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Collaborative governance framework in health care: a qualitative exploration of hospital pharmacy management reform at hospital setting in Indonesia

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Collaborative governance framework in health care: a qualitative exploration of hospital pharmacy management reform at local hospital in Indonesia

Since January 2014, the Indonesian government has implemented national health insurance (NHI) policy which aims to achieve universal health coverage by 2019. Through the new insurance scheme, hospitals are obliged to reform its pharmacy management practices by following national formulary and implementing e-catalogue. However, researches on pharmacy management under the NHI suggests that hospitals as the forefront of health services have limited resources to manage competing interests that hamper the reform. In this paper we examine local hospitals' governing strategies and adaptations to implement the reform. Through extensive in-depth interviews with hospital managers, doctors and staffs at the hospitals pharmacy units in government hospitals in Central Java, we demonstrate the importance of collaborative governance in health care reform including pharmacy management. From the cases, we argue that the national's policy reform is only effective when hospitals' leaderships are able to create collaboration among stakeholders. Trust to leadership plays a crucial role in establishing organizational change including mitigating negative responses from actors that losing financial benefits due to the reform.

Keywords: collaborative governance, pharmacy management, public sector innovation

Introduction

Pharmaceutical administration is an important field of health care. Various studies have shown that virtually all hospital visiting patients need medication and, thus, pharmacy management affects health delivery effectiveness. Nevertheless, pharmaceutical management is a sensitive area of corruption. Report from WHO and Transparency International for example shows that medicines is a leading source of inefficiency in health care (Kohler et al., 2016). In Indonesia, corruption in drugs procurement and pharmaceutical management in general are also alarming. Indonesian Corruption Watch in 2018 issued report which shows that corruption in health sector is the fifth biggest corruption in public sector. From these cases, pharmaceutical corruption is the most significant case. Furthermore, the main cases of pharmaceutical corruptions occur in hospital and health care facilities that offer patients medication. This practice has direct ties with quality of treatment and imposes additional pressures on access to health care.

Since 2014, The Indonesian government implement the national health insurance known as Jaminan Kesehatan Nasional (JKN) policy which aims to achieve universal health coverage by 2019. As of 29 February 2020, JKN covers 223.009.215 people across Indonesia. Through the new insurance scheme, hospitals are obliged to reform its pharmacy management practices by following national formulary and implementing e-catalogue. The Ministry of Health establishes a national formulary (NF) and introduces a electronic database of drugs as an integral part of the government insurance program. The national government decides the classification of drugs and the price range of such medicines in the national formulary and medicine e-catalog.

The new program implements three approaches in pharmacy management strategies (Wasir et al., 2019). Firstly, the e-Catalog is a pricing framework for medical procurement and has been around since 2013. The Ministry of Health proposes medicine at the substance level (eg paracetamol), with specifications (dosage and types eg tablets, liquids, capsules) to the National Public Procurement Agency. The Procurement Agency then writes a tender for suppliers at a national scale and selects the preferred suppliers. As a result, the e-Catalog provides a list of medical with specifications, prices, as well as suppliers. All healthcare facilities are expected to purchase medicines through the e-catalogue. Nevertheless, healthcare facilities are allowed to conduct their own medicines supply aside from the specified medicine in the e-Catalogue.

Second, the national formulary (NF) is a medicine reimbursement policy. It provides a list of medicines covered by the JKN management agency known as BPJS Kesehatan. The Ministry of Health established committee in charge of regulating and compiling the list of medicines in the NF. These medicines are selected by the NF committee using several criteria which are efficacy, safety, marketing authorization, and benefit-risk ratio.

Third, the use of Health Technology Assessment (HTA) to examine new medicines which might have the potential to be included in the e-Catalog and the National Formulary. The examination is conducted by the HTA committee which was formed by the MOH in April 2014, then renewed in 2016. The current HTA committee consists of eight HTA senior health scientists and one employee of the MOH. They are supported by a technical staff (thirteen clinicians, two MOH employees, one engineer, and four secretaries). Currently, the main task of the committee HTA is to develop Reviews their program. The guidelines of the JKN-KIS committee is responsible for providing recommendations to the MOH regarding the NF.

The national formulary system was first introduced in 2013 referring to use in the previous formularies in Indonesia and the last edition of the Indonesian essential medicines list. The list of the NF medicines are revised at least every two years. The last revision was in 2017. All medicines listed in the NF should be available in the healthcare facilities.

Rather contradictive however, the national formulary and E-catalog also still open opportunities for hospital to create their own medicines supply list outside from the national formulary list. Under the JKN, the practice of supplying medical supply outside the formulary list creates additional burden for local hospitals. The first problem from the fact that medicines acquired outside from the National Formulary list will be not reimbursed by the JKN insurance system. Secondly, in many cases, doctors still play an important role in prescribing medicines out of medicines catalog. Consequently, patients still need to buy medicines from pharmacists outside the hospital and create additional cost for patients. Thirdly, as hospitals are still able to acquire medicines outside of the national formulary system, medicines supply remains to be the hotbed of corruption in the hospital. Process of negotiation between hospitals and drug companies has been the source of corruption and gratification between hospital management and drug suppliers. In conclusion, E-catalogue system is only partially solves the problem of drug pricing (Yuniarti et al., 2019). Based on the problem, we examine local hospitals' governing strategies and adaptations to implement the reform. We conducted extensive in-depth interviews with hospital managers, doctors and staffs at the hospitals pharmacy units in government hospitals in Central Java.

Theoretical Framework

In this article we examine how local hospital implement pharmacy management reform by utilising the collaborative governance framework. Collaborative governance is defined as a governing structure that includes a wide variety of public, private and non-profit actors in collaborative and jointly driven decision-making processes based on common interests and mutual trust (Ansell & Gash, 2008; Emerson et al., 2012; Emerson & Nabatchi, 2015). Collaborative governance is introduced as a means of coping with complex governance issues which mostly lack of clear problem definitions, due to their inherent complexity. Expanding from Ansell and Gash definition of collaborative governance, Emerson tries to cover a broader suite of agents, structures, processes and actions that enable collaboration across organisations, jurisdictions and sectors. Specifically, Emerson et al define collaborative governance as 'the processes and structures of public policy decision making and management that engage people across the boundaries of public agencies, levels of government and/or the public, private and civic spheres to carry out a public purpose that could not otherwise be accomplished'.

According to Batory and Svenson (2019) there are at least five dimensions along which the term can be conceptualised, ranging from narrower (restrictive) to broader, more diffused notions of collaboration. The first of these taps into the public-private divide and essentially interrogates whether collaboration is primarily seen as bringing together governmental and non-governmental actors or, alternatively, this bridging function is not seen as essential or left unspecified. This dimension is also identified in scholarship on the roles public actors can play with respect to collaborative arrangements, as leaders, encouragers and followers or network brokers. The second dimension concerns agency, that is, whether collaborative processes are seen to be initiated and/or controlled by public actors (typically government agencies). The third, closely related dimension is whether collaborative governance is conceptualised as a multi-organisational process, that is, whether it is restricted to organized interests (stakeholders that take an organizational form) and public bodies, or whether the notion also allows for broad public involvement of citizens. The fourth dimension concerns the scope of collaboration with respect to durability (permanent versus task-oriented) and within the policy process, with some definitions assuming collaboration throughout a program or project, while others anticipate collaborative arrangements that are specific to for instance policy design, decision-making or service delivery. Finally, the last dimension taps into the normative assumptions (or their absence) behind collaborative governance. Thus, a narrow definition of collaborative governance implies processes and actions driven by government (agencies) that involve non-governmental organisations in a specific stage of the policy-process with the aim of achieving a pre-determined public policy objective – where each of these categories are filled with substantive content. In contrast, more diffuse notions of collaborative governance leave open one or more of the following: the range of actors, the driver/initiator of the process, the type of the participants and/or the precise aim of the exercise, and amount to little more than a general sense that multiple actors come together for some sort of common action.

Discussion

Before reform

There are various actors in drugs procurement at hospital level. Actors range from doctors, nurses, pharmacists, as well as hospital's manager. Before the implementation of e-catalogue, there were disputes especially between doctors with pharmacists. Each actors have their diverse perception about the

pharmaceutical procurement. This condition led to severe inefficiency in the pharmaceutical department where medicines over stock and lack of supply for certain drugs exist. The pharmaceutical inefficiency puts too much strain in the hospital's budget.

