

## THE EFFECT OF LOCAL GOVERNMENT EXPENDITURES ON HEALTH QUALITY

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### ABSTRACT

This study aims to determine the effect of Local Government spending on public health by examining the Regional Revenue and Expenditure Budget (APBD). This study controlled for other important factors, including the region's gross domestic product (GRDP), education level as measured by the average length of schooling, access to sanitation facilities, and drinking water—as well as differences between regions such as Java Islands. In this study, the researchers analyzed data from 508 districts or cities in Indonesia. The time frame was expanded so that independent variables were measured on average from 2014 - 2018 to give a complete picture. This study used the Beta Regression Model method. This study demonstrates that increased spending by local governments on health care can improve the quality of health services in a region. This means that the government's budget in the health sector effectively improves the quality of public health in the areas. The quality of public health on the islands of Sumatra, Java, Bali, and Nusa Tenggara was above average for Indonesia due to high scores (higher than the national average) in many regions. Meanwhile, in the islands of Kalimantan, Sulawesi, and Maluku (also Papua), health quality is below average because it has a below-average IPKM score. This indicates a disparity in the quality of health between islands.

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### 1. INTRODUCTION

One of the primary needs of the community is health, along with the needs for food, clothing, shelter, and education. Therefore, the central and regional governments prioritize the development of the health sector. The main focus of health measurement in the National Long-Term Development Plan (RPJPN) 2005-2025 is increasing the level of public health by reducing the number of cases of malnutrition to 15%, reducing infant mortality rate to 23 per thousand live births, reducing maternal mortality to 70 per hundred thousand live births, and increasing life expectancy from 69 in 2005 to 73.7 in 2025 [6].

Life expectancy is an estimate of the average number of years a person has lived since birth. Life expectancy is used as an ingredient in measuring the role of the government to determine the success of the community in improving their welfare, especially their health. If an area has a small life expectancy, then that area must have a health development program, a poverty eradication program, as well as other social programs such as adequate nutrition, calories, and environmental health.

Health development in general has led to various advances in improving health status. Based on data from the Central Bureau of Statistics, life expectancy in Indonesia has increased following the global upward trend. In 2017, life expectancy in Indonesia reached 71.05 years. In 2019, it continued to increase until it reached 71.34 years. However, this figure does not meet the achievement standard set for 2025, which is 73.7 years. The infant mortality rate is used to determine the total number of infant deaths for every 1000 live births in a given year. The infant mortality rate is an important measurement that can indicate the level of health in a community. This is because newborn babies are sensitive to environmental conditions and have a strong relationship with the social conditions of their parents.

Based on the results of the Indonesian Demographic and Health Survey (IDHS), the infant mortality rate in Indonesia declined from 68 deaths per thousand live births in 1991 to 24 deaths per thousand live births in 2017.

#### Application in Practice

- The quality of public health on the islands of Sumatra, Java, Bali, and Nusa Tenggara is above the national average.
- Local government spending on health can improve the quality of health in the region. The government budget in the health sector is effective in improving the quality of public health in the regions.
- Government intervention is needed by increasing the APBD in the health sector so that the quality of public health can improve, namely by increasing the budget allocation for promotional and preventive health efforts.

Sources from the Central Statistics Agency (2020) stated that in 2010, the infant mortality rate in Indonesia was 29.3 per thousand live births and then decreased until 2019 to 24.2 per thousand live births. This figure almost meets the target set in the 2015–2019 National Medium Term (RPJMN), namely 24 for every thousand live births (Ministry of National Development Planning, 2014). The most important thing that affects the infant mortality rate is the mother's knowledge about pregnancy and child care during pregnancy and after delivery. The indicator will get better if, in fact, it decreases to a lower level than the target. Even though the trend for infant mortality rates in Indonesia has decreased, it is still far from the target of the 2020–2024 RPJMN, namely 16 per 1,000 live births, and still far from the SDG target of 12 per 1,000 live births in 2030 (Ministry of National Development Planning, 2019).

