

IMPROVING NONCOMMUNICABLE DISEASES HEALTHCARE SERVICES THROUGH CO-PRODUCTION: A LITERATURE REVIEW

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Abstract: Improving Noncommunicable Diseases Healthcare Services Through Co-Production: A Literature Review. Healthcare is an important and vital service that needed to delivered by the government, whose tasks are to ensure and maintain the health of the population. Poorer health outcomes led by the low quality of healthcare services as masured by morbidity and mortality. Barriers to healthcare includes both supply and demand factors. Collaboration process through the Co-Production led the people to be actively participate in delivering public services. Co-Production focus on collaborative production of certain services, including public services systems transformation. This study subsequently will focus on Co-Production to improve helathcare services for noncommunicale diseases (NCD). In each year 71% of all deaths globally caused by NCD, equivalent to 41 (forthy one) million people. In understanding that the reasearch method used in this study is systematic literature review approach. The research found that, in the improvement of NCD healthcare the Co-Production role is working really well with the support of technology (PHR and EHR), although it takes a long time in the process, a good comitment, trust, a good relationship, commitment, a good strategy, a good learning environment and tools it can sustain the implementation of Co-Production that can bring better healthcare service delivery for the people.

Keywords: Co-Production, Healthcare Srvice, and Noncommunicable Disease.

Abstrak: Peningkatan Layanan Kesehatan Penyakit Tidak Menular Melalui Co-Production: Sebuah Tinjauan Pustaka. Pelayanan kesehatan merupakan pelayanan penting dan vital yang perlu diselenggarakan oleh pemerintah, dimana pemerintah wajib memberikan jaminan kesehatan kepada penduduk. Buruknya dampak kondisi pelayanan kesehatan yang tidak maksimal salah satunya disebabkan oleh rendahnya kualitas layanan kesehatan, yang diliputi oleh morbiditas dan mortalitas. Hambatan untuk perawatan kesehatan mencakup faktor penawaran dan permintaan. Proses kolaborasi melalui Co-Production membawa masyarakat untuk berpartisipasi aktif dalam memberikan pelayanan publik. Co-Production fokus pada produksi kolaboratif layanan tertentu, termasuk transformasi sistem layanan publik. Penelitian ini selanjutnya akan fokus pada Co-Production untuk meningkatkan pelayanan kesehatan pada penyakit tidak menular (PTM). Setiap tahun 71% dari seluruh kematian secara global disebabkan oleh PTM atau setara dengan 41 (empat puluh satu) juta orang. Metode penelitian yang digunakan dalam penelitian ini adalah pendekatan tinjauan pustaka sistematis. Hasil penelitian menemukan bahwa, dalam peningkatan pelayanan kesehatan PTM peran Co-Production berjalan sangat baik dengan dukungan teknologi (PHR dan EHR), meskipun membutuhkan waktu lama dalam prosesnya, komitmen yang baik, kepercayaan, hubungan yang baik. , komitmen, strategi yang baik, lingkungan belajar yang baik dan perangkat yang dapat menopang pelaksanaan Co-Production yang dapat membawa pelayanan kesehatan yang lebih baik bagi masyarakat.

Kata kunci: Co-Production, Pelayanan Kesehatan, dan Penyakit Tidak Menular.

Introduction

Public services that is given by the government either directly or indirectly are the responsibility of the governmnet to the people. The function and the philosophy of government is to giving the services to the citizens. Public services which delivered in good quality, fairness, and equitable, is the evidence or a sign that can proof the presence of a state for the citizens.

Likewise, when the opposite applied, the public services that being delivered to the public is in bad quality, unfairness, and inequitable, then that is the proof of the absence of the state in ensuring the rights of its citizens.

The improvemnet of public services that is more efficient and effective are the main goal of the shifting and development of public administration paradigm. The development of

public administration is being done with the aim and hope of improvement on how government can work in a better way. So that public services delivery can accommodate and reflected the values of the public.