In terms of medicine procurement, there were many actors involve in the department: Doctors, Nurses, Pharmacists, Pharmacy Unit, and Hospital Management/Administrative body. The disputes among actors was mostly based on different perceptions of how to procure medicines. The result of the dispute is inefficiency in drug procurement, *over stock*, unused drugs, which eventually resulted in waste of the budget. This condition is exacerbated by hospital management that does not have valid data regarding the budget used to procure drugs. Before innovations and regulations were formed, all procurement activities were carried out by the Pharmacy unit, and there was a lack of transparency regarding drug procurement budgets which resulted in prolonged conflict.

At the same time, doctors also involve in the inefficient drug procurement by provoking patients. Doctors also complaint when their suggested medicines are not available. In the previous regulation, doctors were also required to provide evidence if they want to suggest certain kind of drugs available at the hospital through hospital formulary. But this requirement was considered as hassle by doctors so they were often lazy to submit the drug for hospital formulary.

Prior to reform, drug procurement was a hotbed of corruption and collusion from a number of interested parties. The phenomenon of criminal cooperation called in Bahasa Indonesia as *kongkalikong* (*gratification*) in drug procurement. The practices involves doctors, nurses, pharmacists, pharmacist analyst, procurement officials and officers pharmaceutical warehouse and it involves personal gain. This condition resulted in the incompatibility of the proposed planning and procurement of drugs by hospital standards. The main result for example is the fact that stock taking is 3 times more the monthly drug expenses and availability of certain drugs were lacking. The other problem was inefficient operational costs of drug supply. The budget for drugs and equipment/ consumables has a proportion of 35% of the total revenue and expenditure budget of the hospital.

This chaotic condition indirectly results in low customer satisfaction. Patient complaints about the availability of drugs increased. In the consumer satisfaction report in 2013, There was 53 hospital complaints, 7 complaints (13%) about pharmacy and 5 complaints (9%) of them about drug availability. Low patient satisfaction index only reached score of 61 in 2013 which was consider as very low satisfaction. In terms of drugs management, the direct result of corruption and collusion were the high number of expired drugs. Until 2013 medicines that reached the expiry date were still high, reaching at Rp 96,090,255.14 (0.15 % of the drug budget). Another result were overstock and losses. As the drugs recording system was still manual, it could not capture big difference between recording and physical medicine. It created overstock (excess inventory for certain drugs) and losses (physical loss). In term of following the national program, the condition prior reform led to lack of commitment among medical personnel to use a formulary set by the Ministry of Health especially to use generic medicine. The level of compliance of medical personnel to use formulary set from MOH and to use generic drugs only reached 80%.

The reform process

Due to unclear data in the drugs procurement, the management planned series of policies to make a new inventory system by using digital drugs stock application system. The application system aims to record all the medicines supplies at the hospital correctly. The idea of IT intervention was to create transparent use of budget related to medicines procurement and to create efficiency. With this application system, supervision can be carried out in depth, because all procurement data is required to enter the system and can be accounted. In the new system, planning and procurement are carried out separately so that it is easier to control drug procurement.

The application system also changes the medicines pricing system. The medicines stock system in the hospital is usually held twice a year in July and December. The procurement agency known as LPTK monitors and evaluates the implementation of medicine procurement. They monitors and evaluates the procurement plans made by the pharmacy unit, name of the medicines and its suppliers to comply with the national formulary or hospital formulary. As the monitoring by LPTK becomes more intensive, it provides opportunity for the hospital management to change the pricing system from pricelist price provided by drugs companies into the basic price stipulated in the e-catalogue and the National Formulary system. For example, prior to reform, the hospital purchased drugs based on price list given by drugs companies. After thorough investigation, it was revealed that the price purchased by the hospital was different from the original price. The price difference between the original price and the purchase price list went to individual personal pockets. With the new system, drugs payment is carried out based on basic price which excludes discount and bonuses. Thus, the parties who previously benefited from the price difference in the price list, they can now get cheaper price through basic price system.

Furthermore, in the new system, doctors and all interested parties can open e-catalogue so that they are more transparent. When bonus has not been recorded in the register, the parties will be notified later. This bonus and discounts given by pharmaceutical industries which previously was not transparent and now can be monitored by all parties. These bonuses and price discounts emerge as a result of more market competition between pharmacy suppliers. In terms of efficiency between income and the number of patients and medical stock, the new system has resulted in drop of overstock percentage from 35% until now a 28-27%. After using the medicines application system, the hospital also banned purchase of prescription outside of the hospital. Prices of medicines in the hospital is already cheaper compared to prices of medicines in drugstore outside of the hospital. In the old system, the drugstore outside of hospital often sold medicines in cheaper price than the hospital. After investigation, it was revealed that the drugstores were belong to hospital employees.

Hospital Strategies

After realising the severity of the problem, the hospital management carried out holistic problem analysis, especially through meetings. Through a full meeting, the forum discussed issues such as of shortage of drug budgets, *over stock especially* unneeded drugs and the lack of certain drug stocks. The meetings facilitated different units to meet and to discuss openly. From the meeting, the hospital management found that each parties involved in drugs procurement never held coordination meeting and they did not have mutual interest in drugs procurement. Perception and activities among these parties were carried out based on their individual needs. The consequence is that planning, procurement and drugs prescription were not synchronized with each unit was trapped in its own egoism.

The innovation was implemented by creating a common platform for all units. The platform was intended to reduce egoism of each party such as planner, procurement, doctors, and pharmacists. They have different perceptions regarding drug procurement. This common platform triggers a system that can overcome differences in perceptions such as drugs planning. And yet the main point of the platform was also to not to bring together planners, procurement /purchasing departments, users and other parties directly. Control is carried out together through the on line application. An application that can be used by all parties to check the condition of drugs, starting from the needs of planning, procurement and availability of drugs.

Under the new electronic application system, the hospital slowly implements the National Formulary which contains a list of drugs that should be used at the hospital regardless of the patients' status. In emergency situation where patient has certain drugs resistance the drugs may be replaced with another drug. The formulary already has the basic prescription based on diseases and hospital class. In the formulary there are approximately 900 items but not necessarily suitable to be applied in every hospital. The hospital decided to use 100% of drugs from the national formulary plus 24 types of drugs based upon doctor's recommendation. Out of 900 items, not all of them entered the new system, around 600 drugs were displayed and another 300 were not yet available. To mitigate doctors' discretion, hospital purchase of drugs is not influenced by the planning or doctors.

The implementation of new system received rejection and psychological barriers from personnel such as doctors. In order to mitigate the negative perception, it requires a long time intervention and needed debate among employees and between employees with management. In order to enforce the reform, the hospital management created a little coercive scheme. If the drug is not procured or bought through the electronic system, the doctor cannot prescribe the drugs to patients. This condition makes doctors who initially refused to follow the system to finally believe and follow the mechanism.

Trust is also important factor to get the doctors joining the cause. The hospital management including the hospital director was also committed to strengthen the law enforcement. The director threats doctors and hospital personnel who do not conform to the news system by stating that those who do not follow the system will be subject to criminal sanctions. From the evaluation it was also found that the efficiency generated through the implementation of this new drug procurement system, the hospital could finance the activities of doctors such as seminars, study assignments and workshops and from the rest of the drug budget could also fund the accommodation of aircraft, hotels, and training. This added benefit further strengthens doctors' support for the implementation of a new and transparent drug procurement system that is put in place.

In conducting socialization to revamp the system, the hospital does not have additional forum outside the ordinary forums or routine meetings. In these meetings, the hospital management did socialization and pointed out transparently the number of drugs requests, the most purchases, also identified the parties who are not taking medications that have been proposed. In the implementation of the system, planning unit and procurement unit often received threats from doctors for example doctors exposed the risk of patients' death when not using a particular drug. The doctors threatened the planning and procurement units that if the case occurred it will be the responsibility of the procurement. All these problems can be resolved with the system implementation. It is imperative to create trust and enforcement to make all parties agreed to follow the system. In addition,

the hospital also created system audit and surveillance conducted by Satuan Pengawas Internal (SPI). SPI members come from hospital employees such as finance unit and nurses. They report directly to the Hospital Board every year.

