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# Is strategic purchasing the right strategy to improve a health system's performance? A systematic review



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Djavad Ghoddoosi-Nejad,<sup>1</sup> Ali Janati,<sup>2\*</sup> Morteza Arab Zozani,<sup>3</sup>  
Leila Doshmangir,<sup>2</sup> Homayoun Sadeghi Bazargani,<sup>4</sup> Ali Imani<sup>2</sup>

## ABSTRACT

**Purpose:** This study aims to systematically review and investigate the benefits and challenges of strategic purchasing implementation in health systems and suggests a basis for improving their performance.

**Method:** This is a systematic review in which electronic databases and search engines—including PubMed, Springer, OvidSP, ProQuest, Google scholar and Scopus, along with related journals, library, and gray literature—were searched for related articles from 1990 to 2015. Updates were added to the searches if found. Search strategies included the combination of two sets of keywords (“purchasing,” “contracting” OR “commissioning” OR “buying” OR “procurement”) with (“strategic” OR “active” OR “proactive”). Articles in English or Farsi/Persian, which discussed benefits and challenges of strategic purchasing in a health context, were eligible to be included in the study. Two researchers

independently completed all steps of the research. Quality assessment of all included articles for final review was done using related checklists.

**Results:** 2049 articles identified through searching databases, which were refined to 23 final articles. Based on the result of this study, the benefits of strategic purchasing implementation in health systems were reported as higher quality, higher efficiency, better value for money (VfM), while high administrative costs, issues in priority setting, a need for accurate information and political issues were among the main challenges and disadvantages.

**Conclusion:** active purchasing can be a healthy useful option for health systems to adequately reach health system objectives, but challenges about functions and especially stewardship of health system should not be neglected.

**Keywords:** strategic purchasing, resource-based view, systematic review, health services management

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<sup>1</sup>Iranian Center of Excellence in Health Management, School of Management and Medical Informatics, student research committee, Tabriz University of Medical Sciences, Tabriz, Iran

<sup>2</sup>Iranian Center of Excellence in Health Management, School of Management and Medical Informatics, Tabriz University of Medical Sciences, Tabriz, Iran

<sup>3</sup>Research center of modeling in health, institute for future studies in health, Kerman university of medical sciences, Kerman, Iran

<sup>4</sup>Road Traffic Injury Research Center, Department of Statistics & Epidemiology, Tabriz University of medical sciences, Tabriz, Iran

\*Correspondence to: Ali Janati, Iranian Center of Excellence in Health Management, School of Management and Medical Informatics, Tabriz University of Medical Sciences, Tabriz, [janati1382@gmail.com](mailto:janati1382@gmail.com)

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## INTRODUCTION

Health is a right, not just a privilege to human, thus every government has the duty to provide good health care. Although government has spent more for health care, they fail to obtain higher quality and good outcomes for their people in terms of health.<sup>1</sup> With rising needs for health care services and also diminishing budgets allocated for health, health authorities have been paying more attention to concepts such as value for money (VfM) and cost-effectiveness.<sup>2</sup> In order to achieve these desirable outcomes, the performance of every health system should be improved.<sup>3</sup>

The World Health Report 2000 by World Health Organization (WHO) outlined three main function of every health system: revenue generation, fund pooling, and purchasing. Among these functions, in the literature, purchasing seems to be the most neglected function.<sup>3</sup> In financing function of every health system, once the resources collected and pooled the very important part of financing begins. In this stage, health system's stewards should purchase the services. Purchasing is defined as the process in which health systems allocate funds to providers so they can obtain health services on behalf of the population.<sup>4</sup>

Purchasing can be passive or active. Passive purchasing is defined as determining resource allocations by defaulting to historical patterns and arrangements, with no active engagement in regards to benefit packages or provider arrangements; while active purchasing (SP) is the activity that engages citizens, governments, and providers in choosing arrangements that will optimize coverage, equity, and efficiency.<sup>1</sup> one form of active purchasing is Strategic Purchasing which is considered a core strategy for achieving universal coverage.<sup>3</sup>

Strategic purchasing consists of five important criteria: what to buy? For whom we buy? From whom we should buy? At what price we buy? And how to buy? Every purchasing that answers these five questions can be strategic. While health systems that rely on inputs are passive purchasers, active purchasing stated to purchasers who focus on outputs of the purchasing process.

