Factors Affecting the Achievements of Performance-Based Capitation: A Scoping Review

Ari Dwi Aryani
BPJS Kesehatan Email: ari.dwi@bpjs-kesehatan.go.id

Abstract: Primary care facilities (FKTP) are the vanguard in the National Health Insurance Program (JKN). The implementation of performance-based capitation (Kapitasi Berbasis Kinerja or KBK) is an effort to ensure FKTP performance through capitation payment arrangements to improve patient satisfaction, quality of health services, and cost-efficiency. Although overall FKTP performances have increased, from 9,276 FKTP that carried out KBK, only 15% achieved perfect performance (100%), with only one of three KBK indicators reached, namely the non-specialist referral ratio. This study aims to review existing literatures to compile various factors that affect the achievement of KBK. Literature searches were conducted systematically in 2016-2021 using PubMed, Google Scholar, PubMed Central, Researchgate, and other sources. The keywords used are capitation, based, performance, and commitment. Literature selection produces nine articles that match the criteria for analysis. Some of the factors that affect the achievement of KBK are the availability of human resources (medical and non-medical personnel), the availability of medical devices, the availability of information systems, governance and organization, and financing. Fulfilment of these factors is needed to achieve KBK indicators.

Keywords: indicator, capitation, performance, commitment, JKN

Abstrak: Fasilitas Kesehatan Tingkat Pertama (FKTP) merupakan garda terdepan dalam pelayanan kesehatan Program Jaminan Kesehatan Nasional (JKN). Penerapan Kapitasi Berbasis Kinerja (KBK) merupakan upaya memastikan kinerja FKTP untuk meningkatkan kepuasan, mutu layanan kesehatan, dan efisiensi biaya. Meskipun secara keseluruhan kinerja FKTP mengalami kenaikan, dari 9,276 FKTP yang melaksanakan KBK hanya 15% FKTP yang mencapai kinerja 100 persen, dengan indikator KBK yang tercapai hanya satu, yaitu Rasio Rujukan Non Spesialistik. Tujuan penelitian ini untuk mengidentifikasi literatur yang ada dan mengompilasi berbagai faktor-faktor yang berpengaruh terhadap capaian indikator KBK Program JKN. Penelusuran literatur dilakukan
INTRODUCTION

A health system with strong primary care services will achieve better quality, equity, and efficiency. Primary care has four main functions: first contact, coordinator, comprehensive, and continuity of service (Starfield, 2020). In implementing National Health Insurance (Jaminan Kesehatan Nasional or JKN), primary care facilities (fasilitas kesehatan tingkat pertama or FKTP) are the vanguard of health services for JKN participants. FKTP provides comprehensive and continuous health services for the member. FKTP also plays an important role in deciding when a patient should be referred to hospitals and monitoring the health status of those with chronic diseases. The referral decision will impact the overall efficiency of the health care costs if not performed correctly. Optimal FKTP performance will hopefully increase patient satisfaction, quality, and efficiency.

Inconsistent performance by FKTP will affect the continuity of the JKN program. Since 2016 Indonesia’s Social Security for Health Agency (BPJS Kesehatan) have implemented performance-based capitation (KBK) to link payment with FKTP performance. FKTP will be paid a full amount of capitation if it reaches a performance score of 100 percent. Performance score below 100% will result in payment reduction. KBK was tested in several provinces in 2014 and implemented gradually until implemented throughout Indonesia in 2018 (BPJS Kesehatan, 2016).

Along with the phasing out of KBK implementation, the indicators were also developed. In 2016 based on the Joint Decree between the Secretary-General of the Ministry of Health and President Director of BPJS Kesehatan, KBK indicators include contact rate, non-specialist referral rate, and participation rate of chronic disease management program (Program Pengelolaan Penyakit Kronis or Prolanis) members. In 2019, changes to the KBK indicators were made through BPJS Kesehatan Regulation. The Prolanis participation rate were changed to rate of Prolanis members in stable condition. In the era of the COVID-19 pandemic where most people avoid direct contact to FKTP, adjustments to the contact rate indicator were made by accommodating indirect contact or teleconsultations. This adjustment is made to prevent the transmission of COVID-19 because of
direct physical contact between medical personnel in FKTP and JKN members while maintaining health care access to JKN members (BPJS Kesehatan, 2021).