Conclusion

Through extensive in-depth interviews with policy makers and policy implementor, we argue that technological intervention through e-catalogue is not sufficient. In practice, technological intervention is only effective when institution provides new incentive for good (non-corruptive) behaviour and at the same time, enforce reform through the establishment of trust network inside the institution.

Through the case we also demonstrate the importance of collaborative governance in health care reform including pharmacy management. From the cases, we argue that the national's policy reform is only effective when hospitals' leaderships are able to create collaboration among stakeholders. Trust to leadership plays a crucial role in establishing organizational change including mitigating negative responses from actors that losing financial benefits due to the reform.

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Collaborative governance framework in health care: a case study of qualitative exploration of hospital pharmacy management reform at a local hospital in Indonesia

~~Since~~ In January 2014, the Indonesian government ~~has~~ implemented national health insurance ~~the National Health Insurance~~ (NHI) policy ~~which aims~~ to achieve universal health coverage by 2019. ~~Through the new insurance scheme~~ Therefore, hospitals are obliged to reform ~~its~~ their pharmacy management practices through this new insurance scheme by adhering to the following national formulary and implementing e-catalogue. However, ~~researches according to studies~~ on pharmacy management under-in line with the NHI ~~suggests that policy~~, hospitals ~~as at~~ the forefront of health services have limited resources to manage competing interests ~~that hamper the reform~~ hampering reforms. ~~In this paper we examine~~ This research examines local ~~hospitals'~~ hospitals' governing strategies and adaptations needed to implement the reform. ~~Through~~ Data were obtained through extensive in-depth interviews with hospital managers, ~~doctors~~ doctors, and ~~staffs~~ staff at the ~~hospitals~~ pharmacy ~~pharmaceutical~~ units ~~in of~~ government hospitals in Central Java, ~~we demonstrate~~. This study also demonstrated the importance of collaborative governance in health care ~~reform~~ reform, including pharmacy management. ~~From the cases, we argue~~ The result showed that the ~~national's~~ nation's policy reform is only effective when ~~hospitals'~~ leaderships ~~hospital~~ leaders are able to ~~create collaboration among~~ collaborate with stakeholders. ~~Trust to leadership~~ Leadership trust plays a crucial role in establishing organizational ~~change~~ change, including mitigating negative responses from ~~actors that those~~ losing financial benefits due to the reform.

Keywords: collaborative governance, pharmacy management, public sector innovation

Introduction

~~Pharmaceutical administration is an important field of health care. Various~~ Several studies have shown a significant number of patients that ~~virtually all hospital visiting patients visit hospitals~~ need medication and medication, ~~thus therefore~~, it is important to have an efficient and effective pharmacy management ~~affects health delivery effectiveness~~ system. Nevertheless, ~~pharmaceutical management this sector is a one of the most sensitive area~~ areas of ~~corruption~~ corruption in the health sector. According to Kohler et al. Report (2016), reports from WHO and the World Health Organization and Transparency International for example shows stated that ~~medicines is drugs are~~ a leading source ~~cause~~ of inefficiency in health care (Kohler et al., 2016) healthcare inefficiency. In Indonesia, ~~there is an increasing rate of~~ corruption in drugs procurement drug procurement and pharmaceutical ~~management in general are also alarming~~ management. A 2018 report issued by the Indonesian Corruption Watch in 2018 issued report which Watch shows that corruption in the health sector is the fifth biggest ~~corruption in compared to other public sector~~ corruption in compared to other public sector. ~~From these cases sectors, pharmaceutical corruption is with~~ the most significant case found in pharmaceutical units. Furthermore, the main ~~cases causes of this type of pharmaceutical corruptions~~ corruption occur in hospital hospitals and health care facilities that offer patients medication. This practice ~~has direct~~ directly ties with the quality of treatment and imposes additional pressures on access to health care.

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~~The~~ This new program ~~implements~~ implemented three approaches in pharmacy management ~~strategies~~ strategies, namely the e-Catalog, National Formulary (NF), and use of Health Technology Assessment (HTA) (Wasir et al., 2019). ~~Firstly, the~~ The e-Catalog is a pricing framework for medical procurement and has been around since 2013. ~~The~~ This approach enables the Ministry of Health proposes medicine Health to propose drugs at the substance level (eg paracetamol), with specifications (dosage and types eg eg, tablets, liquids, capsules) to the National Public Procurement Agency. ~~The Procurement Agency, which~~ then writes a tender for suppliers at a national ~~scale and selects the preferred suppliers~~ scale. As a result, the e-Catalog provides a list

~~of medical of drugs~~ with specifications, prices, ~~as well as and~~ suppliers. ~~All. Therefore, all~~ healthcare facilities are expected to purchase ~~medicines drugs~~ through the e-catalogue. Nevertheless, healthcare facilities are allowed to conduct their ~~own medicines supply supply~~, aside from ~~the those~~ specified ~~medicine~~ in the e-Catalogue.

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Theoretical Framework

~~In this article we examine how This research examined the collaborative strategies implemented by~~ local hospital ~~implement~~ pharmacy management reform ~~by utilising with~~ the ~~collaborative~~ governance framework. Collaborative governance is defined as a governing structure that includes a wide variety of public, ~~private private,~~ and non-profit actors ~~in collaborative and~~ jointly driven ~~by the~~ decision-making processes based on common interests and mutual trust (Ansell & Gash, 2008; Emerson et al., 2012; Emerson & Nabatchi, 2015). ~~Collaborative governance It is introduced as a means of coping to cope~~ with complex governance issues ~~which mostly commonly associated with a~~ lack of clear problem definitions, due to their inherent complexity. ~~Expanding from Ansell and Gash definition of collaborative governance, Emerson tries to cover further defined it as~~ a broader suite of agents, structures, ~~processes processes,~~ and actions that enable collaboration across organisations, ~~jurisdictions jurisdictions,~~ and sectors. ~~Specifically, Emerson et al define While~~ collaborative governance ~~as is~~ 'the processes and structures of public policy decision making and management that engage people across the boundaries of public agencies, levels of ~~government and/or government,~~ the public, ~~as well as~~ private and civic spheres to carry out a public purpose that ~~could not otherwise cannot~~ be ~~accomplished' accomplished.~~

According to Batory and Svenson (2019) ~~there are~~, at least five dimensions ~~along which are used to conceptualise~~ the term ~~can be conceptualised, ranging 'collaborative governance,' which ranges~~ from narrower (restrictive) to ~~broader, a broader and~~ more diffused notions of collaboration. The first ~~of these taps into dimension is associated with~~ the ~~public public and private divide~~

~~and sectors. It~~ essentially interrogates whether collaboration is primarily seen as bringing together governmental and non-governmental ~~actors or, alternatively, this organizations or a~~ bridging function ~~that is not seen as essential or~~ left unspecified. This ~~dimension is also identified in scholarship dimension provides ideas on the public organizations' roles public actors can play with respect to concerning~~ collaborative arrangements, as leaders, ~~encouragers encouragers,~~ and followers or network brokers. The second dimension ~~concerns agency, that is, determines~~ whether collaborative processes are ~~seen to be~~ initiated ~~and/or~~ controlled by ~~public actors (typically government agencies).~~ The ~~third, third dimension is~~ closely related ~~dimension is to~~ whether collaborative governance is conceptualised as a multi-organisational process, ~~that is, whether it is or~~ restricted to organized ~~interests (interests, such as stakeholders that take an organizational form) form~~ and public ~~bodies, or whether the notion also allows for broad public involvement of citizens.~~ The fourth dimension concerns the scope of collaboration ~~with respect to durability (concerning durability, such as permanent versus task-oriented) oriented~~ and within the policy process, ~~with some.~~ ~~Some~~ definitions ~~assuming assume~~ collaboration throughout a program or project, while others anticipate collaborative arrangements ~~that are~~ specific to ~~for instance~~ policy design, decision ~~making making,~~ or service delivery. Finally, the last dimension taps into the normative assumptions ~~for as well as their absence) absence~~ behind collaborative governance. ~~Thus Therefore,~~ a narrow definition of collaborative governance implies processes and actions driven by ~~the~~ government (agencies) that involve non-governmental organisations in a specific stage of the policy-process ~~with the aim of achieving intending to achieve~~ a pre-determined public policy ~~objective — objective,~~ where each of these categories ~~are is~~ filled with substantive content. In contrast, more diffuse notions of collaborative governance ~~leave open are not in line with~~ one or more of the following: the range of actors, the driver/initiator of the process, the type of ~~the~~ participants ~~and/or~~ the precise aim of the exercise, and ~~amount to little more than a general sense that the reason associated with the collaboration of~~ multiple actors ~~come together~~ for some ~~sort of~~ common action.

