

# A comprehensive analysis of drug system money map in Islamic Republic of Iran

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## Abstract

This study is the first comprehensive analysis of the money Path of drug system in Islamic Republic of Iran. It has a qualitative methodology applying content analysis to explain and describe drug system monetary path, the studied Population was key informants and experts in the field of finance and insurance, accuracy and robustness of the study was assessed using Guba and linkelen criteria as well. On developing the money map of drug system in Iran, 28 paths have been identified and described completely. It seems that this track description can be the best way in order to identify strengths and problems of the country's drug money system.

Key words: Money path, drug system, Islamic Republic of Iran

## Introduction

The drug industry is strategically important industries in the world and also is directly related to human`s life (1). On the other hand, drug is the most important and most expensive element in the healthy supply chain and more than other elements of the health chain is associated with the management and economics (2).

As evidence of this claim, studies suggest that drug industry has significant turnover in the world and in our country too (1). In this respect, historical review of records about industry's growth process suggests that despite 25 percentage of market share in the manufacture of drugs, that are not completely independent, but the scores of foreign companies, this figure in 1387s, is enhanced to more than 95 percent quantitatively and of approximately 64% in terms of Rial (excluding subsidy) (3). However, it is predicted that in 1404, Iranian drug market value with 360 percent growth is equivalent to \$ 10 billion, numerical volume of pharmaceutical market with growth of 200% is equivalent to 60 billion numbers, and pharmaceutical exports value with growth of 250% is equivalent to \$ 250 million(4).

In the other hand, evidence suggests that in 1387s, the average price of domestically produced drugs was £ 485 average price of imported drugs was £ 5750. Meanwhile, drug capitation in Iran has been estimated about 33 U.S. dollars. While in 2008, drug capitation in the world was \$ 100 averagely (3).

In addition to the monetary and numerical growth of pharmaceutical products, in the categories of drug distribution, Iran has an advanced distribution system includes more than 7,000 pharmacies and 15 drug national wholesaler and many major local seller. In addition, there are more than 800 hospital pharmacies in the country which some of them are also allowed to sell drugs to outpatient (5).

But despite the growth and expansion of the pharmaceutical industry in the production and distribution of

medicines and achieving to self-sufficiency boundary, statistics show that the proportion of paying out of pocket for the drug is still high in our country (6). In such circumstances, it is essential that in allocation of funds to health services, particularly in the pharmaceutical sector, with a major revision attempt to promote credit sources proportion to health from the national income, distribution of the source components be modified, and for the purpose of application, required modification be provided according to the sector needs (7).

While this is one of the most important factors for financing costs of health services in general, and medicine in particular, increasing the level of government financial contribution, and giving attention to its trustee to protect the public interest. Also other cases such as resources, participation of households in financial payments and prepayments thread, and the amount of social services coverage in private health insurance, have particular importance in the financing of these costs.(8)

So due to the importance of medication sector financial management, it is necessary to provide oral explanation of financial transactions in this section, because such a view of the pharmaceutical sector, is underlying the effective policy making in the area of financial management of drug section. In other words, due to the unique features of the pharmaceutical sector in the health system, including the dominance of the economic aspects, there are certain complexities, therefore, any financial involvement in the various components of the drug can cause multiple and sometimes unpredictable effects in other parts of the health system. So having a large and comprehensive view of the financial transactions of the drug is essential to offer interventions and for determining future strategies, moreover, trust in management and economics science, and integrating them with drug industry and trade may be a proper solution to finding the answers to the questions in the manufacturing, distribution and supplying the drugs and creating a new window in the pharmaceutical configuration qualification, more than before. This study is the first comprehensive analysis of the money Path of drug system in Islamic Republic of Iran.

#### Methodology

This study is a qualitative study and has been done using content analysis to explain and describe drug system monetary path, the studied Population was key informants and experts in the field of finance and insurance, that among them, there were 6 experts Of The NHS and Social Security insurance, and 5 cases of financial professionals and Budget Ministry of Health and Medical Education and also 5 Experts from the Food and Drug Administration and they were selected through the purposeful sampling with maximum variation and all selected individuals participated in three special panels.