Improving the nutritional condition of the community is one of the main things in the 2015-2019 RPJMN. Reducing malnutrition as measured by the prevalence of malnutrition, which fell to 17% in 2019, is another target. Toddlers are an age cohort that is vulnerable to malnutrition; the first 1000 days of a baby's life are the most important period in determining their future because if they miss those 1000 days, it will be difficult to treat if there are adverse effects from malnutrition. The existence of regional autonomy provides an opportunity to determine broad policies for each region. This can be both an advantage and a burden for the region. Therefore, regional readiness is required to be able to carry it out, both in preparation for financial adequacy and human resources, organization, and management [10]. Regional capacity for resource management can be a source of wealth and prosperity for the region. New job opportunities, increasing regional income, and boosting the economy are things that local governments can do when they can manage their own resources. The usefulness of regional revenues is to finance the implementation of their respective regional activities efficiently and to improve the welfare of society through public services and development. Currently, the main problem is how the regions can be directed to use the Regional Revenue and Expenditure Budget (APBD) effectively so as to create social welfare, in addition to creating a fund transfer system that makes the gap between regions smaller.

The central and regional governments are working to ensure that the health of the Indonesian people can be maintained properly. The trend in the health budget has increased every year. Data from the Ministry of Finance states that the health budget has increased every year (Ministry of Finance, 2021). Starting from IDR 29.89 trillion in 2010, in 2019 it was IDR 123.11 trillion. The Special Allocation Fund for the Health Sector also experienced an increase. In 2010, it was IDR 3.13 trillion, and in 2019, it was IDR 19.88 trillion. APBD in the health sector is a combination of all existing APBD in each region. Just like other budgets, the APBD in the health sector also experiences an increase every year. The total regional budget for the health sector in 2010 was IDR 40.48 trillion, and in 2019 it was IDR 170.77 trillion.

One of the critical roles in creating investments in the development of quality human resources is health. Therefore, development in health is needed so that the level of health and the increase in health services can be felt fairly by all people. The measure used to measure the achievement of human resource development is the Human Development Index (IPM). HDI is a combined indicator of health (life expectancy), education (average length of schooling), and economy (per capita expenditure) (Central Bureau of Statistics, 2015). In order to increase life expectancy, a variety of other health indicators are needed that affect health status. This is the reason for the Community Health Development Index (IPKM): to obtain an indicator or measure that makes it easy to describe existing health problems.

Sources from the Ministry of Health stated that IPKM in Indonesia had increased from 2007 to 2018, with a score of 0.5120 to 0.6087. This is also directly proportional to the minimum and maximum IPKM scores, even though the minimum IPKM score had decreased from 2007 to 2013 with a score of 0.2471 to 0.2169, but the minimum IPKM score increased again to 0.3469 in 2018. The IPKM maximum score experienced an increase in 2007 from a score of 0.7090 to 0.7325 in 2013 and 0.7470 in 2018. Government

spending on health in each region tends to increase every year. However, this has not been followed by an increase in the quality of public health as measured by several indicators, including life expectancy, infant mortality, and the Community Health Development Index (IPKM). This study aims to investigate the effect of local government spending on health on the quality of public health in Indonesia. In addition, developments in health quality between regions will be analyzed.

## 2. METHOD

In this study, the authors limit the research subjects so that the research objectives are met and the research is improved. Therefore, in this study, the scope of the problem covers 508 districts or cities in Indonesia. In this study, the data used is cross-sectional data for 2018 using an extended time frame so that the research data for the independent variables is an average from 2014–2018. The reason for using the extended time frame is because the 2018 Public Health Development Index data records developments from 2014–2018, so for other variables, the author uses the average data for 2014–2018 as an expansion of the time frame. The data used in this study is secondary data of the cross-section type with a total of 508 observation units in provinces or cities in Indonesia in 2018 using an extended time frame. Research data for independent variables is an average from 2014–2018 sourced from websites, books, digital books, and publications from the Regency/City/Province Central Statistics Agency (BPS), the Research and Development Agency of the Ministry of Health, and the Ministry of Finance, which have a relationship with the theme in this study. The data collected in this study are IPKM, APBD, GRDP, average length of schooling, percentage of sanitation facilities, drinking water access facilities, and doctors in districts and cities in Indonesia.

