

The Analysis of Health Index Development Factor in Aceh Province, Indonesia

Nurlaili Ramli^{*}, Anita Anita

Department of Midwifery, Polytechnic of Health-Ministry of Health, Aceh, Indonesia

Abstract

Citation: Ramli N, Anita A. The Analysis of Health Index Development Factor in Aceh Province, Indonesia. Open Access Maced J Med Sci. 2019 Nov 15; 7(21):3673-3678. <https://doi.org/10.3889/oamjms.2019.755>

Keywords: Factor Analysis; Health Index Development; Aceh Province; Indonesia

***Correspondence:** Nurlaili Ramli. Department of Midwifery, Polytechnic of Health-Ministry of Health, Aceh, Indonesia. E-mail: nurlaili.ramli@poltekkesaceh.ac.id

Received: 10-May-2019; **Revised:** 30-Sep-2019; **Accepted:** 01-Oct-2019; **Online first:** 11-Oct-2019

Copyright: © 2019 Nurlaili Ramli, Anita Anita. This is an open-access article distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (CC BY-NC 4.0)

Funding: This research did not receive any financial support

Competing Interests: The authors have declared that no competing interests exist

BACKGROUND: Development of Health Index becomes important in measuring development. The development of the Health Index in Aceh Province is influenced by several internal and external factors.

AIM: The purpose of this study was to analyse the factors that influence the health index as well as formulate a health index development strategy for Aceh Province

METHODS: The method used is quantitative with a survey approach. This research was conducted from January to March 2019 in Aceh Province. Participants were determined as many as 50 stakeholders using the purposive sampling method. Data was collected in the form of primary and secondary data. Primary data were obtained through questionnaires and interviews with key stakeholders such as the Aceh Provincial Government, regional authorities within the Aceh Province (Agency, Bureau, Office, Hospital, etc). Secondary data was obtained from relevant research reports, government regulations, and others. The SWOT analysis was used to identify internal and external factors, strategies for developing the health index of the Aceh Province.

RESULTS: Sixteen factors influence the development of a health index in the province of Aceh. Analysis of internal and external factors has identified five strength factors, six weakness factors, five opportunity factors, and five threat factors. The internal factors (strength) that influence the development of the health index are the increasing role of the provincial government in improving health (0.437). Internal factors (weaknesses) that influence the development of health indices in the province of Aceh are the low quality of human resources in the health sector (0.336). External factors (opportunities) that influence the development of health indices in Aceh province are support from the central government with a value (0.399). External factors that pose a threat to the development of health indices in Aceh province are the ability of the community to finance health with a value (0.437). The results of the SWOT analysis of the condition of the development of the health index are currently in squared II (Strategy Diversification). This condition shows that the development of the health index faces a big threat. Alternative strategies for the development of health indices can be done by increasing the allocation of health spending, increasing partnerships with the private sector in implementing health programs, cooperation between the central, provincial and district governments in improving policies and improving service quality.

CONCLUSION: Some factors influence the development of the Health Index in Aceh Province. Internal factors are the role of the provincial government in improving health, and the low quality of human resources in the health sector. While external factors are the existence of support from the central government, and the ability of the community to finance health.

Introduction

Development' is to improve the quality of people's lives by creating an environment for them to engage in a wide range of activities, to be healthy and well-nourished, to be knowledgeable and to be able to participate in the community life. The Human Development Index (HDI) is a multi-dimensional index of development as it is the combination of three development indices-health index, education index and income index [1]. As Indonesia moves to provide health coverage for all citizens, understanding

patterns of morbidity and mortality are important to allocate resources and address inequality [2]. Indonesia faces significant challenges in the health sector despite notable progress in the past decades, especially about improved life expectancy. Underpinning these problems are significant disparities in access to quality health services across geographic regions and socioeconomic groups [3], [4]. For example, health outcomes are lower in many Eastern Indonesian provinces as well as in rural areas and among people from the lowest wealth quintile [5]. Indonesia faces critical challenges about human resources for health (HRH). These relate to HRH

policy, planning, the mismatch between production and demand, quality, remuneration, and mal-distribution [6].