Data collecting methods were semi-structured interviews. First, a general question regarding the money map of pharmaceutical system were asked to start the interview and due to the answers, interview procedure was conducted. Time and place of the interviews had been reported prior to participants. Length of each panel sessions ranged from 120 to 180 minutes. All interviews were conducted by researchers, recorded and typed word for word, and immediately analyzed were. At the beginning, each interview was read to gain an initial understanding, the important lines were highlighted and connotative codes (researcher interpretations of statements) were used. In the next step, Codes that were conceptually similar were clarified for the meaning of summarizing and were classified as number of categories and sub-categories. . In fact, data analysis was done continuously and simultaneous with data collection. The process of data collection continued until data saturation, it means that the data collected be iteration of previous data and no new information be obtained.

In this study the accuracy and robustness was assessed using Guba and linkelen criteria (9) to ensure reliability, the researcher had close interact and adequate participation with the participants. Revision was conducted by foreign observers and participants and the comments of expert teachers were used. Researchers were evaluated the consistency (stability) of data by measures like review done by experts. Compliance or objectivity was done through the withdrawal of with previous beliefs and prejudices of the researchers. In addition, these findings`

authenticity was approved by participants.

Also in this study, participants were asked to sign the consent for Conscious participation in this study and they were given assurances that all personal information will remain confidential at results publication time, and was emphasized on ability to freely withdraw from the study at any stage due to a lack of willingness to continue cooperation.

#### Results and Discussion

On developing the money map of drug system in Iran, 28 paths have been identified. This map is fully presented elsewhere (10). This study was discussed to describe and explain related 28 branches:

- a) The first track on the money map of Iranian drug system is Indicator of the money that people pay for medicines in private pharmacies. Usually for insurance medications, 30% of the fee is paid by the patient as franchise and the rest by insurance. Otherwise the whole drug costs paid by the public. Drug supply price calculated based on the policies of pharmaceuticals overseeing office and mainly its basis is the total cost and certain profit for the importer, distributor and dealer. Figures for sales of the drug is related to the entire market and the exact number of how much money people pay for medicines in private pharmacies are not reported separately.
- b) The second path represents the cost of drugs paid by the private hospitals; this cost is paid by the patient, along with other hospital expenses. The cost paid by patients (franchise) for drugs covered by insurance, is 10 percent of total price.
- c) The third route is indicating the money is spent by people in public hospitals for treatment, public hospital pay the medical expenses from their general budget and do not receive separate funding for drug, which this leads to waste of resources and reduce the transparency of performance. Meanwhile, the rate of budget and drug use information in hospitals is not available as concentrated.
- d) The fourth path is related to the costs paid by people to state pharmacies. Often subsidized foreign imported medications which approved by specialist and relevant expert, is offered by the state chemist.
- e) The fifth way is special for people paid costs to health care networks. The major drugs in health centers related to the Iranian health care network are free or with a small franchise. In rural insurance scheme, medicine drug list is limited to 193 items. Information of Ministry of Health show that in 2001, essential medicines availability in the PHC system is satisfactorily. And an average of 90% of the drugs was available in the studied centers.
- f) The sixth track was relevant to the insurance premium paid by people to the basis insurance Fund, the figure cannot be calculated accurately due to the insurance funds Scattering, various premiums and as well as absence of separate drug costs in premium payment. However, although the health insurance system in Iran is largely furcated and different insurance gain their resources from different groups of the population, but the list of insurance covered drugs are similar. So as, providing 70 percent of the cost of outpatient prescription drugs and 90 per cent of prescription medicines in hospital and covering more than 80 percent of drugs in official medicine list are considerable performance the insurance. Drug consumers (patients) in addition to paying 30% of drug costs as franchises; pay about 0.3 to 0.5 dollars as the technical pharmacy (Dispensing Fee) that this amount varies based on the price of drugs.
- g) The seventh path represents the insurance contributions from state budgets. Note that according to the principle of insurance organizations, social services and health care insurance organizations, the contribution of drug costs is about 30% of total medical costs, which is a remarkable figure.
- h) The eighth track shows the insurance reimbursement to private pharmacies. 70 percent of costs of drugs covered by insurance organizations are paid to pharmaceutical providers.
- i) The ninth track and also the tenth are related to the insurance reimbursement to hospitals (public and private)

for drug costs. 90 percent of costs of drugs covered by the insurance are paid by insurance organizations to inpatient services providers.