The estimation method used in this study is the beta regression model. This estimation method is used because the dependent variable in this study is in the form of an index. According to Orsini & Bottai (2011) [21], the beta regression model is used if the dependent variable in the model is in the form of indexes, rates, or proportions ([21]; [25]). The variables in this model are the developments of several studies contained in an empirical review, which the author will then use as a reference in this research. The following is a model specification that aims to analyze the main factors and control factors that influence the Public Health Development Index:

$$IPKM_i = \beta_1 + \beta_2 RasioPengeluaranKesehatan + \beta_3 \ln PDRB_i + \beta_4 Sanitasi_i + \beta_5 AirMinum_i + \beta_6 RLS_i + \beta_7 Dokter_i + \beta_8 Jawa_i + U_i$$

Where,

<i>IPKM</i>	: Public Health Development Index
Rasio Belanja Kesehatan	: Ratio of APBD in Health Sector compared to Total APBD as a whole
<i>lnPDRB</i>	: Logarithm of Gross Regional Domestic Product
<i>Sanitasi</i>	: Percentage of Households Having Proper Sanitation
<i>AirMinum</i>	: Percentage of Households Having Access to Drinking Water
<i>RLS</i>	: Average School Years
<i>Dokter</i>	: Ratio of Doctors per Thousand Population
<i>DummyJawa</i>	: Dummy for Cities/Districts in Java Island
$\beta_1$	: Constant
$\beta_2; \beta_3; \beta_4; \beta_5; \beta_6; \beta_7; \beta_8$	: Regression coefficient
<i>U</i>	: The error component of cross-sections or individuals
<i>i</i>	: Regency/city

The IPKM data is data from the Research and Development Agency of the Ministry of Health with index units where the numbers are in the form of 0 to 1. The closer to number 1, the better the quality of public health. The author's reason for using the IPKM variable as a measure of health is because the IPKM is an indicator that makes it easier to describe existing health problems. The degree of health is a measure used to see development in terms of health in Indonesia. Identifying whether or not an area falls into the healthy category is essential for measuring health status and improving health development in that area. The Human Development Index was unable to catch up in describing the government's health programs, so the IPKM was created as an addition to measuring the level of health. Therefore, the existence of IPKM can be useful as a guide in determining rankings at the provincial, district, and city levels as evidence of the successful development of the quality of public health in an area. IPKM indicators are designed to be easily and directly measured, simple, convenient, reliable, and timely for explaining public health problems. These health indicators can play a role in extending a healthy and long life expectancy, both directly and indirectly ([11]; [20]).

The health spending referred to in this study is local government spending in the health sector as reflected in the regional budget. This data is sourced from the Directorate General of Fiscal Balance, Ministry of Finance. The APBD is a regional financial plan that is prepared annually by the regional government and approved by the regional government together with the DPRD. This study uses the ratio of the health budget compared to the total regional budget as a measure of health expenditure. The data used is the average data for the health budget and the total budget for 2014–2018. The author's reason for using the health expenditure variable is based on research by [8], who examined government spending in the health sector and its impact on health. Public health spending has consistently been shown to be a significant contributor to health outcomes. According to [22], through their research, examine the impact of health care spending on health. As a result, public spending on health-related aspects of health can improve public health quality.

Gross regional domestic product (GRDP) is the total added value of goods and services produced based on all economic activities in all regions in a certain period of time, usually one year. The GRDP data source is the Central Bureau of Statistics. There are two methods for calculating GRDP: GRDP at current prices and GRDP at constant prices. This study uses a constant-price GRDP because it is considered to better describe the increase in the quantity of goods and services produced by the economy without any consideration of the prevailing price of goods. GRDP at constant prices is the value of a good or service that is calculated using the price of a certain year, which is used as the base year of that price. The data used is data that has been averaged from 2014 to 2018. The use of the GRDP variable is based on research by [3] and [26], who found that an increase in GRDP would improve the quality of health. The economic aspects that occur in society show individuals' ability to purchase power and show income from individuals who obtain means of payment. Primary, secondary, and tertiary needs require means of payment in order to be met. The quality of health is the degree of health and success in increasing the human development index, and this certainly requires a lot of money to achieve it. The economic aspect is important. The regional economy, as measured by gross regional domestic product, is one of the components of the macroeconomy that is used to assess development outcomes in specific areas within a region or municipality.