Hidayat et.al (2017) found that KBK caused a domino effect on the improvement of FKTP quality shown by comparing the quality index values achieved by group of FKTP with and without KBK. In addition, there was efficiency due to the decrease in referral rate by 1.4%, which led to a decrease in outpatient and inpatient care in hospitals by about 1.3 and 1.4 million cases in 2018. This decrease is associated with efficiency in cost of health services by 795 billion IDR.

Consistent with Hidayat’s study, BPJS Kesehatan 2019-2020 data showed an improvement in FKTP performance. Compared to 2017, there was an increase in FKTP utilization rate by 12.5% in 2019. Furthermore, there was an improvement in the referral system and health services following procedures and medical indications for JKN members, as seen from the decrease in the referral rate to hospitals by 2.3% from 2018 to 2020. In addition, among the 56.85% of diabetes mellitus (DM) and hypertension patients registered in Prolanis, around one fifth are in stable conditions which is associated with the implementation of KBK. However, despite the overall FKTP performance has increased, from 9,276 FKTP that carried out KBK only 15 percent achieves perfect performance in one indicator: the non-specialist referral rate. Other indicators were still below the target (BPJS Kesehatan, 2021).

To achieve continuous improvement in FKTP performance, it is necessary to identify what factors affect the achievement of KBK indicators. This study aims to identify them. The framework used for reviewing the literatures is the WHO Monitoring Primary Care Framework (Figure 1). One of the factors that affect the performance of FKTP is capacity.

![Figure 1. Monitoring Primary Care Framework (Barbazza, 2019)](image-url)
METHOD

The research stages refer to the scoping review framework of Arksey and O'Malley (2005). The stages are (1) compiling research questions, (2) identifying relevant studies, (3) selection of studies, (4) data mapping, and (5) compiling and reporting the results of analysis.

Compiling Research Questions

The research question developed refers to the purpose of this literature study: what are the factors that affect FKTP’s achievement of KBK indicators?

Identify Relevant Studies

At this stage, a search for published journal articles through an electronic database is carried out. Literature search was conducted systematically from 2016-2021 using PubMed, Google Scholar, PubMed Central, Researchgate, and other sources. The keywords used in the literature search are capitation, based, performance, commitment, service. For PubMed and PubMed Central data searches, the keywords used are Indonesia, capitation, based, and performance. For Google Scholar and Researchgate, keywords are capitation, based, performance, and commitment.

The first search uses the keyword "capitation, based, commitment." The use of “commitment” refers to the term “capitation based on service commitment” as stated in the joint decree. This term was implemented from 2016 to 2019. Then the new BPJS Kesehatan Regulation No. 7 year 2019, changed the term to “Performance-Based Capitation Payment”.

In the second search, the keyword used is "capitation, based, performance." Simultaneously, other sources were obtained from other journal searches. The articles included in this study identifies the relationship between KBK achievement and FKTP capacity.

Selection of Studies

Studies are said to be feasible if they meet the following inclusion criteria:
1. Published in the period between 2016-2021,
2. Use Indonesian or English
3. Research on at least two KBK indicators referring to the joint decree
4. Factors that affect the capacity of FKTP in WHO’s Monitoring Primary Care Framework

Literature search results are described using flow diagrams to see the literature identified, the selection process, articles that fit eligibility criteria, and articles included in a thorough review. (Figure 2). Sixty-one articles were identified based on the criteria. Ten articles were excluded due to duplication. Abstract readings of 51 articles were conducted and checked for availability in full version. Of the 51 articles, 31 were excluded due to lack of relevance to the research purposes. Three articles studied one indicator, 6 articles were not available in full version. Finally, from 12 articles
we assessed for quality and conformity with research questions. Nine articles were included for further analysis.

Data Mapping

Data analysis and mapping are conducted after an article fits the criteria. Data mapping results are presented in the form of a table matrix.

Compiling and Reporting the Results of Analysis

At this stage, the author analyzes, summarizes, and compiles the selected literature to produce results and discussions.

