

Status of Quality in Strategic Purchasing in the Health System: A Systematic Review

Estado de la calidad en las compras estratégicas en el sistema de salud: Una revisión sistemática

Zahra Zarei^{1,a}, Somayeh Hesam^{1,b}, Shaghayegh Vahdat^{1,b}, Alireza Oliaei Manesh^{2,b}

ABSTRACT

Introduction. Strategic purchasing is an important component of financing in the health system. It can enhance productivity, justice, and accountability in the health care delivery in case of considering the quality. This study, which was conducted as a systematic review, was aimed at investigating the status of quality in five domains of strategic purchasing in the health system to answer what, for whom, from whom, how to buy, and how much to buy. **Material and Methods:** This study systematically reviewed the articles published in the databases of Web of Sciences (WOS), Scopus, PubMed, Medline via Ovid, Embase from 2000 to October 2019. The keywords used to search the databases included the following: Health Care Sector, Delivery of Health Care, Quality Assurance, Quality Improvement, and Strategic Purchasing. A total of 182 articles were selected and reviewed by four researchers. Articles with irrelevant content were excluded. Data of the selected articles were analyzed using the content analysis method. **Results:** Of the 182 articles collected through searching the selected databases, 16 articles were analyzed. Based on the results of this study, strategic purchasing in the health system results in the delivery of services with higher quality. **Conclusion:** Strategic purchasing can enhance the performance of the health system through choosing the most appropriate provider and the most appropriate payment method, along with equity in providing quality health care services.

Key words: Managed Competition; Delivery of Health Care, Integrated; Quality Assurance, Health Care. **Source:** DeCS-BIREME).

RESUMEN

Introducción. Las compras estratégicas son un componente importante del financiamiento del sistema de salud. Puede mejorar la productividad, la justicia y la responsabilidad en la prestación de atención médica en caso de considerar la calidad. Este estudio, que se realizó como una revisión sistemática, tuvo como objetivo investigar el estado de la calidad en cinco dominios de compras estratégicas en el sistema de salud para responder qué, para quién, de quién, cómo comprar y cuánto comprar. **Material y Métodos:** Este estudio revisó sistemáticamente los artículos publicados en las bases de datos de Web of Sciences (WOS), Scopus, PubMed, Medline vía Ovid, Embase desde 2000 hasta octubre de 2019. Las palabras clave utilizadas para la búsqueda en las bases de datos

incluyeron las siguientes: Sector Salud, Entrega de atención médica, garantía de calidad, mejora de la calidad y compras estratégicas. Un total de 182 artículos fueron seleccionados y revisados por cuatro investigadores. Se excluyeron los artículos con contenido irrelevante. Los datos de los artículos seleccionados se analizaron mediante el método de análisis de contenido. **Resultados:** De los 182 artículos recopilados mediante la búsqueda en las bases de datos seleccionadas, se analizaron 16 artículos. Con base en los resultados de este estudio, las compras estratégicas en el sistema de salud resultan en la entrega de servicios con mayor calidad. **Conclusión:** Las compras estratégicas pueden mejorar el desempeño del sistema de salud al elegir el proveedor más apropiado y el método de pago más apropiado, junto con la equidad en la prestación de servicios de atención médica de calidad.

Palabra Clave: Competencia Dirigida; Prestación Integrada de Atención de Salud; Prestación de Atención de Salud (**Source:** DeCS-BIREME).

1. Department of Health Care Service Management, South Tehran Branch, Islamic Azad University, Tehran, Iran.
2. Department of Health Care Service Management, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran.
 - a. PhD Student in Health Care Service Management.
 - b. Assistant Professor.

INTRODUCTION

Given the increasing costs of health system management and health care service delivery, utilizing the principles of health economics is inevitable. The World Health Organization report in 2000 highlights the importance of strategic purchasing as the primary strategy to achieve the goals of every health system⁽¹⁾. In line with the efforts made to achieve the major goals of the health system in all countries, strategic purchasing is one of the most important components of the financing structure in the health system; it must be implemented in a way that it would provide cost-effectiveness, quality, and high level of efficiency⁽²⁾.