The sanitation variable is the percentage of households with good sanitation, calculated as the percentage of households with good sanitation compared to the total number of households. Adequate sanitation facilities are sanitation facilities that are included in the sanitation requirements; for example, if the household has a final disposal site in the form of a septic tank, then if the facility is equipped with gooseneck sanitation, the household uses the facility itself. The data used is averaged from 2014 to 2018, and the source of sanitation data is the Central Bureau of Statistics. The author chose the sanitation variable because the availability of sanitation facilities is one of the behavioral characteristics of the population that can influence health quality. The results of the research by [22] stated that the availability of good sanitation facilities plays a significant positive role in improving the quality of health.

Good-quality drinking water is protected drinking water, which includes tap water, public faucets, pipes, water reservoirs, rainwater tanks, or springs; and protected wells, drilled wells, or pumping wells, with a minimum distance of 10 meters from sewage, storage, and disposal of waste. excludes bottled water, mineral water, tap water, well water, and unprotected sources. The percentage of households that have access to sustainable drinking water is the ratio between households that have access to quality domestic water and all households, expressed as a percentage. The data used is an average of data from 2014 to 2018. This data comes from the Central Bureau of Statistics. In addition to sanitation facilities, the availability of drinking water access facilities is one of the behavioral characteristics of the population that can influence health quality. Research from [8] stated that the availability of drinking water facilities will have an impact on improving the quality of health.

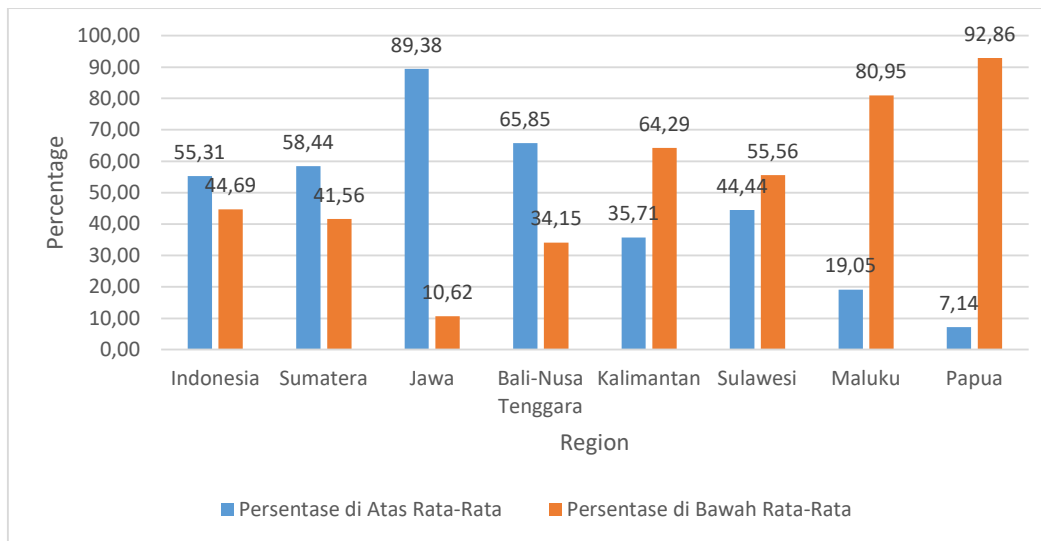


Figure 1. Percentage of IPKM above average and below average by region

The average length of schooling is the average number of years of community learning that have been completed by residents over the age of 25 and are not included in repeat years. The data source for the average length of schooling is taken from the Central Bureau of Statistics. The data used is averaged from 2014 to 2018. The average length of a school is used to determine the level of education in an area. Education is very closely related to all life processes, especially health. With someone's ability to read, the information conveyed is easy to understand so that it has an impact on improving the health status of the community itself. Based on the research of [2] and [17], it was found that the level of education in general and especially for women is very important as a determinant of the level of health status of infants and children, as well as society in general.

