Specific Revenue of Iranian Medical Science UniversitiesWithin 2001-2010

[1]S.A. Hasani, [2]M. Abolhalaj, [2]M. Behmaneshnia, [3]P. Bastani,
[2]M. Ramezanian, [2,3]B. Najafi and [3]R. Kalhor

[1]Emergency medicine department, School of Medicine,
Tehran University of Medical Sciences
[2]Performance Monitoring and Budgeting Center, Ministry of Health
and Medical Education, Tehran, Iran
[3]Department of HealthServicesManagement, School of Health Management
and Information Sciences, Tehran University of Medical Sciences, Tehran, Iran

Abstract: The increasing costs and growth of prices in health sector, along with growing demand for health services and limited financial and manpower resources require an increase in productivity and cost control application in these areas. As the specific revenue of the Medical Universities is considered as the main source of revenue funding in the health section, this survey was conducted to present the revenue trendsfrom2001 to 2010 in Iranian University of Medical Sciences. This isadescriptivecross-sectional study in 2011 to evaluate the Universities` revenue. The Research population consisted of all revenue centers in Iranian Medical Universities such that their revenue trend during the years 2001 to 2010 were extracted and analyzed applying Excel software. Results showed that universities revenue growth is low and irregular base. The highest increase in the amount of revenue was occurred in 2004 with 87.8 percent increase comparing the previous year, in contrast, the lowest growth rate was seen in 2009 with 12.5 percent decrease in compare with its last year. Most of this revenue was earned from treatment sectors and health, education and research sectors, respectively were situated next. The revenue of treatment sector was obtained from the bills sent to the insurance organizations.According to the research findings, paying more attention to treatment sector is considered as an effective policy for increasing revenue. Furthermore, planning for specific revenues increase in health, education and medical research sectors should be mentioned as Medical Universities` priority.

Key words: Specific Revenue · Health Cost · Treatment Sector · Iran · University

INTRODUCTION

Health sector is considered as one of the most important servicing sections and a part of development and social welfare indexes [1]. All health systems are the greatest economic parts of the world. According to the statistics, world health care costs include about 8% of total GDP [2]. This is about 5%-10% for most under developing countries like Iran [3].

Complexity of health services has changed the case into a critical condition with high level of costs and growth of prices,daily increase of demands, limitations of financial resources,upgrading the benefits and applying of costs controlling methods [4, 5]. At present, all health

service institutes are facing with a future in which costs are the first considerable subject.Other factors may stand at second level of importance [6, 7].

Hospitalshave a great importance in health and treatment. Due to their wide scope of application, hospitals have received major part of allocated resources of health sector. About 50%-80% of health resources would be applied for hospitals in under-developing countries [5, 8, 9]. Such an important case made all hospitals to face with a lot of financial challenges besides all economic crisis and lack of governmental budget [10].

There are two major income resources for hospitals affiliated with Medical Sciences Universities including general governmental budget and specific revenues [11].

Corresponding Author: R. Kalhor, Center for Budgeting and performance Monitoring, MOHME, Floor 10, Simaye Iran St,
Shahrak-e- ghods, Tehran, Iran. Tel: +98 912-7815893.

Regarding the application of Public Insurance Law, selling services to insured people under the coverage of insuring organizations are major resources of specific revenue as well [6, 12]. We have hundred billion Rls spending for health services yearly throughout the country by insuring organizations by relevant hospitals or directly to the insured people [13]. The mentioned organizations may reduce different amounts under the title of deductions from total requested bills.The deductions caused little satisfaction of contractual hospitals and a great delay in repayment of their credits [14].

High level of insurance deductions is another financial problem of the governmental hospitals. Dehnavieh [15] has stated the total deductions of 3 months against total hospitalization statements of Hashemi Nejad Hospital about 5.11%. It is equal to 9.7% at Firoozgar Hospitalm. In another research (2005), Feiz Hospital had the maximum rate of deductions for a sum of 18.5% [16].