Health development is an investment to improve the quality of human resources by Law Number 36 of 2009 concerning Health. Health development aims to increase awareness, willingness, and the ability to live healthy as to realise the degree of public health [7]. The success of health development is determined by the sustainability of the program, cross-sector cooperation, and health financing. One of the factors that affect the level of health is the level of financing for the health sector [8]. The amount of health expenditure is positively related to the achievement of public health. Also, government tax revenues have a positive influence on the effectiveness of public policy in improving health community [9]. To achieve this goal, local governments have a large role in the development of the health index. One of the policies of the regional government that is seen as being able to improve the health index in the regions is the expenditure of the local government in the health sector. The low value of the health index in Aceh Province contributed to the slow pace of growth in the Human Development Index in the Aceh Province. Based on data from the central statistical agency (BPS), in the 2016-2017 period, Aceh Province's HDI grew by 0.79 percent [10]. Growth in the period was lower compared to the increase in the 2014-2015 period, growing by 0.93 percent. With the increase in government budget allocations in the health sector, it is expected to encourage the growth of the Human Development Index. Aceh Province as one of the health benchmarks in Indonesia, must be able to catch up with the increase in the growth of the Human Development Index from other regions in Indonesia. Many factors influence the health index in Aceh Province. Therefore, the purpose of this study is to identify factors that influence the development of the health index and formulate a strategy for developing the health index in Aceh Province.

Material and Methods

The research method used in this study was the survey technique. This research was conducted from January to March 2019 in Aceh Province. Respondents were determined to be 50 using the purposive sampling method. Data was collected in the form of primary and secondary data. Primary data were obtained through questionnaires and interviews with key stakeholders such as the Aceh Provincial Government, regional authorities within the Aceh Provincial Government (Agency, Bureau, Office, Hospital, etc.). Secondary data was obtained from relevant research reports, government regulations,

and others. The SWOT analysis is used to determine internal and external factors that influence the Health Index Development Factors in Aceh Province. The use of SWOT analysis to identify strengths and weaknesses (Weakness) of internal factors, as well as opportunities (Opportunity) and threats (Threat) of external factors [11], [12]. Furthermore, a strategy for the development of the Aceh Province health index was formulated and outlined in the SWOT matrix.

Results

SWOT Analysis

The SWOT analysis focuses on the strategy of developing health index in Aceh province. The interviews, questionnaires, and observations in the field were analysed into internal and external factors. Based on the results of the analysis identified several internal and external factors that influence the health index. Internal factors consist of strengths and weaknesses. While the external factor consists of opportunities and threats.

Internal Factors Affect Development of Health Index

The internal analysis aims to harness the power possessed to overcome weaknesses in the development of a health index in Aceh province. There are eleven internal factors (strengths and weaknesses) that influence the development of the health index.

Table 1: Internal Strategic Factors Analysis Summary (IFAS)

No	Internal factors	Weight	Rating	Score
Strengths				
S1	The role of the provincial government in improving health.	0.115	3.8	0.437
S2	The commitment of government in improving health	0.113	3.8	0.4294
S3	The coordination between government and other private sectors	0.102	3.8	0.3876
S4	The coordination between provincial and district government	0.109	3.7	0.4033
S5	The coordination between the health department and community clinic centre.	0.102	3.8	0.3876
Sub Total				2.0449
Weakness				
W1	Allocation of health expenditure 10% of total regional expenditure	0.089	3.3	0.2937
W2	Quality of health infrastructure	0.082	3.4	0.2788
W3	Ease of community towards health facilities and medicines	0.056	3.7	0.2072
W5	Availability of human resources in the health sector.	0.069	3.4	0.2346
W6	Quality of human resources in the health sector.	0.096	3.5	0.336
Sub Total				1.3503
Total = Strength + Weakness				3.3952

Source: processed primary data.

The internal factors (strength) that influence the development of the health index are the increasing role of the provincial government in improving health (0.437). Therefore, the importance of strengthening of

public, private and community health systems has been emphasised time and again. In most of the developing countries, certain weaknesses and gaps in the government health systems have been hampering the achievement of improved health outcomes [13].