As stated by Bryson et al. (2014) and O'flynn (2007) The development of public administration paradigm is divided into 3 (three) phases. The first paradigm is Old Public Administration (OPA) which also known with the dichotomy of politic and administration, in this era the public service delivery characterized with the centralization and too much power from the government. That characteristic brought government with colusion and corruption behaviour and as the solution for that, then the second paradigm called New Public Management (NPM) applied.

NPM brought a new way in delivering the public services with the adaptation of what applied in private sector into some aspect in public sector. This paradigm characterized with the function of government as the one who give direction and private sector as the one who deliver the service for the public. However, private sector has goal to always be profitable and due to this the public service delivery couldn't be delivered with the concern of equitable, fairness, and the values of public, due to that the third paradigm, New Public Governance (NPG), applied as the solution for those problems.

In New Public Governance the delivery of public services emphasized the collaboration between actors either individually or communities. The collaboration that is being done by the government not only with the private sector but also with anyone who meet the proper qualifications. Public value, equitable, fairness, and a good quality public service delivery should be given by the collaboration between government and its people.

In doing the job, government has 4 (four) main function which are, the function to delivering public services, the function to development, and the function to regulate (Putri & Murdi, 2019). From those 4 (four) functions, the public service funtions is seen to be the most strategic one because it can determine the role of government in delivering the service to the public with the best quality as they could. Public services is the rights of every citizens in a country without exception and including the healthcare services as one of public services.

Healthcare is an important and vital service that needed to delivered by the government, whose tasks are to ensure and maintain the health of the population. The healthcare services should be delivered with a good quality, the quality of

healthcare services is understood as such their properties that ensure the accuracy of organization and conduct of healthcare processes, while meeting the needs of the patient (Dudin et al., 2017).

Poorer health outcomes led by the low quality of healthcare services as masured by morbidity and mortality. Barriers to healthcare access include both supply and demand factors. The barriers from supply side such as, geographic maldistribution, financial maldistribution, narrow provider networks, bias, and restrictive hours. On the other hand, the barriers from demand side such as, unaffordability, lack of insurance, inadequate knowledge, reluctant to seek care, and inadequate transportation options (Booshehri & Dugan, 2021).

Those barriers are indicating the lack of healthcare services. Government failed to meet the needs of the people and ensure the rights of the people to get the same services. This happened due to the limited capacity of government and it means that government can't do it all alone. As explained before in the third administration paradigm in delivering services to the public it emphasized the collaboration between government and the people. With an active participation from the people it can help the government to meet the need of the the people.

The process of collaboration through the co-production led the people to be actively participate in delivering services to the public. Co-production is a public services that involving the participation of the people and public sector to use assetss, resources, and also contributed to improve efficiency in achieving a better target (Bovaird & Loeffler, 2012). The focus of co-production is on the collaborative production of certain services rather than the creation of public value in the broader sense of the term, including the transformation of public services systems.

This study subsequently will focus on co-production to improve helathcare services for noncommunicale diseases (NCD) because this issue took a higher extent of discussion among scholars, due to the delivery of services to the public need to be improved by producing the service delivery together with collaboration between government and citizen. In each year 71% of all deaths globally caused by NCD, equivalent to 41 (forty one) million people. Each year, more than 15 (fifteen) million people die from a NCD between 30 and 69 years; 77% of all NCD deaths are in low and middle income countries and cardiovascular diseases account for most NCD deaths, or 17.9 million annually (World Health Organization, 2021) and cardiovascular has significant personal and

economic cost, whether healthcare costs, informal care costs, or productivity losses.

Noncommunicable diseases should be controlled by the right treatment and preventive action through health promotions. However, the gap of healthcare services still become the issue. Based on 2019 Medicare CAHPS survey out of 39 rural residents only 2 rural resident had better result than urban residents. And none of urban residents had worst result than the rural residence in accessing Medicare (Centers For Medicare & Medicaid Services, 2020).

Those numbers are proofing that the NCD has caused most of death globally. However, the prevention action and the right treatment couldn't be delivered really well because of the gap and disparities, as stated above the NCD mostly happened in low and middle income area. This became a serious problem in healthcare that should be solved. This study subsequently will identify of how co-production potentially can bring a better healthcare services for noncommunicable diseases.

