servants, contributing to the financial sustainability of the JKN program.

The reform of the premium contribution calculation for state administrators in Indonesia is an important step towards improving the sustainability of the National Health Insurance Program (JKN). Here is a detailed analysis of the reform's impact on Indonesia's health services:

1. Improved financial sustainability of the National Health Insurance Program

   Implementing the Local Government Contribution Reconciliation Application (ARIP) has directly contributed to increased contributions from regional civil servants. This reform demonstrates the potential to address the persistent deficits in the National Health Insurance Program. Financial stability is critical to maintaining and expanding health service delivery,

particularly in a system where the goal of universal coverage still needs to be met due to funding challenges.

2. Improved accuracy and accountability of contributions

   The ARIP system ensures a more accurate reconciliation of contributions by regional civil servants. This promotes accountability in payment processes and reduces discrepancies, ensuring that regional governments meet their financial obligations. By using accurate salary and allowance data to calculate contributions, ARIP reduces financial inefficiencies and supports better budget planning for health services.

3. Increased stakeholder engagement

   Integrating ARIP requires working with local government authorities to increase their involvement in the health insurance system. This collaboration improves compliance with contribution requirements and promotes shared responsibility among stakeholders for the sustainability of the National Health Insurance Program. A more engaged stakeholder base can advocate for greater health infrastructure and services investment, improving overall health outcomes.

4. Encouraging system innovation

   The implementation of ARIP is an example of how technology can improve the efficiency of administrative processes in health insurance systems. By automating reconciliation tasks, ARIP minimizes manual errors and speeds up premium collection. Such innovations can serve as models for other segments of the healthcare system, fostering a culture of digital transformation.

   While the moderate effect size suggests room for improvement, ARIP has laid a solid foundation for a more robust health insurance administration. Future research should expand the scope of analysis and explore additional variables to optimize the impact of ARIP further. Suggestions for future research are as follows:

1. Incorporating other variables that may affect premium receipts for the regional state administrators' segment, such as the availability of the mandatory premium budget in the Local Government's Annual Budget Plan (DPA) each year and the adequacy of the Local Government's mandatory premium budget compared to the projected revenue of the regional state administrators' premiums.

2. Other variables, such as questionnaires, user testimonials, and compliance levels in utilizing ARIP by Local Governments, can be employed to measure local governments' involvement in BPJS Kesehatan.

3. The results of this research can serve as a forecast for the acceptance of contributions to finance the National Health Insurance Program and as a basis for formulating strategies to enhance its sustainability.

4. The contribution of receipts from the local government segment can be compared with the cost of providing health services to the regional civil servants to analyze the gap between the cost per member per month (CPMPM) and the premium per member per month (PPMPM).

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