Discussion

Before reform

There are various actors ~~in drugs of drug~~ procurement at ~~the~~ hospital level. ~~Actors range level ranging~~ from doctors, nurses, pharmacists, ~~as well as hospital's manager and hospital managers.~~ Before ~~the implementation of e-catalogue implementing an e-catalogue system,~~ there were disputes especially between doctors with pharmacists. ~~Each actors have doctors and pharmacists experienced various types of disputes, with each having their diverse individual perception about the of pharmaceutical procurement. This condition.~~ These conditions led to severe inefficiency in the pharmaceutical department where medicines over ~~stock and lack of supply for certain drugs exist stock, while some are usually unavailable.~~ ~~The Furthermore,~~ pharmaceutical inefficiency puts too much strain ~~in on~~ the ~~hospital's hospital's~~ budget.

In terms of medicine procurement, ~~there many actors~~ were ~~many actors involve involved~~ in the department, ~~namely~~ Doctors, Nurses, Pharmacists, ~~the~~ Pharmacy Unit, and Hospital Management/Administrative body. ~~The. These actors'~~ disputes ~~among actors was were~~ mostly based on different perceptions of ~~how the right strategy needed~~ to procure medicines. The ~~dispute's result of the dispute~~ is inefficiency in ~~drug procurement, over stock procurement and overstocked,~~ unused drugs, ~~which eventually resulted in waste of the budget. leads to budget waste.~~ This condition is exacerbated ~~by hospital management that by hospital management that~~ does not have valid data regarding the budget used to procure drugs. ~~Before the formation of innovations and regulations were formed regulations,~~ all procurement activities were carried out by the Pharmacy unit, ~~and there.~~ ~~There~~ was a lack of transparency regarding drug procurement ~~budgets which resulted in budgets, leading to~~ prolonged conflict.

~~At the same time Simultaneously,~~ doctors ~~were~~ also ~~involve involved~~ in the inefficient drug procurement ~~by provoking patients. Doctors also complaint process and complained~~ when their suggested medicines are ~~not available unavailable, which also provoked patients.~~ In the previous regulation, doctors were ~~also~~ required to provide evidence ~~if when~~ they ~~want need~~ to suggest certain ~~kind of drugs available at the hospital~~ through hospital formulary. ~~But However,~~ this requirement was considered ~~as a~~ hassle by ~~doctors so doctors, therefore~~ they were often lazy to submit the drug for hospital formulary.

Prior to reform, drug procurement was a hotbed of corruption and collusion from a number of interested parties. The phenomenon of criminal ~~cooperation called in Bahasa Indonesia cooperation, known~~ as *kongkalikong* (*gratification*) in ~~Bahasa Indonesia, is a drug procurement procurement process.~~ The ~~practices practice~~ involves ~~the personal gain of~~ doctors, nurses, pharmacists, pharmacist ~~analyst analysts,~~ procurement ~~officials officials,~~ and officers ~~of~~ pharmaceutical ~~warehouse and it involves personal gain warehouses.~~ This condition ~~resulted in led to~~ the incompatibility of the proposed planning and procurement of drugs by hospital standards. ~~The main result for example This is because the fact that~~

stock-taking is 3 times more than the monthly drug expenses and availability expenses, as well as the unavailability of certain drugs were lacking. The other problem was inefficient some medicines and inefficiency in operational costs of drug supply cost. The budget for drugs and equipment/consumables has a proportion of 35% of the hospital's total revenue and expenditure budget of the hospital budget.

This chaotic condition indirectly results in leads to low customer satisfaction. Patient, with increased patient complaints about on the availability of drugs increased drugs. In the consumer satisfaction report in 2013, There was there were a total of 53 hospital complaints, 7 complaints (13%) about pharmacy on pharmacy, and 5 complaints (9%) of them about on drug availability. Low Similarly, the patient satisfaction index only reached had a score of 61 in 2013 61, which was consider as considered very low satisfaction low. In terms of drugs drug management, the direct result of corruption and collusion were was the high number of expired drugs. Until 2013 In 2013, the total number of expired medicines that reached the expiry date were still high, reaching at amounted to Rp 96,090,255.14 (0.15 % of the drug budget). Another result were overstock and losses. As:

Furthermore, the manual process used to record drugs recording system was still manual, it could not capture big difference between recording and physical medicine. It created led to overstock (excess inventory for certain drugs) and losses (physical loss) losses. In term terms of following the national program, the condition prior reform led to a lack of commitment among medical personnel to use in using a formulary set by the Ministry of Health Health, especially to use generic medicine. The Medical personnel's level of compliance of medical personnel to use formulary set from MOH and to use generic drugs only reached 80%.

The reform process

Due to unclear data in the drugs procurement procurement of drugs, the management planned a series of policies to make a new inventory system by using the digital drugs drug stock application system. The application system, which aims to record all the medicines medical supplies at the hospital correctly adequately. The idea of IT intervention was is to create a transparent use of budget related to medicines and efficient medicine procurement and to create efficiency system for hospitals. With this application system, In-depth supervision can be carried out in depth, with this application system because all procurement data is required need to enter the system and can be accounted. In the new system, planning and procurement are carried out separately so that separately, thereby making it is easier to control drug procurement.

The application system also changes the medicines pricing system. The medicines and stock system in the hospital hospitals, which is usually held carried out twice a year in July and December. The procurement agency known as LPTK monitors and evaluates the implementation of pharmacy unit's medicine procurement. They monitors and evaluates the procurement plans made by implementation process to ensure that the pharmacy unit, name of the medicines and its suppliers to comply with the national formulary or hospital formulary. As the monitoring process by LPTK becomes more intensive, it provides an opportunity for the hospital management to change the pricing system from pricelist price provided by drugs drug companies into the basic price those stipulated in the e-catalogue and the National Formulary system. For example, prior to reform, the hospital purchased drugs based on companies' price list given by drugs companies list. After a thorough investigation, it was revealed that the hospital's price purchased by the hospital was different varied from the original price. The price difference between, with the original price and the purchase price list went to individual personal pockets profits utilized by individuals. With However, with the new system, drugs drug payment is carried out based on the basic price price, which excludes discount discounts and bonuses. Thus Therefore, the parties who that previously benefited from the price difference in the price list, they list can now get a cheaper price through basic price system price.

Furthermore, in the new system, doctors and all interested parties can open e-catalogue so that they are an e-catalogue, therefore, it is more transparent. When bonus has Furthermore, the various parties involved are notified when bonuses are not been recorded in the register, the parties will be notified later. This bonus means that all parties can monitor bonuses and discounts given by pharmaceutical industries which previously was not transparent and now can be monitored by all parties transparent. These bonuses and price discounts emerge as a result of more market competition between pharmacy pharmaceutical suppliers. In terms of efficiency between income and the number of patients and medical stock, the The new system has resulted in a drop of overstock percentage from 35% until now a to 28-27% in terms of efficiency between income and the number of patients and medical stock. After using the medicines application system, the hospital also hospitals banned purchase of prescription outside of the hospital. Prices purchase of medicines in the hospital is already cheaper compared medicine from external parties due to prices of medicines in drugstore outside the efficiency and low cost of these drugs within the hospital vicinity. In the old system, the drugstore outside of hospital often external drugstores sold medicines in at cheaper

price-rates than the hospital. ~~After, and after a thorough~~ investigation, it was revealed that ~~the-these~~ drugstores ~~were belong~~ belonged to hospital employees.

Hospital Strategies

After realising the severity of the problem, the hospital management carried out holistic problem analysis, especially analysis through meetings. Through a full meeting, the forum meetings and discussed issues such as of associated with a shortage of drug budgets, over stock especially unneeded drugs overstock, and the lack of certain drug stocks. drugs' unavailability. The meetings facilitated different units to meet and to openly discuss openly. From the meeting these issues, which enabled the hospital management found to realize that each the parties involved in drugs procurement never held coordination meeting and they did not have a mutual interest in drugs drug procurement. Perception Rather, the perception and activities among these parties were carried out based on their individual needs. The consequence is that. This was because the planning, procurement, procurement and drugs prescription drug prescriptions were not synchronized with each unit was trapped in its own due to egoism.