The number of doctors in question is the number of general practitioners, dentists, and specialists. In this study, the data used is the number of doctors per thousand people. The data on the number of doctors used is 2018 data sourced from the Village Potential Survey. One of the most important elements in achieving development in the health sector is the health workers themselves, namely doctors, because medical staff are the main gateway to saving people's morbidity. Research by [2] and [8] found that the ratio of the number of doctors per unit of population has a role in improving the quality of public health and reducing child and infant mortality rates. Medical personnel are a form of service in terms of assigned human resources, both in hospitals and at Puskesmas, so that they can include health services, especially in the field of human resources.

This study also identified regional characteristics by comparing districts and cities located on Java Island with those outside Java Island. The number of observations in Java is 112, and the number of observations outside of Java is 394. The characteristics of regions with different economies have an influence on health quality, as stated by [27]. Java Island is the most economically important region in Indonesia. According to his statement, the level of health-care quality received in various regions of Indonesia varies according to economic development conditions. This is what prompted the authors to use variables in Java and outside Java.

**Table 1. Descriptive Statistical Results of Research Variables**

Variable	Obs	Average	Std. Dev	Min	Maks	Data source
IPKM	508	0,596	0,062	0,347	0,747	Ministry of Health
HealthShopping Ratio	508	13,501	3,604	4,258	35,096	Ministry of Finance
GRDP (billion rupiah)	508	30.951,705	31.017,555	654,064	521.320,373	BPS
RLS	508	11,598	1,403	2,032	16,02	BPS



Doctor	508	0,167	0,102	0,012	0,804	Village Potential Survey
sanitation	508	69,270	15,805	3,966	96,094	BPS
Drinking water	508	63,277	18,757	0,998	99,174	BPS
Java (1=Java ; 0=Other)	508	0,221	0,415	0	1	Ministry of Health

Table 1 is the result of descriptive statistical research variables. Based on Table 1, the average IPKM in Indonesia in 2018 was 0.596, with the highest average being 0.747 in Gianyar Regency, Bali Province, and the lowest average being 0.3469 in Paniai Regency, Papua Province. The average ratio of health spending is 13,501, meaning that 13,501% of the total APBD as a whole is dedicated to the health sector. The lowest health expenditure ratio was 4.258%, namely in Batu City, East Java Province, and the highest health expenditure ratio was 35.096% in Sukabumi City, West Java Province, located in Sumatra, Java, Bali, and Nusa Tenggara, with an IPKM score slightly above average. Meanwhile, regions in the regions of Kalimantan, Sulawesi, Maluku, and Papua have more IPKM scores below the average.

### 3. RELUST AND DISCUSSION

#### Results

The data used in this study was cross-sectional data from 2018 with an expanded time frame. The independent variable data period in this study uses the average from 2014 to 2018. Of the population of 34 provinces in Indonesia, there are regions or cities in one province that are not the object of this research, namely DKI Jakarta, because the APBD data in the province does not reach the district or city level. This study used cross-sectional data with the same units and number of observations for each variable, namely 508 observations at the district/city level from 33 provinces in Indonesia in 2018.

The average IPKM in Indonesia in 2018 was 0.5961883. The highest IPKM was 0.747 in the Gianyar Regency, Bali Province. The lowest IPKM score was 0.3469 in Paniai District, Papua Province. In general, IPKM scores in Indonesia are above average. Based on Graph 1, regions in Sumatra, Java, Bali, and Nusa Tenggara have more IPKM scores above the average. Meanwhile, regions in the regions of Kalimantan, Sulawesi, Maluku, and Papua have more IPKM scores below the average. Based on the graph in Appendix 1, there is a tendency for a relationship between the variable ratio of health spending and IPKM. In general, the relationship between the ratio of health spending and IPKM is positive. On the islands of Sumatra, Java, Bali, and Nusa Tenggara, Kalimantan, Sulawesi, and Papua also show a positive relationship between health spending and IPKM. However, in Maluku Island, the relationship between health expenditures and IPKM is negative. When compared to the IPKM distribution of each major island in Indonesia, the islands of Sumatra, Java, Bali, and Nusa Tenggara, which have an IPKM distribution above the average, have a more positive relationship between the ratio of health spending and IPKM. On Maluku Island, which has a larger distribution of IPKM below the average, the relationship between the ratio of health spending and IPKM is negative. On the islands of Kalimantan, Sulawesi, and Papua, which have a greater share of IPKM below the average, the relationship between the ratio of health spending and IPKM is positive.