RESULT

Based on 9 articles selected from the period of 2016-2021 we obtained factors that affect the achievement of KBK as shown in the following table. Five factors are subject to FKTP capacity in accordance with WHO's Monitoring Primary Care Framework. These factors are (1) availability of human resources (medical and non-medical personnel), (2) availability of infrastructure facilities, (3) availability of information systems, (4) governance and organization, and (5) financing.
Table 1. Literature Review Resume

<table>
<thead>
<tr>
<th>Author</th>
<th>Objectives</th>
<th>Design</th>
<th>Study Location</th>
<th>Factors that affect KBK achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sandra C, Herawati Y.T, Baroya N, Sulistiyani, Ningrum PT, Akbar KA, Ramani A. (2021)</td>
<td>To analyze the implementation and the problems of KBK in Jember Regency</td>
<td>Implementation Research</td>
<td>Jember, 50 Public Health Communities</td>
<td>Involvement of local government, FKTP staff’s commitment to input data into the P-Care system.</td>
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<tr>
<td>Khoeriyah GA, Mardiah I, Hidayati M. (2021)</td>
<td>To analyze the factors that affect the fulfillment of KBK values in Cikancung Health Center</td>
<td>Qualitative, case study</td>
<td>Bandung, Cikancung Public Health Community</td>
<td>Availability of medical record staffs, coordination between staffs</td>
</tr>
<tr>
<td>Munawarah SH, Misnaniarti, Isnurhadi. (2020)</td>
<td>To analyze the factors related to the achievement of KBK Indicator in Palembang City Health Center</td>
<td>Cross sectional</td>
<td>Palembang, 41 Public Health Communities</td>
<td>Availability of human resources, information systems, and authority</td>
</tr>
<tr>
<td>Maujudah SA. (2019)</td>
<td>To identify the factors related to the implementation of KBK</td>
<td>Mixed Method, Qualitative &amp; Quantitative</td>
<td>DKI Jakarta, 340 Public Health Communities</td>
<td>Amount of capitation, disincentive, availability of human resources (doctors, nurses, midwives, pharmaceutical personnel).</td>
</tr>
<tr>
<td>Nofriyenti, Syah NA, Akbar A. (2019)</td>
<td>To analyze factors that affect the fulfilment of contact rate indicators and the ratio of regular visits by Prolanis members</td>
<td>Qualitative, case study</td>
<td>Padang Pariaman, 25 Public Health Communities</td>
<td>Availability of Public Health Community, fund, planning, infrastructure facilities</td>
</tr>
<tr>
<td>Lestari M. 2017</td>
<td>To analyze factors associated with achievement of KBK</td>
<td>Qualitative</td>
<td>Padang, 22 Public Health Communities</td>
<td>Availability of medical and non-medical personnel, general physicians, operational fund, tools and</td>
</tr>
<tr>
<td>Researcher</td>
<td>Year</td>
<td>Study Title</td>
<td>Methodology</td>
<td>Location</td>
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<tr>
<td>Widaty D.</td>
<td>2017</td>
<td>To analyze the causes of capitation payment based on the fulfillment of service commitments on FKTP</td>
<td>Cross sectional, mixed method</td>
<td>Surabaya</td>
</tr>
<tr>
<td>Hilma F.</td>
<td>2017</td>
<td>To explain the achievement of KBK indicators and the factors affecting at the Glugur Health Center</td>
<td>Qualitative</td>
<td>Medan, Glugur Darat Public Health Center</td>
</tr>
<tr>
<td>Hidayat B, Pujiyanti E, Andalan A, Ramadani RY, Aisyah W, Dhanalvin E, Gadistina W, Sofa T, Martiningsih W, Jaya C.</td>
<td>2017</td>
<td>Evaluation of KBK in Puskesmas to explore the effectiveness of KBK and detect the impact of KBK on the performance of Public Health Center</td>
<td>Quasi experiment</td>
<td>9.345 Public Health Centers in Indonesia</td>
</tr>
</tbody>
</table>