Whereas internal factors (weaknesses) that influence the development of health indices in the province of Aceh are the low quality of human resources in the health sector (0.336). Human resources, when about health care, can be defined as the different kinds of clinical and non-clinical staff responsible for public and individual health intervention [14]. Proper management of human resources is critical in providing a high quality of health care. Effective human resources management strategies are greatly needed to achieve better outcomes and access to health care around the world [15]. Based on the Internal Strategic Factors Analysis Summary (IFAS), it is known that the development of the health index in Aceh province has an IFAS score of 3.395, meaning that its internal position is at a good level.

External factors that influence the development of the health index

The external analysis aims to see opportunities that can be used to develop the development of health indices and prepare strategies to minimise threats. There are ten external factors (opportunities and challenges) that influence the development of the health index.

Table 2: External Strategic Factors Analysis Summary EFAS)

No	External Factors	Weight	Rating	Score
Opportunities				
O1	Support from center government	0.105	3.8	0.399
O2	District role in province	0.111	3.5	0.3885
O3	District commitment to improving community health	0.113	3.4	0.3842
O4	The involvement of another stakeholder in health sectors	0.101	3.3	0.3333
O5	Community participatory in planning health development	0.043	3.7	0.1591
				1.6641
Threats (T)				
T1	The ability of community in health finance	0.115	3.8	0.437
T2	The low of community ability in using government health facilities	0.112	3.5	0.392
T3	The financial regulation management is ambiguous	0.113	3.4	0.3842
T4	The economic growth rate in district and province	0.109	3.7	0.4033
T5	The low community ability to make a healthy environment.	0.113	3.5	0.3955
Sub Total				2.012
Total = opportunities + threats				3.6761

Source: processed primary data.

External factors that influences of health index development in Aceh are the support from central government with point (0,399). One of the government's supports in health development is the issuance of Jaminan Kesehatan Nasional (JKN). The JKN brings together all major health insurance schemes (Askes, Jamkesmas, Jamsostek and Jamkesda) under a single agency-the Social Security Management Corporation for the Health Sector (BPJS Kesehatan) [16]. A key response by the Government

has been the development of a compulsory national health insurance scheme designed to pave the way for the achievement of universal coverage [17]. This scheme, known as Jaminan Kesehatan Nasional (JKN), seeks to make comprehensive care available to the entire population by 2019 [2]. An external factor that becoming development health index threat in Aceh is community ability to finance health with a score (0,437). People's ability to pay is a serious challenge facing the government now. Out-of-pocket health expenditure exposes households to the risk of incurring large medical bills that can push households into financial catastrophe [18]. This is of major concern to countries such as Indonesia where more than 28 million people currently live below the poverty line and around 100 million remain vulnerable to falling into poverty, as their income hovers marginally above the national poverty line [19], [20]. For the poor, this translates into high out-of-pocket payments that in turn, limits access to health care and pushes many into poverty [16].

Based on External Strategic Factors Analysis Summary (EFAS), it was found that health index development in Aceh has score EFAS as (3,676). This internal position gives a good. Strategy for Developing a Health Index in Aceh Province. The analysis of the level of development of the health index uses IFAS and EFAS metrics, then graphs the results of the SWOT analysis. The total value of IFAS, which is the difference between strength and weakness is 0.694. This indicates that the positive IFAS value means that the strength factor is greater than the weakness factor. The total value of EFAS which is the difference between opportunity and threat is (- 0.347). It is negative EFAS value which means the threat factor is greater than the opportunity factor. The thing that needs to be done is to strengthen internally to anticipate threats.

Strategy for Developing a Health Index in Aceh Province

The analysis of the level of development of the health index uses IFAS and EFAS metrics, then graphs the results of the SWOT analysis. The total value of IFAS, which is the difference between strength and weakness is 0.694. This indicates that the positive IFAS value means that the strength factor is greater than the weakness factor. The total value of EFAS which is the difference between opportunity and threat is - 0.347. It is negative EFAS value which means the threat factor is greater than the opportunity factor. The thing that needs to be done is to strengthen internally to anticipate threats.

Based on Figure 1 above, the current condition of developing the health index is in quadrant II (Strategy Diversification). The position in quadrant II implies that the position of health index is still good. However, it faces many big challenges. A big challenge has the potential to hamper the

development of a health index. Alternative strategies for developing health index in Aceh by using strengths, weaknesses, opportunities and threats. Based on this approach, alternative strategies such as SO, ST, WO, and WT were created as follows.