The unbelievable increase of therapeutic costs throughout the world will make all specialists to find new solutions for limiting the mentioned costs [17]. There are a lot of studies for reducing the costs and increasing the income of hospitals with various guidelines [18,19] and by the use of new technologies for registration and documentation of medical documents like PDA and CDSS that may cause a considerable reduction in consuming of medicines and releventcosts [20-21]. Furthermore any establishment of quality management systems and performing of quality upgrading programs may cause an increase in concerned incomes [22, 23]. Finally it has been recommended to modify cost payment system and go towards diagnostic related groups (DRGs) [24, 25].

This paper intends to evaluate the specific revenue process at Iranian Medical Sciences Universities within 2001-2010.

MATERIALS AND METHODS

This is a descriptive study on partial basis in 2011 for considering the situation of revenues at different universities and State's Medical Sciences Faculties. Researchpopulation includes all revenue

centers of universities and medical sciences faculties. The mentioned centers include health, educational and research ones. The number of universities and medical sciences faculties is averagely 42 universities and 510 revenuecenters. Thetrend of specific revenues was extracted from 2001 to 2010 applying Excel software.

RESULTS

Table 1 showed the specific revenue share of health sector against total specific revenue of the country. Specific revenue share of total country out of total state's budget is 5% in 2001 and 2.4% in 2010. Furthermore the specific revenue share of Ministry of Health out of total specific revenue of country increased from 19% in 2001 to 40% in 2010. There is a quantitative growth in specific revenue of universities with a non-harmonized trend per year with highest increase in 2004 with a rate of 87.8% against previous year. The minimum growth rate belongs to 2009 with a specific revenue rate decrease in comparison with previous year and about 12.5%.

Other findings showed that there is a progressive trend in quantitative rate of specific revenue of Ministry of Health from 2001 to 2010 with a non-harmonized growth speed throughout the concerned period. Regarding Table 2 the highest rate of revenues was belonged to therapeutic section and Health and Educational/ Researches Sectors in next steps of revenue acquirements (Table 2).

The most specific revenue place of Medical Sciences Universities was at Therapeutic sector in a way that about 90% of total specific revenue was allocated to this sector in 2001 and about 84% in 2010 as well. There is a reduction in revenue rate at the therapeutic sector in comparison with other sections of Health field. This is a sign of an increase in revenue rate at other parts like Health Education Sector (Table 2).

Figure 1 showed the revenue trend at researches sector at State's Medical Sciences Universities with minimum rate in comparison with other sectors (Therapeutic, Health and Education). But it has an

Table 1: Specific revenue share of ministry of health out of total specific revenue and total budget of the country (Digits in Billion Rials)

Item	Years									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Ministryspecific revenue	4397	5202	6389	12001	17630	22845	30079	34839	30024	36864
Country specific revenue	23112	32988	40468	59090	31978	39026	52376	75637	75768	91433
Country total budget	455978	693302	968261	1184507	1589990	1915105	2316856	2902104	2791829	3684703

Table 2: The Growth trend of approved credits for specific revenue of Ministry of Health Digits in Billion Rials[1])

| Year	Approved	Health	Therapeutic	Education	Researches	Other programs of other chapters	Grand total of special income
2001	Approved	257000	3975000	146727	15720	3000	4397447
2002	Approved	333500	4666193	175685	22700	4000	5202078
2003	Approved	359780	5756230	229435	38860	5000	6389305
2004	Approved	336920	11300500	266380	91021	6000	12000821
2005	Approved	15200	16939759	571946	102840	0	17629745
2006	Approved	498642	21795208	416707	134756	0	22845313
2007	Approved	3256358	26329722	401367	91575	0	30079022
2008	Approved	4108900	29063898	1049421	116575	150	34338944
2009	Approved	3697363	25541813	694012	90485	0	30023673
2010	Approved	4327382	30989782	1434928	112275	1	36864368
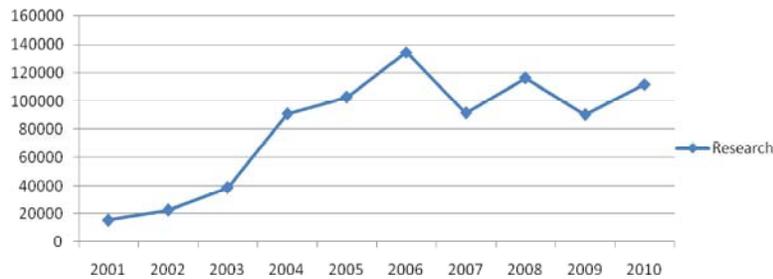
Fig. 1: The growth trend of specific revenue at Researches sector within 2001-2010(Digits in Million Rls)
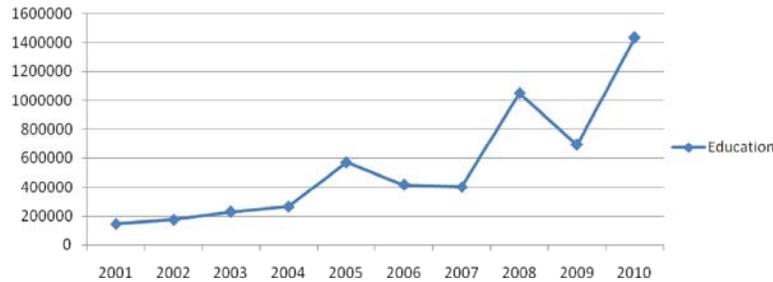