The purpose of implementing strategic purchasing is to optimize the performance of health systems. This is possible with effectively allocating financial resources to providers. This process is about three decisions: Which interventions should be purchased in response to population needs and

wishes, while considering priorities of health and evidence on cost-effectiveness; how they should be purchased, which is a set of questions about contract mechanisms and payment mechanisms; and from whom, which implies the need for ranking providers in subjects such as quality and efficiency.<sup>6</sup>

Strategic purchasing faces three fundamental challenges: What interventions to buy? From whom to buy and how to buy.<sup>3</sup> Size is also important for purchasing organizations. Large purchasers cannot only take advantage of economies of scale but also of better bargaining capacity (monopsony power) regarding price, quality, and opportunity of services, in dealing with natural monopolies on the provider side.<sup>6</sup> The aim of purchasing is to create a link between funds, which are pooled by purchasers and services approved to be effective; but there are few researches that take a comprehensive strategic perspective on design of purchasing in health systems.<sup>7</sup>

Purchasing of health systems is done by different organizations in different countries. For example, in England, National Health Service (NHS) has developed public care trusts, which are responsible for purchasing health systems through commissioning, and NHS trusts handles all the responsibilities. In contrast with this approach, in the United States, employers are responsible for purchasing benefit packages for health of the personnel. The government has no responsibility for direct purchasing of health services. In countries such as Iran, both the public and private organizations purchase health services. Ministries of health and insurance organizations are practicing purchasing of health services. Against the recommendation of WHO for being a unique stewardship for purchasing of health services, we can see there are different stewardships for this.

In this regard, although a theoretical basis for strategic purchasing of health services is the same, but the experiences of different health systems vary in different levels in terms of practice of strategic purchasing.<sup>3</sup> Countries such as England,<sup>11-14</sup> Canada,<sup>15</sup> New Zealand,<sup>16</sup> and other countries<sup>17-19</sup> have tried to obtain VfM in health sectors. In different levels, each country has experienced different types of strategic purchasing and different outcomes.

Despite the importance of purchasing in health care, the body of knowledge about active and strategic purchasing and its effect on health system performance is weak, and there is room for rigorous academic works.

## AIM OF STUDY

This study aims to outline benefits and challenges of implementing strategic purchasing in health

systems in order to develop a basis for decision making for health system policymakers.

## MATERIALS AND METHOD

This is a comprehensive review of the literature in which we used a review procedure and search strategy. In this study, we aimed to establish a perceived complete search and analysis framework, despite all limitations, to provide a strategy for better implementation of strategic purchasing in a health care system. Extensive database searches were completed and agreed-upon exclusion criteria applied, which are known to be a part of every systematic review.<sup>20-22</sup>

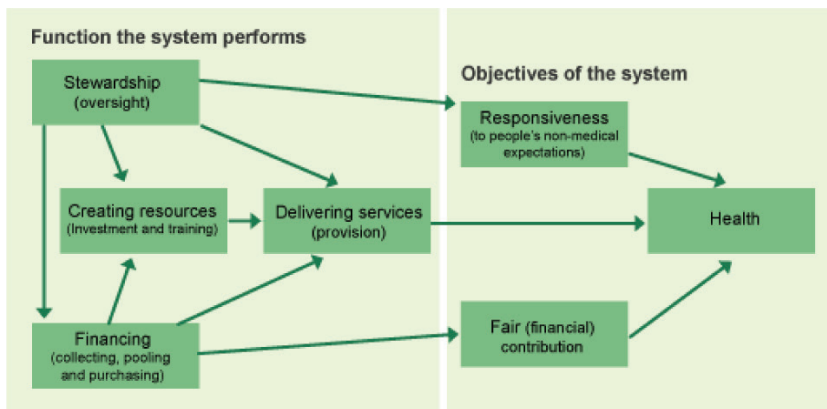
First, through a primitive search, we found main SP papers. We did a primitive content analysis on those papers, which helped us to establish a basis for the subsequent analysis steps. We could determine search terms and electronic databases for better search.