The innovation was implemented by creating a common platform for all units. The platform was intended units to reduce egoism of each party party's egoism, such as the planner, procurement procurement officers, doctors, and pharmacists. They have different perceptions regarding drug procurement. This common platform triggers a the design and development of an online system that can overcome differences in perceptions such as drugs drug planning. And yet the main point of the platform was also to not to bring together planners, procurement/purchasing departments, users and other parties directly. Control is carried out together through the on line application. An application that can be used by all parties to check the condition of drugs procurement, starting from the needs of planning availability, procurement and availability of drugs control.

Under the new electronic application system, the hospital slowly implements the National Formulary-Formulary, which contains a list of drugs that should need to be used at the hospital regardless of the patients' patients' status. In emergency situation emergencies where patient has patients have certain drugs resistance the drugs may be drug resistance, it is replaced with another drug. The because the formulary already has the basic prescription based on diseases and hospital classclasses. In the formulary formulary, there are approximately 900 items but items, however these are not necessarily suitable to be applied in every hospital applied. The hospital decided to use 100% of drugs from the national formulary plus 24 types of drugs-based upon a doctor's recommendation. Out of 900 items, not all of them entered the new system, around 600 drugs were displayed displayed, and another 300 were not yet available unavailable. To mitigate doctors' discretion, Doctors' plans do not influence hospital purchase of drugs is not influenced by the planning or doctors. drugs.

The implementation of a new system received rejection and psychological barriers from personnel such as doctors. In order to mitigate the negative perception, it requires a long time intervention and needed debate debates were carried out among employees and between employees with management. In order to enforce the reform, the hospital management created a little coercive scheme. If-Therefore, when the drug is not procured or bought through the electronic system, the doctor cannot prescribe the drugs it to patients. This condition makes doctors who that initially refused to follow the system to finally believe and follow the mechanism mechanism finally.

Trust is also an important factor used to get the convince doctors joining to join the cause. The hospital management management, including the hospital director director, was also committed to strengthen the strengthening law enforcement. The director threats threatens doctors and hospital personnel who that do not conform adhere to the news system by stating that those who do not follow the system will be subject to with criminal sanctions. From the The evaluation it was also found that the efficiency generated through the implementation of this new drug procurement system, the. The hospital could is able to finance the activities of doctors such as through seminars, study assignments assignments, and workshops and from the rest of the drug budget could workshops. It is also used to fund the accommodation of aircraft their flight ticket, hotels make hotel reservations, and carry out training. This added benefit further strengthens doctors' support for the implementation of implementing a new and transparent drug procurement system that is put in place.

In conducting carrying out socialization to revamp the system, the hospital does not have an additional forum outside the ordinary forums or routine meetings. In these meetings, the hospital management did socialization It socialized and pointed out transparently identified the number of drugs drug requests, the most purchases, also identified the parties who are and those not taking medications that have been proposed. In the implementation of the system, the planning unit and procurement unit units often received doctors' threats from doctors for example doctors exposed when they make patients' stand the risk of patients' death when by not using a particular drug. The Therefore, the doctors threatened the planning and procurement units that if the case occurred it will be to prevent the responsibility occurrence of the procurements such cases. All these These and

~~more~~ problems ~~related to medicines~~ can be resolved ~~with the system implementation~~ ~~by implementing an electronic database for drugs~~. It is imperative to create trust and enforcement to make all parties agreed to follow the system. In addition, the hospital also created system ~~audit-audits~~ and surveillance conducted by Satuan Pengawas Internal (SPI). ~~SPI members-~~ ~~that~~ come from hospital employees such as ~~the~~ finance unit and ~~nurses. They nurses that~~ report directly to the Hospital Board ~~every year~~ ~~yearly~~.

Conclusion

~~Through~~ ~~In conclusion, through~~ extensive in-depth interviews with ~~policy makers~~ ~~polycymakers~~ and policy ~~implementor~~ ~~implementers, we argue this research proved~~ that technological intervention through e-catalogue is ~~not sufficient~~. ~~In practice, technological intervention is~~ only effective when ~~an~~ institution provides ~~a~~ new incentive for good (non-corruptive) ~~behaviour and at the same time~~ ~~behaviour, enforce while enforcing~~ reform through the establishment of trust network inside the institution.

~~Through the case we~~ ~~This research~~ also ~~demonstrate~~ ~~demonstrated~~ the importance of collaborative governance in health care ~~reform-reform~~, including pharmacy management. From the cases, ~~we argue it was argued~~ that the ~~national's~~ ~~nation's~~ policy reform is ~~only~~ effective when ~~hospitals' leaderships~~ ~~hospital managers~~ are able to ~~create collaboration among~~ ~~collaborate with~~ stakeholders. ~~Trust to~~ ~~Furthermore,~~ leadership ~~trust~~ plays a crucial role in establishing organizational ~~change~~ ~~change~~, including mitigating negative responses from actors that ~~losing~~ ~~lose~~ financial benefits due to the reform.

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Authors : Hardi Warsono, Retna Hanani, Halim Dwi Putra

Decision of Paper Selection

A. Accept submission, no revisions required.

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Overall evaluation of the paper	3
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5=Excellent 4=Good 3=Average 2=Below Average 1 =Poor	
Items	Grade
Contribution to existing knowledge	4
Organization and Readability	3
Soundness of methodology	3
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Adequacy of literature review	3
◆ Strengths The article has very interesting content! This article uses a quantitative approach to his research. All data collected were then analyzed	
●∴ Weaknesses <p>The article needs to be reorganized. Bibliographic sources are not noted in the text of the article. The article is written as a story without the sources of information being specified in the text. The author also provides a definition of the collaborative governance framework method but with an explanation that is too wordy. Then the author also does not provide an explanation of the process of retrieving data to be sent, it will be difficult to understand how to retrieve data.</p> <p>The conclusions are not very well founded. So is the introduction of the article. Within the abstract, the purpose of this article should be better pointed. It does not clarify in the explanations whether certain claims are the views of the author, or is taken from bibliographic sources. The article is a source of knowledge, but it does not exactly follow the criteria of a scientific work.</p>	
●∴ Suggestions to Author/s Review Article and Revise!	

Reviewer A :

Collaborative governance framework in health care: A case study of qualitative exploration of pharmacy management reform at a local hospital in Indonesia

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Collaborative governance framework in health care: A case study of qualitative exploration of pharmacy management reform at a local hospital in Indonesia

In January 2014, the Indonesian government implemented the National Health Insurance (NHI) policy to achieve universal health coverage by 2019. Therefore, hospitals are obliged to reform their pharmacy management practices through this new insurance scheme by adhering to the following national formulary and implementing e-catalogue. However, according to studies on pharmacy management in line with the NHI policy, hospitals at the forefront of health services have limited resources to manage competing interests hampering reforms. This research examines local hospitals' governing strategies and adaptations needed to implement the reform. Data were obtained through extensive in-depth interviews with hospital managers, doctors, and staff at the pharmaceutical units of government hospitals in Central Java. This study also demonstrated the importance of collaborative governance in health care reform, including pharmacy management. The result showed that the nation's policy reform is only effective when hospital leaders are able to collaborate with stakeholders. Leadership trust plays a crucial role in establishing organizational change, including mitigating negative responses from those losing financial benefits due to the reform.

Keywords: collaborative governance, pharmacy management, public sector innovation

Introduction

Several studies have shown a significant number of patients that visit hospitals need medication, therefore, it is important to have an efficient and effective pharmacy management system. Nevertheless, this sector is one of the most sensitive areas of corruption in the health sector. According to Kohler et al. (2016), reports from the World Health Organization and Transparency International stated that drugs are a leading cause of healthcare inefficiency. In Indonesia, there is an increasing rate of corruption in drug procurement and pharmaceutical management. A 2018 report issued by the Indonesian Corruption Watch shows that corruption in the health sector is the fifth biggest compared to other public sectors, with the most significant found in pharmaceutical units.

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Furthermore, the main causes of this type of corruption occur in hospitals and health care facilities that offer patients medication. This practice directly ties with the quality of treatment and imposes additional pressures on access to health care.