Fig. 2: The growth trend of specific revenue at education sector within 2001-2010 (Digits in Million Rls)
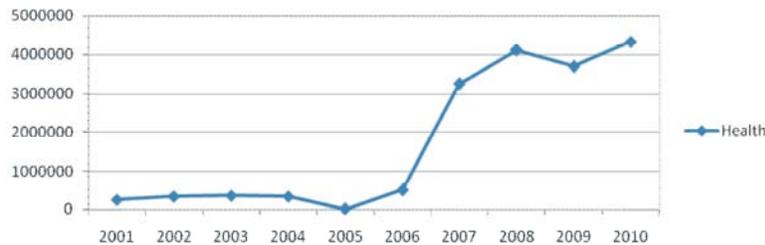

Fig. 3: The growth trend of specific revenue at health sector within years 2001-2010(Digits in million Rls)

upgrading growth as well. According to the mentioned figure, the highest rate of revenue out of any researches at State's Medical Sciences Universities was in 2006 with a sum of 13475 million Rls.

Revenue rate out of education at State's Medical Sciences Universities is located after Therapeutic and Health sections. The revenue rate of education sector has a natural increasing trend within recent years but there is a reduction in comparison with other parts of revenue within recent years. (Figures 2)

Health sector was one of the sections with a considerable growth in revenue rate within recent years. It is in a way that health sector share in specific revenue rate was 6% of total revenues of all Medical Sciences Universities at the beginning of concerned period but it has increased within last 3 years of study up to 12% of total revenues of the university. (Figures 3).

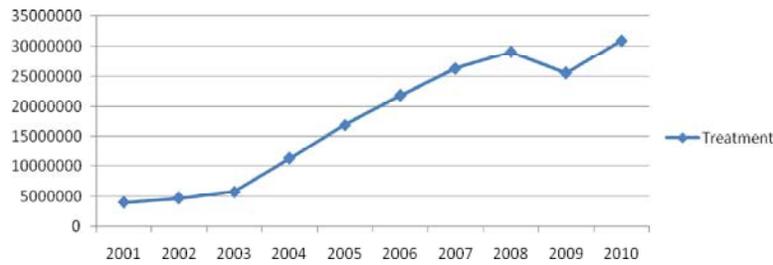[1] The reference rate for each US dollar was 12260 Rls in Nov 2012.

Fig. 4: The growth trend of specific revenues at therapeutic sector within 2001-2010 (Digits in Million Rls.)

According to the findings, any obtained revenues out of therapeutic has the highest rate of revenue at State's Medical Sciences Universities except for first 3 years of the study with a harmonized growth trend. But the revenue share of therapeutic sector in recent 5 years has a falling trend in comparison with other revenue sectors (Health, Education and researches sectors). (Figure4)

Other findings show that the major revenue resources of universities are therapeutic sector and hospitals.The mentioned revenues of these two sectors are supplied out of sent statements for contractual parties.

DISCUSSION

Findings of this research have showed that specific revenue rate of Health section from total specific revenue in 2001 was about 19% which has been reached to 40% in 2010 as well. Of course the highest rate of which is in 2006 and about 58.5% from total specific revenue rates. The real reason of such an income has been increased in 2005 with fixed rate of total specific revenue. Furthermore there was a little growth rate in total budget of country within these years.