Furthermore, five subject experts helped to improve the search strategy and search terms. Also, a librarian and a professor in health informatics helped us to assure a better search strategy. These steps helped us to select more specific and relevant keywords and databases for search.

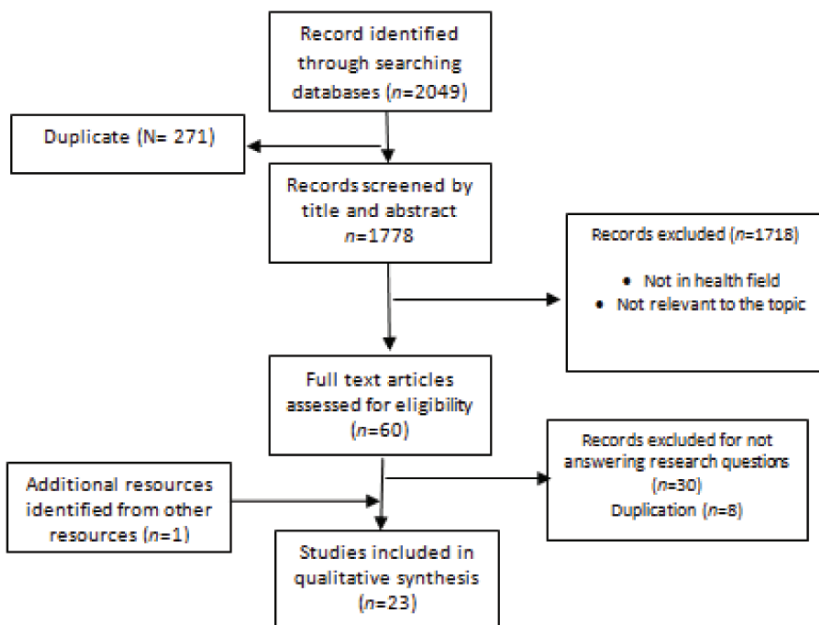
The study was conducted in three parts. During the first part, electronic databases and search engines including Web of Knowledge, PubMed, OvidSP, Springer, ProQuest, Scopus, Google Scholar, Wiley, Scientific Information Database (SID), Iranmedex (last two were in Farsi) were searched for SP-related publications in health industry in time period 1990 to 2015. The search strategy included the combination of two sets of keywords ("purchasing," "contracting" OR "commissioning" OR "buying" OR "procurement" AND "strategic" OR "active" OR "proactive." Articles in English or Farsi, which discussed benefits and challenges of strategic purchasing in a health context, were eligible to be included in the study.

In part II of the analysis, we focused on SP research papers published in specialized journals in health management and health policies. We did not limit our search to these journals, and we considered journals about strategic purchasing and health economics. Peer-reviewed journals were selected because of their high disciplinary standing; thus, they can be identified as validated knowledge.<sup>20,21</sup> This assured us about the rigor of the publications, which were included in the review because they had academic quality through assurance systems.<sup>20,21</sup>

In part III, we used nonscientific search engines, including Google and Bing. We also searched in databases for conferences that are not indexed in



**Figure 1** Relations between functions and objectives of a health system. Available at: The World Health Report 2000<sup>3</sup>



**Figure 2** Flowchart of study selection process based on PRISMA protocol

scientific databases, including Civilica, which is a website for indexing articles of scientific conferences in Iran. Finally, we conducted hand searches in libraries as much as possible.