Strategic purchasing is the active and evidence-based interaction to achieve the major health goals via increasing the volume and quality of services provided⁽¹⁾. This type of purchase in the health system seeks to find effective, high quality, and cost-effective services from the best providers. The best framework for evaluating the performance of strategic purchasing is the model presented by the World Health Organization (WHO) in the report published in 2000 (Figure 1) that is accepted by all health care system researchers and health policy makers around the world. This framework can be used to assess the status of quality in strategic purchasing⁽⁴⁾.



Figure 1. Conceptual model of strategic purchasing of health services, according to the World Health Organization.

Undoubtedly, observing quality in these five dimensions can have a significant impact on the quality of health care delivery in the community. Hence, according to the definition presented by the World Health Organization (WHO), strategic purchasing in this area is an important component that is always looking for methods to decide in the five domains including: What to be purchased? For whom to buy? From whom should be purchased? How much to pay? How to pay?

A small number of studies have been conducted on the quality of services in strategic purchases to improve the coverage of health care services in several African countries⁽⁵⁾. In addition, it has also been considered in European countries⁽⁶⁾.

In order to improve access to quality health care services in the health care systems of different countries, many interventions has been conducted in these systems and they have provided a higher level of efficiency in proportion to the resources and costs spent. It is a way to provide new resources for the delivery of effective quality health care services^(3,5).

Many studies have investigated different components of strategic purchasing. Given the impact of quality status on different domains of strategic purchasing, this study was conducted as a systematic review aimed at investigating the status of quality in strategic purchasing in the health systems.

Methods

In this study, five scholarly databases were used including ProQuest, EBSCO, Scopus, PubMed, and the Web of Science. The mentioned databases were chosen because of their comprehensiveness and consistency with the objective of the study. To ensure the quality, the search was primarily focused on the finding of peer-reviewed journal articles; however, research reports, monographs, and edited collections of academic papers were also included because they also undergo a similar process of peer review.

Procedure:

This systematic review study was conducted based on the components of the Protocol of Systematic Reviews and Meta-analysis (PRISMA). Accordingly, an electronic search was conducted on articles published from 2000 to October 2019.

Search strategy: The search strategy was as follows.

Search Engines and Databases: Google, Google Scholar, PubMed, ProQuest, EBSCO, ISI web of science, Scopus, Science Direct, MAGIRAN, Scientific Information Database, Iran doc (2000 to present)

Limits: Language (only resources with at least an abstract in English)

Date: Up to 2019, Oct, 20

#1	(("Health Care Sector"[Mesh])) OR "Delivery of Health Care, Integrated"[Mesh]
Strategy: #1 AND #2 AND #3 OR #4	(("Quality Assurance, Health Care"[Mesh]) OR "Quality Improvement"[Mesh]) OR "Quality Indicators, Health Care"[Mesh]
#3	Strategic Purchasing[Title/Abstract]
#4	Strategic purchase[Title/Abstract]

Search in pub med: ((((((“Health Care Sector”[Mesh])) OR “Delivery of Health Care, Integrated”[Mesh])) AND (((“Quality Assurance, Health Care”[Mesh]) OR “Quality Improvement”[Mesh]) OR “Quality Indicators, Health Care”[Mesh])) AND Strategic Purchasing [Title/Abstract]) OR Strategic purchase [Title/Abstract]

Search in Embase: ('health care delivery'/de OR 'health service'/de) AND 'health care quality'/de AND 'strategic purchasing'.

In this study, a data extraction form was used to collect data from previous studies (data collection form). The form was used to maintain integrity, reduce bias, and increase the validity and reliability of data collected via systematic review. To conduct the study, first, the list of main keywords consistent with the objective of the research was prepared by the research team in both English and Persian, and then the above mentioned databases were searched. The data collection form was completed using the data existing in the sources of information.

Inclusion and exclusion criteria: The search was conducted on the papers published from 2000 to October 2019 and only English articles relevant to the objective of the review were included in the study. In order to enrich the quality of data, only articles that were mainly focused on the quality of strategic purchasing in the health system and their full text were

available were reviewed. Editorial notes, letters to the editor, book reviews, as well as books were excluded from the study.