Therefore, in 2014, The Indonesian government implemented national health insurance known as the Jaminan Kesehatan Nasional (JKN) policy to achieve universal health coverage by 2019. This policy also led to establishing a National Formulary (NF), an electronic database of drugs, as an integral part of the Ministry of Health's government insurance program. As of 29th February 2020, JKN is estimated to cover approximately 223.009.215 people across Indonesia. Through this new insurance scheme, hospitals are obliged to reform their pharmacy management practices by following national formulary and implementing e-catalogue. The national government is assigned to classify drugs and the price range in the national formulary and medicine e-catalog.

This new program implemented three approaches in pharmacy management strategies, namely the e-Catalog, National Formulary (NF), and use of Health Technology Assessment (HTA) (Wasir et al., 2019). The e-Catalog is a pricing framework for medical procurement and has been around since 2013. This approach enables the Ministry of Health to propose drugs at the substance level (paracetamol), with specifications (dosage and types eg, tablets, liquids, capsules) to the National Public Procurement Agency, which then writes a tender for suppliers at a national scale. As a result, the e-Catalog provides a list of drugs with specifications, prices, and suppliers. Therefore, all healthcare facilities are expected to purchase drugs through the e-catalogue. Nevertheless, healthcare facilities are allowed to conduct their supply, aside from those specified in the e-Catalogue.

The national formulary (NF) is a reimbursement policy comprising a list of medicines covered by the JKN management agency known as BPJS Kesehatan. The Ministry of Health established a committee in charge of regulating and compiling the list of medicines in the NF, which are selected using several criteria, namely efficacy, safety, marketing authorization, and benefit-risk ratio.

Health Technology Assessment (HTA) is used to examine new medicines that can be included in the e-Catalog and National Formulary. The HTA committee conducted the examination, which was formed by MOH in April 2014, and renewed in 2016. The current HTA committee consists of eight senior health scientists and one employee of the

MOH. Furthermore, they are technically supported by thirteen clinicians, two MOH employees, one engineer, and four secretaries. Currently, the main task of the HTA committee is to create reviews for JKN-KIS to provide recommendations to the MOH regarding the NF.

The national formulary (NF) system introduced in 2013 comprises previous formularies and the 2017 edition of the Indonesian essential medicines list, which is updated every two years. All medicines listed in the NF need to be available in the healthcare facilities.

The national formulary and E-catalog also open opportunities for the hospital to create their own medicines supply list. However, under the JKN, the practice of supplying medicines outside the formulary list creates an additional burden for local hospitals. The first problem is that the JKN insurance system does not reimburse drugs acquired outside the National Formulary list. Secondly, in many cases, doctors tend to prescribe drugs outside the hospital's medicine catalog, thereby creating an additional cost for patients to purchase them outside the hospital. Thirdly, due to hospitals' ability to acquire medicines from outside the national formulary system, the pharmaceutical sector remains the hotbed of corruption. The negotiation process between hospitals and drug companies has been the source of corruption and gratification between management and suppliers. Yuniarti et al. (2019) stated that the e-catalogue system partially solves the problem of drug pricing. Therefore, based on these problems, this study examined the strategies governing local hospitals and adaptations to implement the reform. Furthermore, **extensive in-depth interviews** with hospital managers, doctors, and staff of the pharmacy units in Central Java's government health centers were **conducted**.

Theoretical Framework

This research examined the collaborative strategies implemented by local hospital pharmacy management reform with the governance framework. Collaborative governance is defined as a governing structure that includes a wide variety of public, private, and non-profit actors jointly driven by the decision-making processes based on common interests and mutual trust (Ansell & Gash, 2008; Emerson et al., 2012; Emerson & Nabatchi, 2015). It is introduced to cope with complex governance issues commonly associated with a lack of clear problem definitions, due to their inherent complexity. Emerson further defined it as a broader suite of agents, structures, processes, and actions that enable collaboration across organisations, jurisdictions, and sectors. While

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Commented [REVIEWER5]: The authors provide definitions of the collaborative governance framework method but with an explanation that is too wordy.

collaborative governance is 'the processes and structures of public policy decision making and management that engage people across the boundaries of public agencies, levels of government, the public, as well as private and civic spheres to carry out a public purpose that cannot be accomplished.'

According to Batory and Svenson (2019), at least five dimensions are used to conceptualise the term 'collaborative governance,' which ranges from narrower (restrictive) to a broader and more diffused notions of collaboration. The first dimension is associated with the public and private sectors. It essentially interrogates whether collaboration is primarily seen as bringing together governmental and non-governmental organizations or a bridging function that is left unspecified. This identified dimension provides ideas on public organizations' roles concerning collaborative arrangements, as leaders, encouragers, and followers or network brokers. The second dimension determines whether collaborative processes are initiated or controlled by government agencies. The third dimension is closely related to whether collaborative governance is conceptualised as a multi-organisational process, or restricted to organized interests, such as stakeholders that take an organizational form and public involvement of citizens. The fourth dimension concerns the scope of collaboration concerning durability, such as permanent versus task-oriented and within the policy process. Some definitions assume collaboration throughout a program or project, while others anticipate collaborative arrangements specific to policy design, decision-making, or service delivery. Finally, the last dimension taps into the normative assumptions as well as their absence behind collaborative governance. Therefore, a narrow definition of collaborative governance implies processes and actions driven by the government (agencies) that involve non-governmental organisations in a specific stage of the policy-process intending to achieve a pre-determined public policy objective, where each of these categories is filled with substantive content. In contrast, more diffuse notions of collaborative governance are not in line with one or more of the following: the range of actors, the driver/initiator of the process, the type of participants or the precise aim of the exercise, and the reason associated with the collaboration of multiple actors for some common action.

Discussion

Before reform

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There are various actors of drug procurement at the hospital level ranging from doctors, nurses, pharmacists, and hospital managers. Before implementing an e-catalogue system, doctors and pharmacists experienced various types of disputes, with each having their individual perception of pharmaceutical procurement. These conditions led to severe inefficiency in the pharmaceutical department where medicines over stock, while some are usually unavailable. Furthermore, pharmaceutical inefficiency puts too much strain on the hospital's budget.

In terms of medicine procurement, many actors were involved in the department, namely Doctors, Nurses, Pharmacists, the Pharmacy Unit, and Hospital Management/Administrative body. These actors' disputes were mostly based on different perceptions of the right strategy needed to procure medicines. The dispute's result is inefficiency in procurement and *overstocked*, unused drugs, which eventually leads to budget waste. This condition is exacerbated by hospital management that does not have valid data regarding the budget used to procure drugs. Before the formation of innovations and regulations, all procurement activities were carried out by the Pharmacy unit. There was a lack of transparency regarding drug procurement budgets, leading to prolonged conflict.

Simultaneously, doctors were also involved in the inefficient drug procurement process and complained when their suggested medicines are unavailable, which also provoked patients. In the previous regulation, doctors were required to provide evidence when they need to suggest certain drugs through hospital formulary. However, this requirement was considered a hassle by doctors, therefore they were often lazy to submit the drug for hospital formulary.

Prior to reform, drug procurement was a hotbed of corruption and collusion from a number of interested parties. The phenomenon of criminal cooperation, known as *kongkalikong* (*gratification*) in Bahasa [Indonesia](#), is a drug procurement process. The practice involves the personal gain of doctors, nurses, pharmacists, pharmacist analysts, procurement officials, and officers of pharmaceutical warehouses. This condition led to the incompatibility of the proposed planning and procurement of drugs by hospital standards. This is because the stock-taking is 3 times more than the monthly drug expenses, as well as the unavailability of some medicines and inefficiency in operational cost. The budget for drugs and consumables has a proportion of 35% of the hospital's total revenue and expenditure budget.

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Commented [REVIEWER8]: Describe how the gratification process work in practice. Who gets what and what is the impact of this practice.

This chaotic condition indirectly leads to low customer satisfaction, with increased patient complaints on the availability of drugs. In the consumer satisfaction report in 2013, there were a total of 53 hospital complaints, 7 (13%) on pharmacy, and 5 (9%) on drug availability. Similarly, the patient satisfaction index had a score of 61, which was considered very low. In terms of drug management, the direct result of corruption and collusion was the high number of expired drugs. In 2013, the total number of expired medicines amounted to Rp 96,090,255.14 (0.15 % of the drug budget).