After searching the databases and search engines mentioned above, records were refined in three steps. First, after reading the titles of articles, we excluded irrelevant titles. Then, records were refined by reading article abstracts. Editorials, book reviews, and books were excluded from our subsequent analysis. Articles, which were not in English or Farsi, were excluded. All remaining papers were then read and evaluated for inclusion by categorizing them against an agreed-upon set of inclusion criteria. We wanted to ensure that the papers were: (i) focused on benefits and challenges of strategic purchasing in health and (ii) scholarly publications. Finally, we read the full text and extracted the related data.

Considering different types and ranges of studies included in the review, we used different checklists for quality appraisal (CASP checklists). This checklist contained 10 items. We classified the quality of included study in three levels (low, moderate and high quality). When the scores were <4 the studies have low quality, between 4-7 moderate and >7 ranked high quality. When there was a discrepancy or a disagreement between two reviewers, a third reviewer appraisal was used for the final decision.

Data extraction was done using a researcher-created form, and benefits and challenges of every experience of strategic purchasing were extracted. Considering the qualitative nature of articles, we used qualitative framework analysis to analyze data.

We used the framework developed by World Health Report 2000 by the WHO (figure 1)<sup>3</sup> for health systems for analyzing the results. Then, benefits and challenges of every experience were outlined and categorized according to WHO framework<sup>23</sup> for health systems.

## RESULTS

This study resulted in 2049 articles in primary search. After we refined records by title, abstract, and full text, 2001 articles were excluded. Among these, the remaining articles, which had the agreed-upon inclusion criteria (mentioned above), were qualified for final analysis (23 articles).

Quality of articles ranged from low quality, moderate, and high quality, which is shown in Appendix 1. Benefits and challenges of every strategic purchasing experience are stated in Appendix 1. As previously noted, using a framework of WHO for every health system,<sup>3</sup> we categorized benefits and challenges of implementing SP in every health system as follows.

### 1. Effect of strategic purchasing on health systems objectives (Table 1)

#### 1.1. HEALTH

Strategic purchasing is stated to be a key strategy for achieving universal health coverage.<sup>17</sup> In the literature, this strategy seems to be successful. One of the most important fundamental goals of strategic purchasing is to achieve higher quality. In many experiences of implementation of SP, higher quality was achieved.<sup>11,15,17,18,24-30</sup> Due to the nature of strategic purchasing, paying attention to peoples' needs in terms of health is important, and setting peoples' needs-based priorities is essential. Considering this, strategic purchasing can meet unsatisfied peoples' need<sup>18</sup> through an integrated health care delivery system, which is a consequence of a strategic purchasing model.<sup>15</sup> Patients' safety,<sup>27</sup>

less mortality,<sup>28</sup> and performance improvement<sup>31,32</sup> were reported to be the most important advantage of implementation of strategic purchasing for health services.

On the other hand, purchasing is a complicated process that needs high multilevel skills. It is said that complexity and challenges of purchasing could affect quality improvement<sup>31</sup> and, as a result, can reduce benefits for people.<sup>30</sup>

### 1 2. RESPONSIVE TO PEOPLES' NONMEDICAL EXPECTATIONS

In some models of strategic purchasing, a higher satisfaction of customers was reported as a positive outcome of the program.<sup>15,28,31</sup> Also in terms of dignity, in a program using a pro-poor purchasing model, no stigma for the poor was reported, which means the program achieved dignity<sup>18</sup> Improved patient information<sup>18</sup> and elimination of wait lists<sup>15</sup> were among the advantages of strategic purchasing models, which, together, could reach improved responsiveness.<sup>25,32</sup> While failing to cover indirect costs<sup>18</sup> issues about food satisfaction<sup>31</sup> and issues about patient information<sup>27</sup> were among the main disadvantages of strategic purchasing models.