There is not a special growth in specific revenue rate of Health Sector to total budget within these 10 years. It has a harmonized trend in a way that it has reached from 0.96% in 2001 to 1% in 2010. The highest rate of which is related to the year 2007 which is about 1.2%out of total budget. The interesting point is a reduction in specific revenue rate of total country against total budget which has been reached from 5% in 2001 to 2.4% in 2010 which is in itself a sign of low growth in specific total revenue in concerned years.

The share of Health Sector from total specific revenues of Medical Sciences Universities has reached from 2% in 2006 to 11% in 2007 and also 12% in 2010. This is due to the performance of Rural Family Doctor Plan in 2007 and further considerable increase in the share of health sector and specific revenue obtain.

Such a revenue rate is permanent up to 2010. Regarding the continuation of family doctor program and suitable potentials of health sector for increasing the specific revenue, this sector is able to change into a place for increasing of specific revenue rate of Medical Sciences Universities in future years.

The growth trend of revenue at 4 sectors of therapeutic, health, education and researchers had an upgrading trends but the gradient of such an increase was more in therapeutic and health sectors. The increase trend of specific revenue rate in these 2 sections was quicker than the others. About 96% of specific revenue of Medical Sciences Universities are supplied from 2 sectors of therapeutic and health accordingly.

Since 85% of specific revenue of Medical Sciences Universities has been allocated for therapeutic sector, therefore special pay attention to this part may have great effects in sustainability of incomes. This is necessary to mention that major parts of revenues at therapeutic section are hospitals and therapeutic centers under the coverage of Medical Sciences Universities. As a result, paying attention to income mechanism of hospitals and analysis of all involved factors in increase / decrease of these incomes are important for any further increase in specific revenue.

There are two major resources in affiliated hospitals meaning medical sciences and health therapeutic services which may play the role of financial supply for satisfying current costs of mentioned hospitals. One of the obtained incomes out of general budget of government at governmental hospitals are the mentioned incomes for supplying of salary costs and personnel allowances. The other specific revenue includes cash amounts received from free patients and cash franchise received from other patients under the coverage of different insurance organizations and also any income out of presented insurance services to the patients received from different insurances in the form of therapeutic tariffs. There is a specific revenue margin specified in general budget law of country for Medical Sciences Universities.

Since more than 80% of specific revenue of affiliated hospitals of Medical Sciences Universities is supplied by insuring organizations, therefore suitable performance of insuring organizations is really important through on time payment of hospitals credits. Also any reduction in deductions through presented training to all personnel has a great role in calculation of specific revenue of the hospitals and increasing the specific revenue as well. Therefore budget office and inspection any operation of Ministry of Health through establishment a special group work of income and proposing different programs in domestic and outside organizational dimensions may lead to a reduction in deductions of university hospitals and of course an increase in the incomes of mentioned hospitals accordingly.