- j) Eleventh path, which specifies the payment by the insurance to the State pharmacy.
- k) The twelfth path show possible payment of insurance to health care networks , which in the current system, insurance agencies do not pay a separate charge for the supplied medicines in health care systems (In fact, these drugs are purchased by Medical Sciences universities and are offered to medical centers).
- l) Routes numbered 13 to 16 show payments of public and private pharmacies and hospitals to the drug distributor companies. Pharmacies and hospitals with a contract start to buy medicines from pharmaceutical distribution companies. Distributor companies supply their required drugs from domestic pharmaceutical companies. . 44 drug produce domestic companies are providing more than 90 percent of the total consumption of drugs in the country (From 9595 million distributed drug units, 8814 million of them are produced in the country). Of 90%, 87.6 is the share of 26 percent government-owned companies and public institutions and 12.4 for 18 private domestic medicines production companies.
- m) Path number 17 shows the potential paying of health care networks to that the drug distributor companies. In the current system, health care networks usually do not deal with companies that produce and distribute the drug, but their required drugs are provided by the University of Medical Sciences.
- n) Path 18 shows medical universities` payments to government hospitals in the pharmaceutical sector, which the university provides the budget for medicines in health centers.
- p) Path 20 determines the money that the Health and Medical Education Ministry assigned to the university. This means that the budget of the Medical Sciences University is provided by Ministry of Health. However, the budget dedication is due to seasonal division and there are no separate rows for the medicines separately.
- q) Track number 21 determines Health budget allocation from the state budget places. Subsidize relevant to the drug has independent rows that in the subsequent track will be analyzes completely.
- r) Twenty-second track shows the payments from the Department of Health to the foreign drugs importing companies. In this regard, the Ministry of Health pays the drug subsidy that is on independent rows to the foreign drug Importer companies.
- s) twenty-third track specifies payment of foreign drug Importer companies to Iranian drug manufacturer. Therefore, the foreign medicine importer company usually buys the drug from a foreign manufacturer at internationally announced prices.
- t) twenty-fourth track shows the money paid by the state pharmacy to foreign drug Importer companies. State pharmacy deals costs to the foreign drug Importer companies according to exclusive supply of specific drugs in specific state pharmacy.
- u) Track number 25 specifies payments from domestic drug production companies to the internally raw material production company. That about 5 to 10 percent of raw material required by domestic producing companies is supplied by domestic companies.
- v) Track number 26 shows payment of domestic drug companies to the production to the foreign raw material producing company. It should be mentioned that, the main raw material required for domestic companies is provided from foreign companies such as Spanish and Indian companies.
- w) Twenty-seventh track indicating payment from foreign consumers to domestic drug manufacturing companies which introduce drugs` export. Now more than 45 million drug exports take place.
- x) The final track or track number 28, determine payment from the Department of Health to the domestic pharmaceutical production companies. Dedicating subsidies to imported drugs due to the drug type and related disease conditions in the country are managed by Food and Drug Administration and are provided to importers. Subsidized medicines consumer price is established and determined by the legal pricing commission, the

consumer price will be calculated of the importer to consumer. Subsidy rate is equal to the difference between the total costs and the sale price minus 13 percent. In cases which the margin is less than 4%, the subsidy is the difference between the selling price and the importer's cost plus 4%.