**DISCUSSION**

The purpose of implementing Performance-based payments (P4P) is to improve the quality of health services (Mendelson et.al, 2017). P4P are implemented in countries such as United Kingdom, United States and the middle income countries. There are various types of schemes implemented of P4P in each country. P4P is not uniform intervention but an approach to improving performance through financial incentives (Diaconu et.al, 2021). The implementation of KBK in Indonesia aims to improve the satisfaction of JKN participants, to improve the quality of health services, and to improve cost-efficiency. BPJS Kesehatan data in 2020 show that only 15 percent of FKTP have
achieved 100 percent performance. At the national level, only non-specialist referral ratio indicator has reached the target. The capacity of health facilities affects the performance and outcomes of health services. (Barbazza, 2019). FKTP capacity factors that affect the achievement of KBK indicators need to be identified for future improvement. FKTP capacity refers to WHO's Monitoring Primary Care Framework which has two domains: FKTP structure (8 components) and FKTP model (5 components). From 13 components, are in accordance with the findings from 10 research articles in the scoping review, namely (1) the availability of human resources (medical and non-medical personnel), (2) the availability of infrastructure facilities, (3) the availability of information systems, (4) governance and organization, and (5) financing.

The Availability of Human Resources

Of the nine studies analyzed, all studies indicated that the availability of human resources (HR) is a factor affecting the achievement of the 3 indicators KBK. The quantity and competence of human resources in healthcare facilities affects the quality of services (Mohammad A, 2014). The availability of health human resources (physicians, nurses, midwives, pharmacists) is dominant in all indicators of achievement. (Maujudah SA, 2019). The limited number of health human resources causes the contact rate indicator of 150 per mile not to be achieved. The reason is the double burden of officers at the Puskesmas in implementing JKN services and the community health program. Meanwhile, the achievement of contact numbers is carried out through participant visits to FKTP or visits by FKTP officers to participants' homes (Hidayat et al, 2017). This condition caused the activity of visiting participants' homes to not be carried out (Unso RS et al, 2019). The availability of general physicians affects the achievement of the non-specialist referral ratio. The general physician is the service provider and determines the diagnosis of the disease and decides whether the participant is referred or not to the hospital. According to the competence of general physicians to determine 144 diagnoses of diseases which are included in non-specialized references (Lestari M, 2017). In some countries the availability of physician in primary care increases accessibility and reduces social disparities in health services and decreased mortality. (Starfield, 2009).

In addition to physician availability, other health workers should be monitored because they affect the performance of health facilities (Ebert, 2017). The availability of non-medical personnel such as administrative and medical record staffs affect the achievement of KBK. Administrative staffs play an important role in data input into the BPJS Kesehatan P-Care system (Sandra et al., 2021). The data input will be automatically computed and determined FKTP performance (Widaty, 2017). Furthermore, medical record staffs are responsible for providing proper coding which determines decision to refer patients to hospitals. Incorrect coding will affect the achievement of non-specialist referral ratios (Khoeriyah GA, 2021).
Aside from their availability, human resource capacity is also a significant factor to achieve KBK indicators, including the capacity to treat 144 diagnoses that is the standard competence for general physicians (Hidayat et al., 2017). Education and training are needed to improve the capacity of FKTP human resources (Widaty, 2017). Additionally, information and technical guidance from the Public Health Office and BPJS Kesehatan to all FKTP staffs are needed to improve knowledge (Lestari M, 2017).

The Availability of Infrastructure Facilities

Inadequate infrastructure, resources and equipment impede the provision of quality medical services. (Mohammad A, 2014). The effect of the availability of infrastructure facilities on the achievement of KBK was found in 4 articles. The availability of infrastructure facilities affects 2 indicators: contact rate and non-specialist referral rate. Limitations of infrastructure facilities affect the achievement of contact rate indicator (Widaty, 2017). Infrastructure facilities also refer to the availability of P-Care system in which all patient contacts data are inputted. FKTP needs to provide this as well. The availability of facilities used for health examinations and diagnostic support affects the achievement of non-specialist referral ratio indicator (Lestari M, 2017). Non-specialist referrals are made because FKTP were unable to provide the appropriate treatment to patient despite the diagnoses belongs to the 144 standard diagnoses performed by general physicians (Hidayat et al., 2017). This indicator shows the ability of FKTP in treating patients comprehensively based on their standard competence.