Research Method

To understand this study, I used systematic literature review approach. I collect secondary data from scientific journals and other critically appraise research studies. The documents that collected from the internet are analyzed using analysis technique.

Discussion

1. Previous Studies

The problems addressed in this article are related to the Co-Production and noncommunicable diseases healthcare services. In understanding the discussion for the topic it really important to take a look to research results that relevant to the topic that have been done before. Previous studies that have been selected are explaining about the implementation of co-production in healthcare services with different perspectives.

Based on the previous research, it can be seen that all of them showed the implementation co-production could improve the healthcare services. Although the previous studies have given valuable insights and informative results, most studies focusing in general healthcare services that have been implementing co-production and rarely focus on noncommunicable diseases healthcare services.

The application of citizen participation within all areas of public sector service development concern to a more participatory forms of citizen engagement. The application of such a perspective within health services through

co-production, has both beneficial, but also problematic implications. Dunston et al. (2009) held a research about co-production and health system reform. They found that the implementation of Co-Production can give a greater possibility for the citizen to collaborate and learning together to create a better healthcare system. However, there is still a problem related this, they found that all forms of Co-Production challenge existing forms of healthcare in particular.

While in the case study of public hospital in north China about the effect of patient participation in healthcare, Bin Ding, Wie Liu, Sang-Bing Tsai, Dongxiao Gu, Fang Bian, and Xuefeng Shao (2019) research found the participation of patient through Co-Production bring a positive relations to the satisfaction of the patient and it also can help to improve the performance of the nurses because the nurses felt satisfy and thankful for the participation of the patient in the collaborative healthcare service delivery.

Furthermore, Panella (2020) conduct research about the strategy and tools to support public value co-production in public healthcare organization. There are 5 (five) strategies that can be used such as, the improvement of public service quality through identifying literature review, access of healthcare services, create program that can support the patient, regeneration of healthcare services for chronic disease, recreate evaluation protocol. In supporting those there are some tools that can be used such as, literature about healthcare, the use of technology in supporting the implementation of co-production, and a new performance assessment system.

Moreover, Batalden et al. (2016) conduct research about co-production of healthcare services. Improving health services by using co-production, providing new ways to prepare professional health workers and providing counseling to patients or health service users. In this research also found about the learning system model which can be used in the implementation of co-production.

In addition, Elwyn et al. (2020) explain about the cycle and process of implementing co-production. The cycle includes 4 (four) steps those are, co-assess, co-decide, co-design, co-deliver. In this research also stated that the learning health system by Batalden et al. (2016) can help to support the success of co-production implementation. The learning health system can maximize the benefit of co-production implementation.

2. Public Administration Studies

As mentioned by M.E. Dimock as quoted by Nwanisobi and Christopher (2020) public administration is concerned with ‘what’ and ‘how’ of the government. The ‘what’ is the subject matter, the technical knowledge of a field, which enables the administrator to perform his tasks? The ‘how’ is the technique of management, the principles according to which co-operative programmes are carried through to success. Each is indispensable; together they form the synthesis called administration.

The main task that must be done by government is ensuring the rights of the people through the service delivery. Due to this in public administration studies all the development and the shifting of paradigm are being done to improve the quality of public services. A recent study by Bryson et al. (2014) and O’Flynn (2007) divided the paradigm into three paradigm, those are, the first is Old Public Administration, the second is New Public Management, and the third is New Public Governance.

Old Public Administration is a response to the development and the changing of era, such as industrialization, cultural development, and scientific discovery happened. Those things are raises new challenges in finding the best way to manage the government. On the other hand, the government at that time was trusted and believed to be an agent in the provision of all public affairs and public services, due to that government was required to always providing its best performance in delivering services in the midst of ongoing shifts and changes of era.

This paradigm was known for the dichotomy of administration and politic, which gave impact to the public service delivery. The characteristic service delivery in this paradigm is the government focus on public service delivery, while parliament focus on public policy formulation. The power of government that really dominant and the monopoly in public service provision led to corruption, collusion, and nepotism.