ACKNOWLEDGEMENT

REFERENCES

1. suring health system performance. European Journal of Health Economics, 3: 145-8.
2. Coelli, T.J., D.S.P. Rao and G.E. Battese, 2003. An introduction to efficiency and productivity analysis. Kluwer Academic Publisher, Boston.
3. The world Health Report, 2000. improving performance (2000). WHO. Geneva, pp: 37-13.
4. Witter, S., 2004. Health economics for developing countriesa practical guide. Translation by Abolghasem Pourreza-Management and Planning teaching and Research Institution, Tehran.
5. Askari, R., H.R. M.A. Dehghan Bahrami and F.A. Keshmiri, 2011. Survey in causes and rates of under reimbursement bills imposed on admitted patient's under social security insurance in medical teaching hospitals in Yazd province in 2008. Journal of hospital, 9(3,4): 7-8. [Persian].
6. Khalesi, N., M.R. Gohari, S. Vatankhah and Z. Abbasimani, 2011. The effect of employee on training on insurance deduction rate at firoozgar teaching hospital: 2008-2009. Journal of Health Administration, 13(43). [Persian].
7. Vatankhah, S., 1999. The Comparative Survey of Medical Insurance Financing Methods in Industrial Countries and Give Model. [Ph.D. Thesis]. Tehran: Azad University. [Persian].
8. Donaldas, S.H., 2002. Hospital costs Analysis: A guide formanagers. Translated Abolghasem Pourreza. Tehran: The Research Institution of social security organization.
9. Vatankhah, S., 1995. A study on the social security organization treatment managers attitude about some problems of medical services insurance [Msc Thesis]. Iran University of Medical Sciences, Tehran, Iran. [Persian].
10. Moslehi, S.H., 2008. Efficiency of public hospitals in Fars Province by data envelopment analysis (DEA) method in the first and second 6 months of 2005-2006 [M.Sc thesis]. Shiraz university of Medical Sciences, faculty of HealthServices Administration and Medical Informatics. [Persian].
11. Ministry of Health and Medical Education, 2011. Health sector proportions in 2011. 1st ed. Pendarenik press [Persian].
12. Fatehi Peikani, A., 2000. A study of causes and rate of deductionimposed with social security insurance on the submittedbills of sina and firouzabadi hospitals in 1999 [M.Sc Thesis]. faculty of health administration and medical informatics. Iranuniversity of medical sciences. [Persian].
13. Mohamad-Nejhad, Gh, 1999. The Comparative Survey of Payment Systems of Hospital Bills by Insurer Organizationsin Selective Countries and Give Suitable Model For [PhD. Thesis] Tehran: Azad University; Iran. [Persian].
14. Shakiba, A., 2002. The survey of Infraction Rate of MedicalService Insurance Organisation. Abstract of Papers forNational Congress of Resource Management in Hospital. Tehran: Emam Hosein Publication. [Persian].
15. Dehnaviyah, R., M. Haji Zadeh and B. Najafi, 2004. A survey onthe causes and rate of insurance deduction bills withIranian medical services insurance organization oninpatients' bills in Hasheminejhad and Firoozgarhospitals. Special scientific journal of healthservices universal insurance, 25(8): 42-57. [Persian].

16. Tavakoli, N., S. Sqayyan Nezhad, M.R. Rezayatmand, F. Moshaveri and I. Qaderi, 2006. Documenting medical recordsand insurance deduction of Iranian medical servicesinsurance organization. Journal of health information management, 3(2): 28-36. [Persian].

17. Maleki, M., 1995. The Estimate of Medical Costs for Insured People in SOS by Studding Private Medical Units andCompare With Approved Tariff [PhD Thesis]. Tehran: Azad University; Iran. [Persian].

18. Yaghoubi, M., S. Saghaian Nejad, H.A. Gorji, M. Norozi and F. Rezaie, 2009. Organizational Justice, Job Satisfaction and OrganizationalCommitment in the Hospital Staffs; Medical University of Isfahan (MUI). Journal of Health Administration, 12(35): 25-32. [Persian].

19. Nokojima, H., 1991. Hospital and Health in the Twenty FirstCentury World Hospital. The Official Journal of IHF, 27(3): 14-18.

20. Howard, W., 2004. Respiratory care billing using a personal digital assistant. Respiratory Care, 49(11): 1339-48.

21. Helmons, P.J., R.J. Grouls, A.N. Roos, A.J. Bindels, S.J. Wessels-Basten and E.W. Ackerman, 2010. Using a clinical decision support system to determine the quality of antimicrobial dosing in intensive care patients with renal insufficiency. QualSaf Health Care, 19(1): 22-6.

22. Blane, C.E., N.R. Dunnick, L.A. Cotton and P.N. Cascade, 2001. Continuous quality improvement process to track lost radiographs and reduce losses. Can Assoc Radio J., 52(6): 373-8.

23. Sprtel SJand, J.A. Zlabek, 2005. Does the use of standardized history and physical forms improve billable income and resident physician awareness of billing codes? South Med. J., 98(5): 524-7.

24. Kluwer, W.A., 2008. Complete guide to documentation. 2nd Ed. Philadelphia, PA: Lippincott Williams and Wilkins.

25. Abdolhak, M., 2008. Health information: management of a strategic resource. Philadelphia, PA: W.B. Saunders Co.