Evaluation of articles: Evaluation was performed by four researchers, including two assistant professors and two researchers, all with a rich research background. They reviewed the articles' titles and abstracts and tagged them in the endnotes software. The full articles were reviewed by researchers based on inclusion and exclusion criteria. Studies on strategic purchasing and procurement in the fields other than the health systems were excluded due to non-compliance with the study objectives.

Data extraction and analysis: The data extraction form was used to collect different data including the name of the first author, year of publication, type of study design, study population, the objective of the study, and the outcome of the study regarding strategic purchasing for the delivery of quality services.

RESULTS

After searching the databases, 256 articles were selected and then duplicates were removed. Of all the selected articles published on strategic purchasing, 11% had assessed quality. A total of 16 articles had investigated the quality and the results are presented in the following PRISMA flowchart (Figure 2).

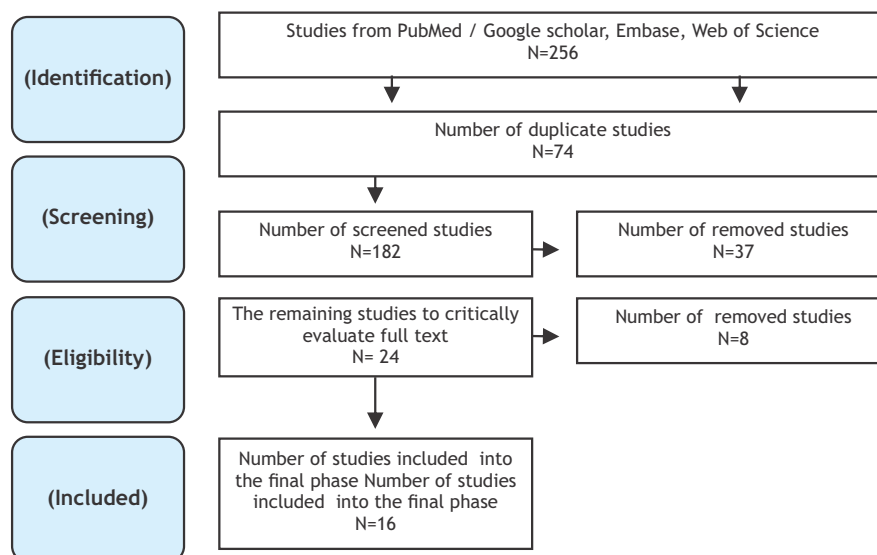


Figure 2. Literature review and data extraction flowchart

The results of the review in this study showed that different domains of strategic purchasing were addressed as follows: “What to be purchased?” in 5 cases (31.3%); “For whom to buy?” in 8 cases (43.6%);

“From whom should be purchased?” in 11 cases (68%); “How much to pay?” in 9 cases (56.3%); and “How to pay?” in 7 cases (44%).