According to what was presented above, this track description can be the best way in order to identify strengths and problems of the country's drug money system. In this regard, the findings suggest that in the area of drug production and prices, country had been in relatively good condition, So that 95% of the needed drugs are provided by domestic production (11). However, the pharmaceutical manufacturing industries in the world, mainly concentrated in 5 countries are including America, Japan, Germany, France and the UK. So that these countries are the owner of two-thirds of the production drugs values and most of the world pharmaceutical market is in the hands of a few transnational companies and 10 transnational companies are the owner of half the world pharmaceutical market and from 1987 onwards, focus considerably increased. Medicine worldwide transactions from 5 billion dollars in 1980 have been reached to 120 billion in 2000, about 1.8 percent of world trade (12).

In Iran, it is estimated that medicine market is doubling every four years. Despite these favorable conditions, the findings show that there are some problems in the monetary system in the country's pharmaceutical. For example, increasing the share paid out of pocket are the outstanding issues in the field of Medicine. This enhancement is mainly due to the emergence of new expensive drugs, minimal coverage of insurance for imported drugs (except for certain drugs); and induced demand by doctors for expensive new drugs. Irrational Medicine prescribing and use of antibiotics, especially in the area of injection drugs adds to this issue. Therefore, the need of mechanisms for HTA (Health Technology Assessment), including evaluation of cost, effectiveness, cost - benefit and other analyzes to confirm the entry of drugs into the country's health system, is essential. Medicine subsidy controversy and its allocation problem is an important part of the medical system. Allocations of certain subsidies to minority of specific patients and don't considering many other needy patients, make it necessary to review the policy in this field. Overview of the pharmaceutical market in the last decade shows that since 77s, the market value from 1965 billion rials has been reached to 19 thousand rials in 86s. In other words, government subsidies support (excluding local payment) from 60% of the total drug sales in 77s has been dropped to about 12 percent this year. This issue can be one of the reasons of people pay out of pocket enhancement (out of pocket) during this decade. On the other hand, about the inside produced drugs, price reform has not happened to compensate this difference (13).

One of the problems, don't considering the role of research and its required funding in the country's pharmaceutical system. However, this area has focused on industrialized countries and governments and the private pharmaceutical companies that are most important financial resources supplier are approximately equal for research and new drugs discovery. 10 main pharmaceutical companies in the world are allocated between 4 to 17 percent of their sales to research & development (14). In 2001, Farmasya and Straznka companies are allocated 17 percent, and Pfizer 15 percent, of their sales to research & development (15). Pharmaceutical companies are attributed the high cost of drugs to the research. This causes problems such as is ignoring the disease of poor groups of community (neglected diseases). However, research and development for new drugs is usually based on market needs rather than health priorities. Which clearly shows the local research is assisted.

Data related to the WHO's National Health Accounts (NHA), which has the most comprehensive information on medicines management, shows that financial resources spending on drugs is at least one-third higher than other health items. Drugs have allocated 15% of health costs in the global level. According to NHA information in 1386 in Iran, total spent cost for drugs was around 9/1 billion dollars, with this assumption that health budget will be around 8 billion; this proportion is about 20 percent (16). In 2000, the capitation spending for medicines in countries with high-income levels, is about \$ 400 and in low-income countries is about \$ 4. This spending in

our country in 1384, was \$ 20.

However, 90% of the drug purchase in terms of value is conducted by 15 percent of the world population in high-income countries. This trend has intensified in recent years. America's pharmaceutical market share from 18 percent in 1976 has reached to 52 percent in 2000. In low-income countries, medicines purchase share from 3.9 percent in 1985 has been reached to 2.9 percent in 1999, medicines sales share has been reached from 98% to 64% percent (17).

#### **Conclusion:**

The major percentage of drug turnover of drug system is in the public sector, which includes the drug manufacturing companies, insurance companies and the importer. This situation is contrary to the path that is considering in the world. This trend has increased in the 90's. Governments' contribution in investments for the drug sector is declining faster than the state's contribution in health. It is worth mentioning that to create a balance between the demands for drugs in low and middle-income countries and also the role of foreign investment need more important role playing of state sector.

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