**Table 2. Regression Results**

Variabel	Margins IPKM	Margins IPKM	Margins IPKM
RasioBelanjaKesehatan	0.0061503*** (0.0007179)		0.0013753*** (0.0004201)
lnPDRB		0.0040215*** (0.0012428)	0.0038814*** (0.0012297)
Sanitasi		0.0013453*** (0.0001144)	0.0013713*** (0.0001134)
AirMinum		0.0010639*** (0.0001038)	0.0009969*** (0.0001048)
RLS		0.0102997*** (0.0013003)	0.0098037*** (0.0012959)
Dokter		0.0353491** (0.0146515)	0.0389183*** (0.0145263)

Jawa (1 = Jawa ; 0 = Lainnya)		0.0250436*** (0.0040313)	0.0228774*** (0.0040435)
N	508	508	508
Pseudo-R <sup>2</sup>	0.00432	0.15794	0.16100

Standard errors in parentheses

\*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Based on the regression results of government spending in the health sector on the Public Health Development Index (Table 2), the simultaneous significance test in this study used the LR  $\chi^2$  test. Based on the results of the  $\chi^2$  LR test, the probability value of  $\chi^2$  in both Models 1, 2, and 3 is 0.0000, where the result is smaller than the significance level of  $\alpha$ , which is 1%. These results show that the independent variables simultaneously have a significant influence on IPKM in Indonesia.

Based on the results of testing the significance level partially using the Z test, the variable Health Spending Ratio in Model 1 and Model 3 is significant at the 1% level. The lnPDRB, Sanitation, Drinking Water, RLS, and Java variables in Models 2 and 3 are significant at the 1% level. The Doctor variable is significant at the 5% level for model 2 and significant at the 1% level for model 3. Based on Table 2, the value of Pseudo-R<sup>2</sup> in model 3 is 0.161, which means that overall, changes in the independent variables in this model are able to explain 16, 1% of the dependent variable. While the rest is explained by other factors outside this model.

## Discussion

Based on the regression results, the health shopping ratio variable has a significant effect on IPKM in Indonesia and has a value of 0.0013753. According to the regression results, any change in the ratio of the health budget to the regional budget, in which case an increase in the proportion of the health budget to the regional budget can result in an increase in IPKM of 0.0013753 points, *ceteris paribus*.

The results of this study are the same as the findings of [8], who examined the impact of government spending in the health sector on health outcomes. Public health spending has consistently been shown to be a significant predictor of health outcomes in Ghana. Government health spending has a positive influence on improving the quality of public health. According [19] also stated this. Her research findings suggest that increasing health spending is an important step in improving health outcomes in Sub-Saharan Africa. The results show that total health care spending significantly increases life expectancy at birth in sub-Saharan African countries. This finding was obtained because health spending, especially for the community, was used for the provision and development of health facilities and for improving the administration of the health system.

Health spending has an impact on good economic events because this is related to its designation as improving the quality of health, which will increase investment in the field of human resources, especially the health sector. This has an impact on health events, which are components of production factors in order to increase the added value of goods and services, or as a target for the goals to be achieved by society, households, and individuals, which is popularly known as the welfare objective. Health is equated with capital and has a positive rate of return for society and individuals.

Based on the regression results, the lnPDRB variable has a positive relationship and has a significant influence on IPKM in Indonesia. The lnPDRB variable has a coefficient of 0.0038814. The results of these estimates mean that every 1% increase in GRDP can result in an increase in IPKM of 0.00038814 points, *ceteris paribus*. The results of this estimation are in line with the research of [26] and [3], who found that GRDP is important as a determinant of the level of health in an area. The regional economy, proxied as GRDP, is one of the components of the macroeconomy that is used as material for evaluating development results in specific districts or cities. In the sanitation sector, based on the regression results, the sanitation variable (percentage of households with proper sanitation) significantly influences IPKM in Indonesia and has a coefficient of 0.0013713. This figure means that every change in the increase of 1% in the number of proper sanitation facilities can result in a change in the increase in IPKM of 0.0013713 points, *ceteris paribus*. This is in accordance with research from [22], which stated that the availability of good sanitation facilities plays a significant positive role in improving the quality of health.