### 1 3. FAIR FINANCIAL CONTRIBUTION

As an important objective of every health system, improving equity,<sup>17,27</sup> including equal health care service quality,<sup>18</sup> affordability of using private

services for the poor,<sup>25</sup> decreased out-of-pocket payments,<sup>17,25</sup> and improved access<sup>17,29</sup> were reported to be delivered in a health system as a result of strategic purchasing implementation. On the other hand, problems in identifying the real poor and needy persons for effective pro-poor purchasing,<sup>18,27,33</sup> extra charges,<sup>24</sup> and issues about allocative efficiency raises issues about equity.<sup>26</sup> Biased risk selection, which means selecting good ones and avoiding bad ones,<sup>27,29</sup> was another challenge. Furthermore, restricted provider entry, which is reported to have the potential to limit access, was another barrier for SP identified.<sup>28</sup> Challenges to identify access to outreach services proved problematic as well.<sup>34</sup>

## 2. Effect of strategic purchasing on functions of a health system (Table 2)

### 2 1. STEWARDSHIP OVERSIGHT

Rational use of medicines,<sup>17</sup> accountability,<sup>18,33</sup> and successful public-private partnerships<sup>18</sup> were reported to be benefits of implementing strategic purchasing of health services. Emphasis was placed on patients' needs,<sup>11</sup> better integration in all three levels of a health system [including macro, meso, and micro levels<sup>35</sup>] and empowering the regional and local authorities to plan for addressing health needs of people instead of just passively conducting operational issues<sup>36</sup> for desirable outcomes of strategic purchasing results in health systems.

**Table 1** Effect of Strategic Purchasing on Objectives of Health Systems

Objectives	Benefits	Challenges
Health	Higher quality <sup>11,15,17,18,24-30</sup> Contracting arrangements set quality standards <sup>18</sup> Setting performance standards and improved performance <sup>31,32</sup> Helps to achieve universal health coverage <sup>17</sup> Satisfying some unmet health-care needs <sup>18</sup> Integration and management of care <sup>15</sup> Improving safety for patients <sup>27</sup> Better outcomes of health; less mortality <sup>28</sup>	Complexity of purchasing may affect quality improvement <sup>31</sup> Reducing in benefits of health <sup>30</sup>
Responsive to people's non-medical expectations	Improved responsiveness <sup>25,32</sup> No stigma for the poor (dignity) <sup>18</sup> Improved patient information <sup>18</sup> Patients satisfaction <sup>15,28,31</sup> Elimination of wait lists <sup>15</sup>	Failed to cover indirect costs <sup>18</sup> Food satisfaction remains challenging <sup>31</sup> Issues about patient information <sup>27</sup>
Fair (financial contribution)	Improving equity <sup>17,27</sup> Equal health care service quality <sup>18</sup> Affordability of using private services for the poor <sup>25</sup> Decrease of out-of-pocket payments <sup>17,25</sup> Improved access <sup>17,29</sup>	Problem to identify the poor for effective pro-poor purchasing <sup>18,27,33</sup> Extra charges <sup>24</sup> Increased employee copayments and deductibles <sup>30</sup> Health insurance premiums shift upward <sup>30</sup> Issues about allocative efficiency raises issues about equity <sup>26</sup> Biased risk selection-selecting good ones and avoiding bad ones <sup>27,29</sup> Restricted provider entry could limit access <sup>28</sup> Access for outreach services is an issue <sup>34</sup>