Table 1. Characteristics of selected articles

Article		Quality on strategic purchasing components						Author	result
Country	Year	Methods	What to be purchased?	For whom to buy?	From whom should be purchased?	How to pay?	How much to pay?		
Iran	2012	Qualitative analysis	+			+		Jadidfar, M. P. Yazdani, S. Khoshnevisan, M. H.(7)	Applying a quality and efficient dental service package to people with payment methods cost-effectiveness of interventions
Kenya	2018	A qualitative case study	+			+	+	Munge, K. Mulupi, S. Barasa, E. W. Chuma, J.(8)	The regulatory and policy framework for strategic purchasing in Kenya was weak Contracting processes, monitoring payer providers did not enhance fairness, quality and efficiency .there are assessing needs, preferences, and values to inform design of the benefit packag
Cambodia	2009	survey		+	+		+	Bigdeli, M. Annear, P. L(9)	Cambodian health-care system. They exercise four essential roles: financing, community support, quality assurance and policy dialogue These roles respond to the main barriers to access to health service
Nigeria	2018	qualitative study		+	+	+		Chen, G. Cheng, F. Zhang, H. Etiaba, E. Onwujekwe, O. Honda, A. Ibe, O. Uzochukwu, B. Hanson, K.(10)	The purchasing function was not being used strategically to influence provider behaviour and improve efficiency and quality in healthcare service delivery. For the purchaser-provider relationship, these actions are: accreditation of healthcare providers; monitoring providers and use of appropriate provider payment mechanisms for healthcare services at every level
Mexico	2016	Survey and Sensitivity analysis			+	+	+	Figuroa-Lara, A. Gonzalez-Block, M. A.(11)	Strategic purchasing of private providers of primary care has shown promising results as an alternative to improving quality of health services and reducing costs
who	2019	Policy analysis		+	+	+		Fritsche, G. Peabody, J.(5)	But coverage without quality health services limits benefits to populations. Performance-based financing programs (PBF) use strategic purchasing of services to expand coverage and promote quality by measuring quality and rewarding good performance.
Philippine	2018	mixed methods		+	+	+	+	Gautier, L. Turcotte-Tremblay, A. M. Sieleunou, I. Paul, E. Obermann, K.(12)	introduction of the no-balance-billing to prevent co-payments, and the Health Facilities Enhancement Program to improve quality are of key importance in strategic purchasing.
Mexico	2015	Survey	+		+	+		Gonzalez-Block, M. A. Alarcon Irigoyen, J. Figuroa Lara, A. Ibarra Espinosa, I. Cortes Llamas, N.(13)	proposed to establish a service packages and single-payer interventions and private providers as tools to promote quality and efficiency of the National Universal Health System

Continúa.../

.../ Continuación

Article		Quality on strategic purchasing components					Author	result	
Mexico	2016	SPSS analyzed			+	+	Gonzalez-Block, M. A. Figueroa, A. Garcia-Tellez, I. Alarcon, J.(14)	The autonomy of providers is key to reduce out-of-pocket spending through the supply of quality services	
Estonian	2015	Systematic review		+		+	Habicht, T. Habicht, J. van Ginneken, E.(15)	Main changes of new purchasing procedures include that provision of specialized care has become concentrated at fewer providers and impact on care quality or on actors	
Nigeria	2017	A case study			+		Ibe, O. Honda, A. Etiaba, E. Ezumah, N. Hanson, K. Onwujekwe, O.(16)	lack of information on the quality of services offered by providers constrains rational decision-making and the inability to change HMOs reduces HMO responsiveness to beneficiary needs in strategic purchasing	
iran	2014	qualitative study	+	+	+	+	Jowett, M. Kwon, S. Gorji, H. A. Mousavi, Smsp Shojaei, A. Keshavarzi, A. Zare, H.(17)	Purchasing as improving performance and quality, Purchasing as shaping the market and competition, Purchasing as health progress state of people and society and financing and pricing	
Hong Kong	2010	Descriptive analysis				+	Lee, Koon Hung Gillett, Steve(18)	resource allocation system to a Pay-for-Performance (P4P) system and plan for that improve service quality and modernization	
Italy	2011	Case study					+	Racca, G. M.(19)	focuses on the optimization of healthcare purchasing through the reduction of costs without any prejudice to the quality of healthcare performances
Nepal	2017	Issue brief				+	Sapkota, V. P. Bhusal, U. P.(20)	purchasing of health services needs to be made strategic to guide the provider behavior that will eventually contribute to achieving the goals of quality and efficiency in service provision	
China	2019	Budget impact model	+			+	Yip, W. Fu, H. Chen, A. T. Zhai, T. Jian, W. Xu, R. Pan, J. Hu, M. Zhou, Z. Chen, Q. Mao, W. Sun, Q. Chen, W.(21)	we recommend leveraging strategic purchasing, information technology, improving the quality of PHC providers, and educating the public on the value of prevention and health maintenance.	

DISCUSSION

The results of the review of studies showed that only 11% of the selected papers addressed quality in strategic purchasing. It indicates the lack of focus on

the quality of studies conducted in the field of strategic purchasing. Of the 24 articles that examined the status of quality in strategic purchasing, 16 articles dealt with one aspect of strategic purchasing. The review of the first domain of strategic purchasing, i.e. “What to be

purchased?” in the category of “Benefit package”, five articles assessed the delivery of a variety of service packages^(7,8,13,17,21). This domain was investigated in a study in the Philippines that was conducted on this type of purchase. Since both the government and the private sector provide health care services in the Philippines, the issue of purchasing low-cost and high-coverage services had been a part of the strategic purchasing agenda, it had been suggested to deliver quality service packages for middle-income population groups by private insurers and private centers⁽¹²⁾. In Iran, this issue has been addressed by developing health insurance for all members of the community⁽²²⁾.