Furthermore, the manual process used to record drugs led to overstock and losses. In terms of following the national program, the condition prior reform led to a lack of commitment among medical personnel in using a formulary set by the Ministry of Health, especially to use generic medicine. Medical personnel's level of compliance to use formulary set from MOH and generic drugs only reached 80%.

The reform **process**

Due to unclear data in the procurement of drugs, the management planned a series of policies to make a new inventory system using the digital drug stock application system, which aims to record all the medical supplies at the hospital adequately. The idea of IT intervention is to create a transparent and efficient medicine procurement system for hospitals. In-depth supervision can be carried out with this application system because all procurement data need to enter the system and can be accounted. In the new system, planning and procurement are carried out separately, thereby making it easier to control drug procurement.

The application also changes the medicines pricing and stock system in hospitals, which is usually carried out twice a year in July and December. The procurement agency known as LPTK monitors and evaluates the pharmacy unit's medicine implementation process to ensure that the name and its suppliers comply with the national or hospital formulary. As the monitoring process by LPTK becomes more intensive, it provides an opportunity for the hospital management to change the pricing system from pricelist provided by drug companies into those stipulated in the e-catalogue and the National Formulary system. For example, prior to reform, the hospital purchased drugs based on companies' price list. After a thorough investigation, it was revealed that the hospital's price varied from the original price, with the profits utilized by individuals. However, with the new system, drug payment is based on the basic price, which excludes discounts and bonuses.

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Therefore, the parties that previously benefited from the price difference in the price list can now get a cheaper price.

Furthermore, in the new system, doctors and all interested parties can open an e-catalogue, therefore, it is more transparent. Furthermore, the various parties involved are notified when bonuses are not recorded in the register. This means that all parties can monitor bonuses and discounts given by pharmaceutical industries previously not transparent. These bonuses and price discounts emerge as a result of more market competition between pharmaceutical suppliers. The new system has resulted in a drop of overstock percentage from 35% to 28-27% in terms of efficiency between income and the number of patients and medical stock. After using the medicines application system, hospitals banned the purchase of medicine from external parties due to the efficiency and low cost of these drugs within the vicinity. In the old system, external drugstores sold medicines at cheaper rates than the hospital, and after a thorough investigation, it was revealed that these drugstores belonged to hospital employees.

Hospital Strategies

After realising the severity of the problem, the hospital management carried out holistic problem analysis through meetings and discussed issues associated with a shortage of drug budgets, *overstock*, and certain drugs' unavailability. The meetings facilitated different units to meet and openly discuss these issues, which enabled the hospital management to realize that the parties involved did not have a mutual interest in drug procurement. Rather, the perception and activities among these parties were carried out based on their individual needs. This was because the planning, procurement, and drug prescriptions were not synchronized with each unit due to egoism.

The innovation was implemented by creating a common platform for all units to reduce each party's egoism, such as the planner, procurement officers, doctors, and pharmacists. This common platform triggers the design and development of an online system that can overcome differences in perceptions such as drug planning, procurement, availability, and control.

Under the new electronic application system, the hospital slowly implements the National Formulary, which contains a list of drugs that need to be used regardless of the patients' status. In emergencies where patients have certain drug resistance, it is replaced with

another because the formulary already has the basic prescription based on diseases and hospital classes. In the formulary, there are approximately 900 items, however these are not necessarily suitable to be applied. The hospital decided to use 100% of drugs from the national formulary plus 24 types based upon a doctor's recommendation. Out of 900 items, 600 were displayed, and 300 were unavailable. Doctors' plans do not influence hospital purchase of drugs.

The implementation of a new system received rejection and psychological barriers from personnel such as doctors. In order to mitigate the negative perception, debates were carried out among employees and management. In order to enforce the reform, hospital management created a little coercive scheme. Therefore, when the drug is not procured or bought through the electronic system, the doctor cannot prescribe it to patients. This condition makes doctors that initially refused to follow the system to believe and follow the mechanism **finally**.

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Trust is also an important factor used to convince doctors to join the cause. The hospital management, including the director, was also committed to strengthening law enforcement. The director threatens doctors and hospital personnel that do not adhere to the new system with criminal sanctions. The evaluation also found that the efficiency generated through the implementation of this new drug procurement system. The hospital is able to finance the activities of doctors through seminars, study assignments, and workshops. It is also used to fund their flight ticket, make hotel reservations, and carry out training. This added benefit further strengthens doctors' support for implementing a new and transparent drug procurement system that is put in place.

In carrying out socialization to revamp the system, the hospital does not have an additional forum outside the ordinary routine meetings. It socialized and identified the number of drug requests, the purchases, and those not taking medications that have been proposed. In the implementation of the system, the planning and procurement units often received doctors' threats when they make patients' stand the risk of death by not using a particular drug. Therefore, the doctors threatened the planning and procurement units to prevent the occurrence of such cases. These and more problems related to medicines can be resolved by implementing an electronic database for drugs. It is imperative to create trust and enforcement to make all parties agreed to follow the system. In addition, the

hospital also created system audits and surveillance conducted by Satuan Pengawas Internal (SPI) that come from hospital employees such as the finance unit and nurses that report directly to the Hospital Board yearly.

Conclusion

In conclusion, through extensive in-depth interviews with policymakers and policy implementers, this research proved that technological intervention through e-catalogue is only effective when an institution provides a new incentive for good (non-corruptive) behaviour, while enforcing reform through the establishment of trust network inside the institution.

This research also demonstrated the importance of collaborative governance in health care reform, including pharmacy management. From the cases, it was argued that the nation's policy reform is effective when hospital managers are able to collaborate with stakeholders. Furthermore, leadership trust plays a crucial role in establishing organizational change, including mitigating negative responses from actors that lose financial benefits due to the reform.

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Commented [REVIEWER11]: The conclusions are not yet well founded. It does not clarify in the explanations whether certain claims are the views of the author or informants.

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Comments from Reviewer B

<p>• Evaluation (Please evaluate the manuscript by grade 1-5)</p>	
<p>5=Excellent 4=Good 3=Average 2=Below Average 1 =Poor</p>	
Items	Grade
Contribution to existing knowledge	4
Organization and Readability	3
Soundness of methodology	3
Evidence supports conclusion	3
Adequacy of literature review	3
<p>❖ Strengths The article has very interesting content! Describes clearly and completely the background of the problems why this application was made. The author can develop a number of small points. Include references</p>	
<p>•: Weaknesses The methodology used has not been described in detail The research process was not explained. The Implementation has not been done in real</p>	
<p>•: Suggestions to Author/s Please revise and check Grammerly</p>	

Reviewer B :

Collaborative governance framework in health care: A case study of qualitative exploration of pharmacy management reform at a local hospital in Indonesia

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Collaborative governance framework in health care: A case study of qualitative exploration of pharmacy management reform at a local hospital in Indonesia

In January 2014, the Indonesian government implemented the National Health Insurance (NHI) policy to achieve universal health coverage by 2019. Therefore, hospitals are obliged to reform their pharmacy management practices through this new insurance scheme by adhering to the following national formulary and implementing e-catalogue. However, according to studies on pharmacy management in line with the NHI policy, hospitals at the forefront of health services have limited resources to manage competing interests hampering reforms. This research examines local hospitals' governing strategies and adaptations needed to implement the reform. Data were obtained through extensive in-depth interviews with hospital managers, doctors, and staff at the pharmaceutical units of government hospitals in Central Java. This study also demonstrated the importance of collaborative governance in health care reform, including pharmacy management. The result showed that the nation's policy reform is only effective when hospital leaders are able to collaborate with stakeholders. Leadership trust plays a crucial role in establishing organizational change, including mitigating negative responses from those losing financial benefits due to the reform.

Keywords: collaborative governance, pharmacy management, public sector innovation

Introduction

Several studies have shown a significant number of patients that visit hospitals need medication, therefore, it is important to have an efficient and effective pharmacy management system. Nevertheless, this sector is one of the most sensitive areas of corruption in the health sector. According to Kohler et al. (2016), reports from the World Health Organization and Transparency International stated that drugs are a leading cause of healthcare inefficiency. In Indonesia, there is an increasing rate of corruption in drug procurement and pharmaceutical management. A 2018 report issued by the Indonesian Corruption Watch shows that corruption in the health sector is the fifth biggest compared to other public sectors, with the most significant found in pharmaceutical units.