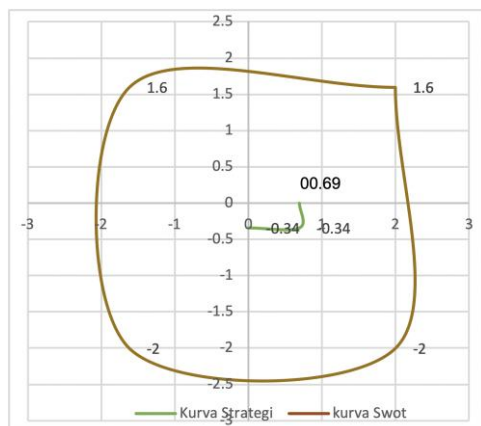


Figure 1: SWOT diagram

SO-strategy: Strategy in utilising the power (S) maximally to seize the opportunity (O) ie: - Improving the Quality of Health Development Planning; and - Enhancing partnerships with the private sector as well as cooperation between the central, provincial and district/city governments.

ST-strategy: Strategy in utilising the power (S) maximally to anticipate and overcome the threat (T): - Carry out promotions and education related to awareness of maintaining health; and - Preparation of policies related to the distribution and development of health workers and improving service quality.

WO-strategy: a strategy in minimising weakness (W) to seize the opportunity (O) ie: - Improvement of policies and budgeting in the health sector, policy formulation and development of health personnel; and - Increased proportional and responsible allocation of health spending in the Regional Expenditure Anggaran.

WT-strategy: Strategy in minimising weakness (W) to avoid threat (T), i.e., - Improve coordination with the central government, district/city government, and the community in implementing health programs; and - Synchronize government programs in the health sector with the central government and district/city government.

Discussion

Sixteen factors influence the development of a health index in the province of Aceh. Analysis of internal and external factors has identified five strength factors, six weakness factors, five opportunity

factors, and five threat factors. The strategy to improve the Health Index through the allocation of Government Expenditures for Health in Aceh can be done by increasing the role of the provincial government, and support from the central government. Moreover, like many other countries in the region Indonesia has a thriving private-sector with two-thirds of health financing and more than half of all health services in private hands [21].

The role of the provincial government in increasing income can reduce dependency between districts. Districts/cities that have low income has a high dependence on the province in determining expenditure health [22], [23]. One of the factors affecting the level of health is how much the level of funding for the health sector [7]. The amount of health expenditure is positively related to the achievement of public health degrees. The greater the health expenditure issued by the government, the better the achievement of public health status. There is a positive relationship between government health spending in Life Expectancy [24]. The government plays an important role in public health services. Government support in developing the health index is the provision of primary health insurance (Askes, Jamkesmas, Jamsostek and Jamkesda) under a single agency-the Social Security Management Corporation for the Health Sector (BPJS Kesehatan). These roles include giving licenses, carrying out various actions to control the spread of disease in the community, supervision, hospital operators, and providing support for the implementation of research in the health sector [15], [26].

The quality of human resources in the health sector affects the development of health indices in the province of Aceh. Human resources implementing health services must have basic competencies in health education, such as the ability to make changes, support health, mediate partnerships, communication, leadership, assessment, planning, implementation, and evaluation and health research [27]. Also, the low quality of resources affects the quality of public services and ownership of health insurance for the community. The low quality of public services, limited health services, and the lack of service providers are also major factors in the low registration of health insurance [28]. Support from the central government affects the development of the health index in Aceh. Support from the central government in the form of co-administration funds in the health sector, operational health assistance, poor people's health funds, and assistance in the form of debt or grants.

Government support through the formulation of policies related to the development of health workers and improving the quality of health services. Government participation in the health sector is carried out by providing funding support to the health sector [29]. However, the implementation of the health funding policy made by the central government may not necessarily go according to plan, because there

are differences in values, there is no frame of reference, and there is a lack of support from the regional government. This is an impact of the delegation of obligations and responsibilities to the region [30], [31].

Health service policies will be difficult to support if policymakers and implementers still prioritise curative and rehabilitative health services rather than promotive and preventive [32]. The ability of the community to finance health affects the development of health indices in the province of Aceh. The ability of the community to finance health is still very low and depends on the government through the Aceh health insurance program (JKA). The low ability to reach health facilities and health information provided by the government is one of the causes of the uneven development of health in the province of Aceh.