In the domain of “For whom to buy?” in the category of “Demand side”, seven out of 16 articles assessed target populations in need of strategic purchasing packages. These articles emphasize the establishment of support mechanisms for vulnerable and poor groups in the community^(5,9,10,12,15-17). This issue had been addressed in the Philippines and Malaysia by focusing on the delivery of quality services to the poor and middle-income population groups.

Among the five domains of strategic purchasing, the domain of “From whom should be purchased?” in the category of “Supply-side” was the most addressed domain with 11 articles (68.5%). This group of the study investigated appropriate platforms for purchasing quality products and services^(5,9,10,12-17,20,21). The significant focus on this domain might be attributed to the fact that health policymakers are mainly willing to buy from those who have better quality products.

Concerning the domain of “How to pay?” in the category of “Payment method”, nine articles investigated methods of purchasing and paying for the quality services provided. It may indicate that the topic of fulfilling health care needs in a strategic purchase is closely related to the quality of services required^(5,7,8,10-13,17,18). In a study conducted in Hong Kong on government-run Hong Kong-funded hospitals, the researchers investigated a performance-based payment system (P4P) that had been utilized for strategic purchasing and allocating population-based funds. Given that almost 60% of the budget had been allocated for developing services and the rest had been dedicated to improving the quality of services, a quality-based payment incentive program had been proposed⁽¹⁸⁾.

Concerning the domain of “How much to buy” in the category of “Price” in strategic purchasing, six articles examined quality in creating sustainable financial resources and cost management; they concluded that neglecting a reasonable amount of services and products needed, more or less than the needs of the community, can affect the quality^(8,9,11,12,14,17,19). In a study on the status of strategic purchasing in ten European

countries, it was found that the amount of information, expertise, policy capacity, and bargaining power was effective in the amount of strategic purchasing. In the studied countries, the emphasis was on the quality of care and the real needs of the community, rather than the use of old patterns, prices, and capacity⁽⁶⁾.

In a study conducted in Iran, it was stated that the strategic purchasing of health insurance services helps to utilize the limited resources of the health sector of the country to ensure the health of the Iranian population and achieve the maximum level of efficiency in the health system. In addition, it helps to achieve equity in the distribution of health services, target resources, improve quality of health services, and improve the methods of health service payments⁽²³⁾.

The assessment of the status of quality in different domains of strategic purchasing of health services showed that this issue has not been adequately addressed. Hence, further research is needed to investigate this issue and to motivate health authorities in the community to focus on this topic.

Conflict of interests: .authors declared no conflict of interest.

Financing: self-financing

BIBLIOGRAPHIC REFERENCES

1. <https://www.who.int/health-financing/topics/purchasing/passive-to-strategic-purchasing/en/>.
2. Vlcek J, Maly J, Dosedel M. [Pharmaceutical care of patients with diabetes mellitus and its relationship to clinical pharmacy]. *Vnitř Lek.* 2009;55(4):384-8.
3. Bastani P, Samadbeik M, Kazemifard Y. 'Components that affect the implementation of health services strategic purchasing: a comprehensive review of the literature. *Electronic physician.* 2016;8(5):2333.
4. Tisdell Y. Diversity is at the core of who we are. *Health prog.* 2007;88(1):35-9, 69.
5. Fritsche G, Peabody J. Methods to improve quality performance at scale in lower- and middle-income countries. *J Glob Health.* 2018;8(2):021002.
6. Klasa K, Greer SL, van Ginneken E. Strategic Purchasing in Practice: Comparing Ten European Countries. *Health policy.* 2018;122(5):457-72.
7. Jadidifard MP, Yazdani S, Khoshnevisan MH. Social insurance for dental care in Iran: a developing scheme for a developing country. *Oral Health Dent Manag.* 2012;11(4):189-98.
8. Munge K, Mulupi S, Barasa EW, Chuma J. A Critical Analysis of Purchasing Arrangements in Kenya: The Case of the National Hospital Insurance Fund. *Int J Health Policy Manag.* 2017;7(3):244-54.