The concept of New Public Management indirectly arises from the criticism that occurs in the Old Public Administration paradigm of public sector organizations and has led to the movement and demands for public sector management reform. NPM arise as the solution to the problem appeared in OPA. The success of private sector organization gave influence on how public sector manage the organization in this paradigm.

3. Co-Production in Public Administration

The Concept of Co-Production is one of the concepts that emphasizes collaborative work

between government and the people to get better public services outcomes. This concept is part of the existence of NPG which can be contextualized as the condition where the community has a very important role and actively participate in the development. The various changing in the public administration by the existence of NPG and the implementation of Co-Production as stated by Brandsen and Honingh (2015) causes the level of transformation varies but overall the central idea is that services are no longer only delivered – and managed and governed – by professional and managerial staff in public agencies but also coproduced by citizens and communities As mentioned by Bovaird and Loeffler (2012) Co-Production is a public service that involving the people or community and the public sector to use assets, resources, and well contribute to increase efficiency in order achieving better results.

The concept of Co-Production as stated by Needham (2008) it has potency as a way to improve the quality of public services. Further, he also stated that there are some benefit of Co-Production implementation, the first one is that in the Co-Production model, the staff who work in the frontline for public services can contribute by understanding more deeply what service users needed or wanted. Second, Co-Production can change people’s attitudes to be able to improve service quality by being involved and more responsible. Third, Co-Production can led to budget efficiency.

The collaboration between government and the people or public service user in the provision of public services includes 3 (three) basic processes, those are Co-Determination which in this stage determines about “what” and “how” through collaborative work, Co-Financing which in this stage determines the financing of the services together between government and communities, and Co-Production where in this stage there is commitment of time and resources in the production processes that already agreed in the previous stages.

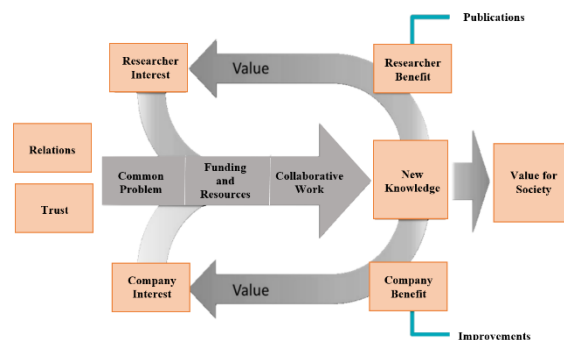


Figure 1. Co-Production Process Based on Sannö et al. (2019)

Sannö, et al. (2019) developed Co-Production process between academicians and industry as shown in Figure 1. In general they found that the Co-Production process can only happened if there is good relationship and trust between actor that involved. Further, he also found that the implementation of Co-Production can be sustainable if there is benefit for all of the actors that involved.

4. Co-Production in Noncommunicable Diseases Helathcare

Booshehri & Dugan (2021) highlights the problems arises in healthcare service can be divided into 2 (two) perspectives, from the healthcare service provision and healthcare service users. In the perspectives of healthcare service provision there are some problems, those are geographic maldistribution where there is a gap of distribution for healthcare infrastructure and facility between rural and urban area. the second one is financial maldistribution, the gap of economic level in rural area and urban area causes the people in rural area can't get the same access as people in urban area and it is become very hard for the people in rural area to pay the fee for accessing healthcare services. The third is limited appointment availability, where people in rural area only ave a very short time to visit the healthcare facility and the management of healthcare service time didn't match with the needs of the people.

The limited capacity of government in delivering healthcare services to the people can be seen form the problems explained above. In this case government can't held the services alone, the successful healthcare program and services should be supported with collaborative work between public sector and the people. Mainly, in the effort to do the preventive action and promotive activity.

The success of health promotion interventions, intended in general to increase awareness and to improve behaviors related to the object of promotion, strongly depends on the engagement and activation of individuals (Rosis et al., 2020). As Mentioned by Osborne et al. (2016) Co-Production is an approach that allows one to explore needs and habits and to build individual behaviors that can result in good health and wellbeing. Service users can provide a fundamental contribution in designing, providing, and managing public services and/or in reaching their outcomes (Rosis et al., 2020).