In conclusion, sixteen factors influence the development of a health index in the province of Aceh. Analysis of internal and external factors has identified five strength factors, six weakness factors, five opportunity factors, and five threat factors. The internal factors (strength) that influence the development of the health index are the increasing role of the provincial government in improving health (0.437). Internal factors (weaknesses) that influence the development of health indices in the province of Aceh are the low quality of human resources in the health sector (0.336). External factors (opportunities) that influence the development of health indices in Aceh province are support from the central government with a value (0.399). External factors that pose a threat to the development of health indices in Aceh province are the ability of the community to finance health with a value (0.437). The results of the SWOT analysis of the condition of the development of the health index are currently in squared II (Strategy Diversification). This condition shows that the development of the health index faces a big threat. Alternative strategies for the development of health indices can be done by increasing the allocation of health spending, increasing partnerships with the private sector in implementing health programs, cooperation between the central, provincial and district governments in improving policies and improving service quality.

References

- Sharma K. Human development and South East Asian countries: Special emphasis on India. *J Educ Health Promot.* 2013; 2(45). <https://doi.org/10.4103/2277-9531.117414> PMID:24251281 PMCid:PMC3826027
- Mboi N, Murty S, Trihandini I, Elyazar I. On the road to universal health care in Indonesia, 1990-2016: a systematic analysis for the Global Burden of Disease Study 2016. *Lancet.* 2018; 392(10147):581-591. [https://doi.org/10.1016/S0140-6736\(18\)30595-6](https://doi.org/10.1016/S0140-6736(18)30595-6)
- Wiseman V, Thabrany H, Asante A, Haemmerli M, Kosen S, Gilson L, Mills A, Hayen A, Tangcharoensathien V, Patcharanarumol W. Evaluasi ekuitas sistem kesehatan di Indonesia: protokol studi. *Int J Equity Health.* 2018; 17(1):138. <https://doi.org/10.1186/s12939-018-0822-0> PMID:30208921 PMCid:PMC6134712
- Ahmad R, Hosseinpoor, Devaki N, Anne S. Monitoring health inequality in Indonesia. *Global Health Action.* 2018; 11(1):3-6. <https://doi.org/10.1080/16549716.2018.1475041> PMID:30474507 PMCid:PMC6263099
- Indonesia Demographic and Health Survey 2012. Jakarta, Indonesia: BPS, BKKBN, Kemenkes, and ICF International, 2013.
- Kurniati A, Roskam E, Afzal M, Suryowinoto TB, Mukti AG. Strengthening Indonesia's health workforce through partnerships. *Public Health.* 2015; 129(9):1138-49. <https://doi.org/10.1016/j.puhe.2015.04.012> PMID:26032194
- Ministry of Health (MOH) [Indonesia]. Ministry of Health Letter Number HK.02.02/MENKES/52/2015 on Ministry of Health Strategic Planning Year 2015 - 2019. Jakarta: Ministry of Health, 2015.
- Atmawikarta. Laporan Kajian Kebijakan Penanggulangan (Wabah) Penyakit Menular (Studi Kasus DBD). Jakarta. Badan Perencanaan dan Pembangunan Nasional, 2006.
- Jiménez-Rubio D. The impact of fiscal decentralization on infant mortality rates: Evidence from OECD countries. *Social Science & Medicine.* 2011; 73(9):1401-7. <https://doi.org/10.1016/j.socscimed.2011.07.029> PMID:21920653
- BPS Badan Pusat Statistik. Indeks Pembangunan Manusia (IPM) Aceh Tahun 2018. Banda Aceh. BPS, 2018.
- Maleki M, Tabibi S. Strategic Planning. 6th ed. Tehran: Termeh, 2017.
- Rangkuti, Freddy. Analisis SWOT: Teknik Membedah Kasus Bisnis. Jakarta. PT Gramedia Pustaka Utama, 2014.
- Ejaz I, Shaikh BT, Rizvi N. NGOs and government partnership for health systems strengthening: a qualitative study presenting viewpoints of government, NGOs and donors in Pakistan. *BMC health services research.* 2011; 11(1):122. <https://doi.org/10.1186/1472-6963-11-122> PMID:21609480 PMCid:PMC3112396
- World Health Organization. The world health report 2000: health systems: improving performance. World Health Organization; 2000.
- Kabene SM, Orchard C, Howard JM, Soriano MA, Leduc R. The importance of human resources management in health care: a global context. *Hum Resour Health.* 2006; 4(1):20. <https://doi.org/10.1186/1478-4491-4-20> PMID:16872531 PMCid:PMC1552082
- Ministry of Health- Indonesia. Health financing and universal healthcoverage: policy Briefs. Indonesia: Australia Indonesia Partnership for Health. Systems Strengthening, 2015.
- Pisani E, Olivier Kok M, Nugroho K. Indonesia's road to universal health coverage: a political journey. *Health Policy Plan.* 2017; 32(2):267. <https://doi.org/10.1093/heapol/czw120> PMID:28207049 PMCid:PMC5400042
- Mchenga M, Chirwa GC, Chiwaula LS. Impoverishing effects of catastrophic health expenditures in Malawi. *Int J Equity Health.* 2017; 16(1):25. <https://doi.org/10.1186/s12939-017-0515-0> PMID:28109188 PMCid:PMC5251219
- World Bank. 2017. <http://www.worldbank.org/en/country/indonesia/overview>
- Xu K, Evans DB, Carrin G, Aguilar-Rivera AM, Musgrove P, Evans T. Protecting households from catastrophic health spending. *Health Aff.* 2007; 26:972-983. <https://doi.org/10.1377/hlthaff.26.4.972> PMID:17630440
- Heywood P, Choi Y. Health system performance at the district level in Indonesia after decentralization. *BMC Int Health Hum Rights.* 2010; 10:3. <https://doi.org/10.1186/1472-698X-10-3>