**Table 2** Effect of Strategic Purchasing on Functions of Health Systems

Functions	Benefits	Challenges
Stewardship (oversight)	<p>Rational use of medicines<sup>17</sup></p> <p>Accountability<sup>18,33</sup></p> <p>Successful public-private partnership<sup>18</sup> Emphasizes on patients' needs<sup>11</sup></p> <p>Better integration in all levels of a health system—macro, meso, and micro<sup>35</sup></p> <p>Enables the regional authorities planning to meet health needs instead of being dominated by operational issues<sup>36</sup></p>	<p>Potentially unlimited patient demand<sup>11</sup></p> <p>Elective demands are difficult to manage<sup>11</sup></p> <p>Innovation was sought and provided<sup>31</sup></p> <p>Missing contractual commitments<sup>24</sup></p> <p>Issues about accountability<sup>26</sup></p> <p>Inclusion of private providers may skim resources away from public facilities<sup>31</sup></p> <p>Lack of integrity inside a health system could prevent assumed efficiency<sup>35</sup></p> <p>Micro purchasing cannot realize the assumed efficiency<sup>35</sup></p> <p>Isolated decisions in micro purchasing can affect presumed efficiency<sup>35</sup></p> <p>Absence of local information on epidemiology, effectiveness and cost-effectiveness<sup>35</sup></p> <p>Political environment is the most fundamental constraint,<sup>35</sup> which can affect efficiency<sup>28</sup></p> <p>Lack of real competition<sup>26,28</sup></p> <p>Unclear relationship with the regional health authorities, which affects contracting practice<sup>26</sup></p> <p>Lack of administrative capacity and ability for government as a monopsony purchaser<sup>28,29,34</sup></p> <p>Lack of desire for change<sup>34</sup></p> <p>Contract specification and monitoring arrangements very time-consuming<sup>26</sup></p>
Creating resources (investment and training)	<p>Providing sufficient resources (11)</p> <p>Saving time and resources by avoiding the repetition of all steps for each purchase<sup>37</sup></p> <p>Incentivize manufacturers or distributors to invest in assets<sup>37</sup></p>	
Delivering services (provision)	<p>Process improvement</p> <p>Simplifying the claims process<sup>17</sup></p> <p>High-quality health care delivery<sup>17</sup></p> <p>Flexibility in purchase quantities and delivery schedules<sup>37</sup></p> <p>Shift away from hospital-based services to primary care<sup>26,34</sup></p> <p>Improves continuity of care across service boundaries<sup>26</sup></p>	<p>High administrative costs<sup>30,31,33</sup></p> <p>Contract specification and monitoring arrangements is organizationally expensive<sup>26</sup></p> <p>Costs of duplicating needs assessment, contract negotiation and service monitoring for every purchaser<sup>26</sup></p> <p>Transaction costs<sup>26</sup></p> <p>Needs high human resources<sup>29</sup></p> <p>Lack of appropriate information for every care which is a barrier to process improvement<sup>33,35,36</sup></p> <p>Issues of allocative efficiency<sup>26</sup></p> <p>Local varieties could affect structure of purchasing<sup>35</sup></p> <p>Attention to acute care instead of primary care<sup>35</sup></p> <p>Monopoly or oligopoly of providers<sup>34</sup></p> <p>Uncertainty and costs of producing bids resulted in few bids from providers<sup>15</sup></p> <p>Small purchasers are at risk<sup>37</sup></p> <p>Updating the benefit package is challenging<sup>27</sup></p> <p>Issues about referral system could prevent efficiency and quality<sup>34</sup></p>
Financing (collecting, pooling and purchasing)	<p>Efficiency<sup>15,17,26-28,33,37</sup></p> <p>Controlling cost inflation<sup>15,17,28-30,32</sup></p> <p>Scale economies<sup>17,24,27,29</sup></p> <p>Significant saving<sup>24,26,30,31,34,37,38</sup></p> <p>Better value for money<sup>11,31</sup></p> <p>Clear need assessment for purchasing<sup>35</sup></p> <p>Shift of the financial risk away from the regional health authorities to providers<sup>26</sup></p> <p>Better reallocation of resources<sup>34</sup></p> <p>Better competition<sup>30</sup></p>	<p>Inability of dropping unprofitable services<sup>11</sup></p> <p>Short supply and limited competition resulted in high bids, particularly outside urban areas<sup>15</sup></p> <p>Significant overhead costs<sup>15</sup></p> <p>Complexity of purchasing may affect its role in effectiveness and costs reduction<sup>31</sup></p> <p>Process of resource allocation within health care is not clear<sup>26</sup></p> <p>Absence of competing purchasers<sup>26</sup></p> <p>Market failure<sup>37</sup></p>