Elwyn et al. (2020) stated, with the implementation of Co-Production in healthcare services it has potency to improve the quality of healthcare services. There are 3 (three) potency

that stated by Elwyn et al. (2020), those are, the first one is patient resilience and autonomy, with Co-Production it can empower patient by learning through promotive action and producing the service together to do self check-up, recovery action, and self therapy session, also doing the preventive action in their home by themselves. The second on is time saved, the patients with their ability to do those things it can save their time to visit the healthcare facility. The third is economic efficiency, efficiency will occur as patients learn to self-manage complex processes such as dialysis.

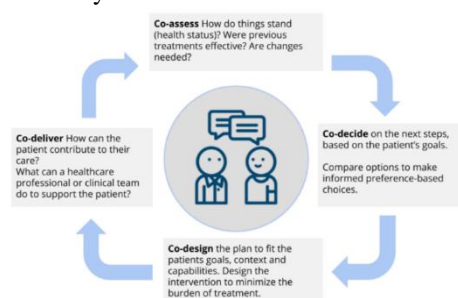


Figure 2. Co-Production Cycle in Healthcare Services Based on Elwyn et al. (2020)

Implementation of Co-Production is carried out through several processes as presented by Elwyn et al. (2020) there are four stages as shown in Figure 2. These phases are, (1) Co-Assess, where in this phase is about to evaluate and assessing what things are effective or work well and what things aee needed to be improved or strenghtened. (2) Co-Decide, in the second phase is about deciciding based on the patient's goals and comparing option to make preferenced-based choice. (3) Co-Design, in this phase is about the plan that fit the patients goals and capabilities to minimize the burden of treatment. (4) Co-Deliver, this is the last step where in this phase is the implementation of the strategies and plan in the third phasea nd how professional give support to the patient and also about how can the patient contribute.

Those phases as the processes of Co-Production implementation can be maximized with support from a good shared information system. as mentioned by Nelson et al. (2016) about the learning health system where the shared information environment that can share about personal health records and electronic health records can help the professional to support the patient and as a tools to learn together between professionals and patients which can led to the high value of healthcare services, optimal health, and research for patients and populations

The World Health Organization (WHO) estimates that chronic, non-communicable

diseases (NCDs) are the leading cause of morbidity, disability and mortality across all countries of the globe, and that these are all related to an individual's lifestyle choices. NCDs are also what is termed complex diseases because drivers of risk for them include multiple interacting environmental, genetic and behavioural risk factors (Rother et al., 2020).

As a result, there is an impellent need for medicine and the delivery of healthcare services to play a much more proactive role in an individual's life and to develop strategies that address the individual in a human-centric, non-intrusive and eco-sustainable manner in order to trigger long-lasting and healthier lifestyle-choices and behavior patterns (Sauro et al., 2013). The potency of Co-Production implementation will be very useful mainly for the chronic illness which must be always under controll and routine of check up, it can led to efficiency on time and economically. Application of these principles to the design of people centred health systems can take different forms (Turk, 2021).

One of the Co-Production implementation on noncommunicable disease which take place in Italian Region of Lombardy that developed a program called Mobile Medical Monitoring (M3) as the methodology of this case can be seen in the Figure 3 by Sauro et.al. (2013) showing a very good result. The program bring a new level where the end-user is truly an active participant in a healthcare service. This program uses tablet, mobile phone, and web portal application as shared information environment which support the Electronic Health Record (HER) and Personal Health Record (PHR) called M3.

It is a service where users can monitor different biological parameters (e.g., heart rate, breathing and metabolic equivalents). They also can share those data, along with other information, with their trainers, doctors, nutritionists and so on, in order to receive from them personalized help via both the app and the web portal. The M3 information platform is also complemented by a non-clinical, educational and motivational platform whose aim is to promote active lifestyles for the general public.

The M3 services with the support of M3 application and web portal considered very positive based on the service user experience. More importantly, however, it has emphasized the service's high potential for improvement through a cooperative and participatory approach. Throughout the innovation process of a smart and ICT-enabled healthcare service and the use of HER and PHR taking the co-production of healthcare services to a new level of active participation and contribution on behalf of the end user.