Furthermore, the main causes of this type of corruption occur in hospitals and health care facilities that offer patients medication. This practice directly ties with the quality of treatment and imposes additional pressures on access to health care.

Therefore, in 2014, The Indonesian government implemented national health insurance known as the Jaminan Kesehatan Nasional (JKN) policy to achieve universal health coverage by 2019. This policy also led to establishing a National Formulary (NF), an electronic database of drugs, as an integral part of the Ministry of Health's government insurance program. As of 29th February 2020, JKN is estimated to cover approximately 223.009.215 people across Indonesia. Through this new insurance scheme, hospitals are obliged to reform their pharmacy management practices by following national formulary and implementing e-catalogue. The national government is assigned to classify drugs and the price range in the national formulary and medicine e-catalog.

This new program implemented three approaches in pharmacy management strategies, namely the e-Catalog, National Formulary (NF), and use of Health Technology Assessment (HTA) (Wasir et al., 2019). The e-Catalog is a pricing framework for medical procurement and has been around since 2013. This approach enables the Ministry of Health to propose drugs at the substance level (paracetamol), with specifications (dosage and types eg, tablets, liquids, capsules) to the National Public Procurement Agency, which then writes a tender for suppliers at a national scale. As a result, the e-Catalog provides a list of drugs with specifications, prices, and suppliers. Therefore, all healthcare facilities are expected to purchase drugs through the e-catalogue. Nevertheless, healthcare facilities are allowed to conduct their supply, aside from those specified in the e-Catalogue.

The national formulary (NF) is a reimbursement policy comprising a list of medicines covered by the JKN management agency known as BPJS Kesehatan. The Ministry of Health established a committee in charge of regulating and compiling the list of medicines in the NF, which are selected using several criteria, namely efficacy, safety, marketing authorization, and benefit-risk ratio.

Health Technology Assessment (HTA) is used to examine new medicines that can be included in the e-Catalog and National Formulary. The HTA committee conducted the examination, which was formed by MOH in April 2014, and renewed in 2016. The current HTA committee consists of eight senior health scientists and one employee of the

MOH. Furthermore, they are technically supported by thirteen clinicians, two MOH employees, one engineer, and four secretaries. Currently, the main task of the HTA committee is to create reviews for JKN-KIS to provide recommendations to the MOH regarding the NF.

The national formulary (NF) system introduced in 2013 comprises previous formularies and the 2017 edition of the Indonesian essential medicines list, which is updated every two years. All medicines listed in the NF need to be available in the healthcare facilities.

The national formulary and E-catalog also open opportunities for the hospital to create their own medicines supply list. However, under the JKN, the practice of supplying medicines outside the formulary list creates an additional burden for local hospitals. The first problem is that the JKN insurance system does not reimburse drugs acquired outside the National Formulary list. Secondly, in many cases, doctors tend to prescribe drugs outside the hospital's medicine catalog, thereby creating an additional cost for patients to purchase them outside the hospital. Thirdly, due to hospitals' ability to acquire medicines from outside the national formulary system, the pharmaceutical sector remains the hotbed of corruption. The negotiation process between hospitals and drug companies has been the source of corruption and gratification between management and suppliers. Yuniarti et al. (2019) stated that the e-catalogue system partially solves the problem of drug pricing. Therefore, based on these problems, this study examined the strategies governing local hospitals and adaptations to implement the reform. Furthermore, extensive in-depth interviews with hospital managers, doctors, and staff of the pharmacy units in Central Java's government health centers were conducted.

Theoretical Framework

This research examined the collaborative strategies implemented by local hospital pharmacy management reform with the governance framework. Collaborative governance is defined as a governing structure that includes a wide variety of public, private, and non-profit actors jointly driven by the decision-making processes based on common interests and mutual trust (Ansell & Gash, 2008; Emerson et al., 2012; Emerson & Nabatchi, 2015). It is introduced to cope with complex governance issues commonly associated with a lack of clear problem definitions, due to their inherent complexity. Emerson further defined it as a broader suite of agents, structures, processes, and actions that enable collaboration across organisations, jurisdictions, and sectors. While

Commented [REVIEWER1]: Interesting topic and research question. The article is important to highlight policy reform on pharmacy management in the hospital level. It will give good insight for the studies in health policy.

collaborative governance is 'the processes and structures of public policy decision making and management that engage people across the boundaries of public agencies, levels of government, the public, as well as private and civic spheres to carry out a public purpose that cannot be accomplished.'

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Commented [REVIEWER2]: Good theoretical elaboration.

Discussion

Before reform

There are various actors of drug procurement at the hospital level ranging from doctors, nurses, pharmacists, and hospital managers. Before implementing an e-catalogue system, doctors and pharmacists experienced various types of disputes, with each having their individual perception of pharmaceutical procurement. These conditions led to severe inefficiency in the pharmaceutical department where medicines over stock, while some are usually unavailable. Furthermore, pharmaceutical inefficiency puts too much strain on the hospital's budget.

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Commented [REVIEWER3]: Interesting information from the field. Gratification certainly leads to bad management of drugs at hospital level. The finding is in line with previous research.

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Hospital Strategies

After realising the severity of the problem, the hospital management carried out holistic problem analysis through meetings and discussed issues associated with a shortage of drug budgets, *overstock*, and certain drugs' unavailability. The meetings facilitated different units to meet and openly discuss these issues, which enabled the hospital management to realize that the parties involved did not have a mutual interest in drug procurement. Rather, the perception and activities among these parties were carried out based on their individual needs. This was because the planning, procurement, and drug prescriptions were not synchronized with each unit due to egoism.

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Conclusion

In conclusion, through extensive in-depth interviews with policymakers and policy implementers, this research proved that technological intervention through e-catalogue is only effective when an institution provides a new incentive for good (non-corruptive) behaviour, while enforcing reform through the establishment of trust network inside the institution.

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Commented [REVIEWER6]: Conclusion needs to be reformulated to connect with bigger discussion in pharmacy management, policy reform and collaborative governance.

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5. Submitted to the Systematic Reviews in Pharmacy journal (Tue, March 17, 2020)

Hardi Warsono <warsono_hardi@live.undip.ac.id> Tue, Mar 17, 2020 at 10:39 AM

To: **Submit Systematic Reviews in Pharmacy** <editor@sysrevpharm.org>

Dears,

Here our last revision, I need your help for process ours article in order publish on your journal soon

Thank very much
Hardi W and Team

[Quoted text hidden]

1 attachment

Collaborative governance framework in health care: a qualitative exploration of hospital pharmacy management reform at hospital setting in Indonesia. docx 16K

6. Acceptance for Publication (Sun, Apr 12, 2020)

To :

Hardi Warsono <warsono_hardi@live.undip.ac.id>

Acceptance for Publication - Systematic Reviews in Pharmacy

4 messages

Submit Systematic Reviews in Pharmacy <editor@sysrevpharm.org> Sun, Apr 12, 2020 at 8:25 PM

To: warsono_hardi@live.undip.ac.id

Dear Authors,

It is my pleasure to inform you that, after the peer review, your paper has been accepted for publication with in **Systematic Reviews in Pharmacy**. Thank you for your interest in our journal.

Paper ID: SRP-SEP837

Paper Title: Collaborative governance framework in health care: a qualitative exploration of hospital pharmacy management reform at hospital setting in Indonesia

Congratulations! On behalf of Editorial Team of the "**Systematic Reviews in Pharmacy (ISSN 0975- 8453)**

we are pleased to inform you that your Paper has been accepted publication in April Issue of 2020 as per the recommendations given by the peer review group of experts. After peer review process, your article has been provisionally accepted for rapid publication in **Systematic Reviews in Pharmacy**. All papers are published in English. All submitted manuscripts are subject to peer-review by the leading specialists for the respective topic

The blind peer review process results are given below

----- **REVIEW 1** -----

----- Overall evaluation -----

Review Decision 1:Accepted

----- TEXT:

1. Originality: 95%
2. SCOPE: 72%
3. Results: Satisfactory
4. References are Cited Properly

----- **REVIEW 2** -----

Review Decision 2: Accepted

1. Originality: 93%
2. SCOPE: 75%
3. Results: Satisfactory
4. References are Cited Properly

Final Decision: Accepted publication in April Issue of 2020

For any further query feel free to contact us.

Regards

Editorial Team, Systematic Reviews in Pharmacy

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2 attachments

Lettter of Acceptance.pdf

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