9. Bigdeli M, Annear PL. Barriers to access and the purchasing function of health equity funds: lessons from Cambodia. [Bull World Health Organ. 2009 Jul; 87\(7\): 560-564.](#)
10. Caudle A. [Finding gold in the supply chain. Healthc Financ Manage. 2009 Dec;63\(12\):38-41.](#)
11. Figueroa-Lara A, Gonzalez-Block MA. Cost-effectiveness analysis of an alternative for the provision of primary health care for beneficiaries of Seguro Popular in Mexico. [Salud Publica Mex. Sep-Oct 2016;58\(5\):569-576.](#)
12. Gautier L, Turcotte-Tremblay AM, Sieleunou I, Paul E, Obermann K. The role of national health insurance for achieving UHC in the Philippines: a mixed methods analysis. [Glob Health Action. 2018;11\(1\):1483638.](#)
13. Gonzalez-Block MA, Alarcon Irigoyen J, Figueroa Lara A, Ibarra Espinosa I, Cortes Llamas N. The strategic purchasing of health services: a big opportunity for the National Universal Health System. [Gac Med Mex. 2015;151\(2\):278-80.](#)
14. Gonzalez-Block MA, Figueroa A, Garcia-Tellez I, Alarcon J. Financial allocations in the System for Social Protection in Health in Mexico: challenges for strategic purchasing. [Salud Publica Mex. 2016;58\(5\):522-532.](#)
15. Habicht T, Habicht J, van Ginneken E. Strategic purchasing reform in Estonia: Reducing inequalities in access while improving care concentration and quality. [Health policy. 2015;119\(8\):1011-6.](#)
16. Ibe O, Honda A, Etiaba E, Ezumah N, Hanson K, Onwujekwe O. Do beneficiaries' views matter in healthcare purchasing decisions? Experiences from the Nigerian tax-funded health system and the formal sector social health insurance program of the National Health Insurance Scheme. [Int J Equity Health. 2017 Dec 28;16\(1\):216.](#)
17. Jowett M, Kwon S, Gorji HA, Mousavi S, Shojaei A, Keshavarzi A, et al. The challenges of strategic purchasing of healthcare services in Iran Health Insurance Organization: a qualitative study. *Global health action.* 2018;10(2):6299-306.
18. Lee KH, Gillett S. Introducing Pay-for-Performance within Hong Kong's Public Hospitals. [BMC Health Serv Res. 2010; 10\(Suppl 2\): A17.](#)
19. Racca GM. The challenges of collaborative procurement in the healthcare sector. [World Hosp Health Serv. 2011;47\(1\):18-20.](#)
20. Sapkota VP, Bhusal UP. Governance and Purchasing Function under Social Health Insurance in Nepal: Looking Back and Moving Forward. [J Nepal Health Res Council. 2017;15\(1\):85-87.](#)
21. Yip W, Fu H, Chen AT, Zhai T, Jian W, Xu R, et al. 10 years of health-care reform in China: progress and gaps in Universal Health Coverage. [Lancet. 2019;394\(10204\):1192-204.](#)
22. Mohamadi E, Olyaeemanesh A, Rashidian A, Hassanzadeh A, Razavi M, Foroushani AR. [Stakeholders Analysis of Health Insurance Benefit Package Policy in Iran. Health Scope. 2018;7\(2\).](#)
23. Ghoddoosi-Nezhad D, Janati A, Zozani MA, Doshmagir L, Bazargani HS, Imani A. ['Is strategic purchasing the right strategy to improve a health systems performance? A systematic review. Bali Med J. 2017;6\(1\):12](#)

Correspondence

Somayeh Hesam.

Email: education@azad.ac.ir
somavehh59@yahoo.com

Peer Review

Received: 15/07/2020

Accepted: 15/09/2020