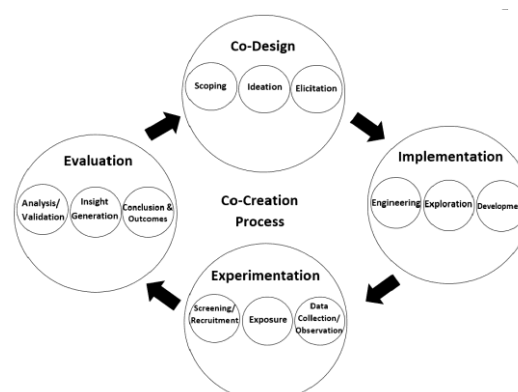


Figure 3. The Co-Creation Living Lab Methodology Based on Sauro et al. (2013)

One of the district in India, Jaipur District, implemented Portable Health Clinic (PHC) as the innovation to solve common problem in rural area in India. The project was designed to reduce the prevalence and incidence of noncommunicable diseases such as hypertension, diabetes, and obesity among rural communities through co-production with local government agencies and communities and in a long term with this program hopefully it can improve the health status of rural groups. PHC involving 437 people (local residents, Briyani Group of Colleges staff, and students). All the actors involve already getting knowledge and skill to run the PHC through a number of meetings, consultations, discussions, training session, workshops, and seminars. The program is supported with technology by using small tablet inside the PHC box that really helped the works of the communities in doing the health screening (Yokota et al., 2018).

Co-Production is not a solution that can bring a lot of improvement in a short time, rather than that it takes a long time, however the benefit for the people is also meaningful, due to that it needs commitment from all the actors involved. Yokota et al. (2018) mentioned that the effective Co-Production should be supported by ongoing and consistent effort to engage with stake holders through meetings, consultation, and actual implementation are necessary to maintain collaborative relationships. Besides that, Yokota et al. (2018) found that harmonizing objectives in the process of Co-Production is very important. Also mentioned by Sannö et al. (2019) the implementation of Co-Production should be started with trust and good relationship among actors that involved, moreover, Co-Production can be sustain if all actors can feel the benefit as their motivations to keep doing well.

Co-Productive character of healthcare services seen as a new opportunities for innovation and improvement (Batalden et al.,

2016). Campaign, a clinic's experience with shared medical appointments and a facilitated network of patients with chronic disease are the key features in the Co-Production implementation. The use of technology is very helpful as a tool to share the health record of patient and other information contained in health promotions can help patient in doing the screening, recovery, and maintain their health.

The content that contained in the application can educate the patient and the knowledge that the patient already had it led to the condition where they can do a lot of treatment by themselves everytime and everywhere they needed it. With that the healthcare services can be more accessible. Moreover, it led to efficiency, mainly for patients with chronic/noncommunicable disease that usually take a long time to recovery they don't have to go back and forth to visit health facilities too often, which will take a lot of time, energy, and money.

Healthcare service delivery and healthcare program effectively successful with the active participant from the community. The lack of government capacity is covered up by the collaborative work between actors so that government is not overwhelm to handle all the needs of the people. The implementation of Co-Production should be supported by trust, a good relationship, commitment, a good strategy and

tools, mainly the technology that can help all the works. Shared information environment that includes HER and PHR can maximizing the impact of Co-Production implementation that can led to a better quality of service delivery.

Conclusion

In the improvement of noncommunicable disease healthcare the role of Co-Production is working really well. It can solve the problem either from the healthcare service provider or the service user. The successful implementation of Co-Production in healthcare service is supported by a good shared information environment with PHR and EHR. With that it can enabled the service user to have a greater chance in getting new knowledge and actively participating on their own health and wellbeing. The technology as a tool or media to the professional and the people to do health promotion, learn together and helping them in doing health promotions, recovery, and screening the health condition. The Co-Production concept can be a choice of solutions to ensure the equality and public value of service delivery. Although it takes a long time in the process, a good commitment, trust, a good relationship, commitment, a good strategy, a good learning environment and tools it can sustain the implementation of Co-Production to bring a better healthcare service delivery.

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