In the field of drinking water access facilities, based on the regression results, the drinking water variable (percentage of households with access to drinking water) is significant in influencing IPKM in Indonesia, and the coefficient is 0.0009969. This means that every 1% increase in the percentage of the number of proper sanitation facilities can result in an increase in the IPKM of 0.0009969 points in *ceteris paribus* conditions. This is in line with research from [8], which states that the availability of drinking water

access facilities will have an impact on improving the quality of health. Facilities such as access to drinking water are things that can affect the level of health, namely through increasing access to proper drinking water at the individual, household, and community levels, which will lead to a reduction in community-based diseases and contribute to improving the quality of public health.

The regression results for the education variable (average length of schooling) show that it has a significant influence on the IPKM variable, with a coefficient of 0.0098037. This means that any change in the increase of 1 year in the average length of school can result in a change in the increase in IPKM by 0.0098037 points, *ceteris paribus*. These results are in line with research from [2]. The study found that the level of education, which in this study was measured by literacy, was very important as a determinant of the health status of infants and children as well as society in general. According to [17] found higher levels of education to be important for health.

Based on the regression results, the doctor variable (the ratio of doctors to a thousand people) has a positive relationship with IPKM in Indonesia and has a significant influence. The doctor variable has a value of 0.0389183, which means that every change in the number of doctors per thousand people can result in an increase in IPKM of 0.0389183 points in *ceteris paribus* conditions. The results of this study are in line with the research of Cantarero & Pascual (2008), [2], and [8], which state that doctors have a positive influence on improving the quality of public health. One component that plays an important role in achieving development in the health sector is human resources in health itself, namely doctors.

Based on the regression results, the Javanese variable has a significant effect on IPKM in Indonesia and has a coefficient of 0.0228774, which indicates that differences between districts and cities in Java Island have a higher IPKM score of 0.0228774 points compared to other regencies and city areas in *ceteris paribus* condition. This result is in line with the research by [27], which states that the characteristics of regions with different economies have an influence on the quality of health. His statement stated that the level of quality of health services received in various regions of Indonesia varied according to the conditions of economic development.

#### 4. CONCLUSION

The results of this study indicate that local government spending on health can improve the level of health quality in the region. This means that the government budget in the health sector is effective in improving the quality of public health in the regions. The effectiveness of health spending on the quality of public health has also taken other factors into account, namely the capacity of the regional economy, the condition of proper sanitation facilities and proper drinking water, health services, and regional characteristics. Improving proper sanitation and drinking water facilities as a promotional and preventive effort in the context of improving health and preventing disease can improve the quality of public health. Health services, which are curative and rehabilitative actions related to doctors' services in treating people, are proven to be able to improve the quality of public health. The results showed that the quality of public health on the islands of Sumatra, Java, Bali, and Nusa Tenggara was above the national average, with many areas having higher IPKM scores than the national average. Meanwhile, areas on the islands of Kalimantan, Sulawesi, Maluku, and Papua have health quality below the national average because their IPKM scores are below the average for those regions. This shows the existence of disparities in the quality of health between islands. Based on the results of this study, government intervention is necessary by increasing the APBD in the health sector so that the quality of public health can improve, namely by increasing the budget allocation for promotional and preventive health efforts. In light of the existence of inter-island public health disparities, the government needs to encourage efforts to equalize the quality of public health. The government can encourage efforts to equalize the quality of public health by improving proper sanitation and drinking water facilities so that the impact can be greater on the quality of public health. The government needs to provide access to good sanitation and proper drinking water facilities as part of its promotional and preventive efforts in health, as well as improve health services for curative and rehabilitative measures, in this case by increasing the distribution of doctors, especially for remote areas, islands, and borders, so that people who need health services can be met.

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