The Availability of Information Systems

An information system is required to provide performance achievement data to support monitoring, evaluation and immediate improvement (Hajj, et.al, 2017). The availability of information system affects all indicator achievements but is most dominant in the achievement of contact rate indicator. There is a strong relationship between the availability of information systems to the achievement of KBK indicators (Munawarah SH, 2020). Information system is needed as a medium of recording and reporting activities in FKTP. This becomes the source of data calculation to identify FKTP performance achievement. Disruption to the information system (P-Care system) will disrupt the recording and reporting process (Widaty, 2017). In addition, the availability of internet access in FKTP also affects the input process. Lack of internet access in FKTP will cause staffs to postpone data input either at home or public space where internet connection is available (Munawarah SH, 2020). This is prone to mistakes and inaccuracies. The contact rate is the indicator that is most affected by this problem. As per the formula, the contact rate is the number of members who contacted with FKTP divided by all members registered in FKTP. This includes referred
patients and Prolanis members. Therefore, the achievement of the contact rate indicator will affect the other two indicators.

**Governance and Organization**

Good FKTP governance and organization influence the achievement of performance indicators. Both factors were found in 5 research articles and affect to indicator contact rate and non-specialist referral rate. Lack of support from local governments and the absence of policies that support KBK are factors that affect the achievement of KBK in Jember Health Center (Sandra et al, 2021). Research conducted by Mabuchi et al. (2018) in Nigeria, found that support from community leaders, performance management and staff management by leaders in primary care facilities, has an impact on performance improvement. The role of a primary care leader is essential to the management of primary care facilities. Strong leadership, competency development and leader commitment is required in performance improvement. (Mohammad A, 2014).

There is a significant relationship between the authority of staffs in FKTP in performing daily tasks with the achievement of KBK indicators because authority creates clarity for FKTP staffs to perform their tasks and responsibilities (Munawarah SH, 2020).

Moreover, another influential factor is the commitment of the head of FKTP and all FKTP staffs. Proper planning is also an important aspect that affects the achievement of contact rate indicators. Activities carried out by Community Health Center can be planned properly to integrate with one another to optimize the achievement of contact rate (Lestari M, 2017). This finding are in line with the study of Schuttner et.al (2022), which showed that planning is needed for the effectiveness of health services in the home visiting activities for chronic disease patients with complications in United States.

**Financing**

Capitation payments provide financial incentives to primary care facilities, ensuring that services are more responsive, efficient and effective. Quality services will attract participants to be registered. Effective capitation payments are very important to ensure that primary care facilities have the ability to support health service operations and rational planning. The use of capitation requires systems and guidelines. (Langenbrunner et.al, 2009). Technical guidelines related to the use of capitation funds in Community Health Centers need to be developed (Hidayat et al., 2017). For example, to run the Prolanis program FKTP needs to prepare a specific budget which can be claimed separately to BPJS Kesehatan (Lestari M, 2017). Therefore, a financing arrangement is needed. Another financing factor that affects the achievement of KBK is the capitation deduction policy if FKTP performance is below 100%. This deduction hopefully serves as a deterrent effect
for FKTP to avoid mediocre achievement of the KBK indicators (Maujudah, 2019). This policy decreased the number of referrals from Puskesmas to hospitals. (Nofriyenti, et.al, 2019).

CONCLUSION

The achievement of the KBK indicators is influenced by several factors, namely (1) the availability of human resources (medical and non-medical personnel), (2) the availability of infrastructure facilities, (3) the availability of information systems, (4) governance and organization, and (5) financing. These factors are align with components in the FKTP capacity domain of WHO primary service monitoring framework. The availability of human resources was found in all studies analyzed and had a significant influence on the achievement of 3 indicators. The availability of infrastructure facilities affects 2 indicators: contact rate and non-specialist referral rate. The availability of information system affects all indicator achievements but is most dominant in the achievement of contact rate indicator. Governance and organizational factors affect contact rate and non-specialist referral rate. While the financing factor affects all indicators and motivates FKTP to perform optimally to achieve the target of KBK indicators.

This research is expected to encourage the achievement of KBK performance indicators by FKTP through capacity fulfillment. It is also an input for BPJS Kesehatan to monitor the capacity factors of FKTP, most of which are components in the credentialing process. Further research is required to determine which capacity factor has the most influence on achievement and the magnitude of its influence on the achievement of KBK performance indicators, so that specific priority improvements can be made.

REFERENCE