PMid:20205724 PMCID:PMC2839983

22. Jutting J, Uchimura H. Fiscal Decentralization, Chinese Style: Good for Health Outcomes?. *World Development*. 2009; 37(12):1926-1934. <https://doi.org/10.1016/j.worlddev.2009.06.007>
23. Asfaw A, Froberg K, James K S, Jutting J. Fiscal decentralization and infant mortality: empirical evidence from rural India, *Journal of Developing Areas*. 2007; 41(1):17-35. <https://doi.org/10.1353/jda.2008.0026>
24. Kim TK, Lane SR. Government health expenditure and public health outcomes: A comparative study among 17 countries and implications for US health care reform. *American International Journal of Contemporary Research*. 2013; 3(9):8-13.
25. Rosen, S. Harvey, Gayer T. *Public Finance*. Ninth Edition. Singapore. McGraw-Hill, 2010.
26. Anyanwu JC, dan Erhijakpor, Andrew EO. Health Expenditure and Health Outcomes in Africa. Economic Research Working Paper No. 91. Tunisia: African Development Bank, 2007.
27. Dempsey C, Battel-Kirk B, Barry MM. The CompHP core competencies framework for health promotion handbook. Galway: Health Promotion Research Centre, National University of Ireland. 2011.
28. Macha J, Kuwawenaruwa A, Makawia S, Mtei G, Borghi J. Determinants of Community Health Fund Membership in Tanzania: a Mixed Methods Analysis. *BMC Health services*. 2014; 14:538. <https://doi.org/10.1186/s12913-014-0538-9> PMid:25411021 PMCID:PMC4246628
29. Hyman, N. David. *Public Finance, A Contemporary Application Theory to Policy*. 10th Edition. North Carolina. South-Western Cengage Learning; 2010.
30. Jeppsson A. Decentralization and National Health Policy Implementation in Uganda: a Problematic Process. Department of Community Medicine Malmö University Hospital. Lund University. Sweden; 2004.
31. Cheung KK, Mirzaei M, dan Leeder S. Health policy analysis: a tool to evaluate in policy documents the alignment between policy statements and intended outcomes. *Australian Health Review*. 2010; (34):405-413. <https://doi.org/10.1071/AH09767> PMid:21108900
32. Bryant T. Role of knowledge in public health and health promotion policy change. *Health Promotion International*. 2002; 17(1):89-98. <https://doi.org/10.1093/heapro/17.1.89> PMid:11847142