



## The Role of Family Physician in Case Finding, Referral, and Insurance Coverage in the Rural Areas

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(Received 23 Feb 2011; accepted 16 Aug 2011)

### Abstract

**Background:** WHO suggest that family physician is the core in the world efforts for quality improvement, cost effectiveness, and equity in the health care systems. This study evaluates the impact of the program on accessibility of the services, case finding, patient referral, feedback process and insurance coverage in the rural health units.

**Methods:** This study was quasi experimental. It compared the function of four health centers and eight health houses in the last three months of year 2004 with 2008. Data extracted from the available documents in the health units. Descriptive and analytical analysis was performed by using SPSS software.

**Results:** The presence of physicians in health centers were 75 and 100 percent for 2004 and 2008 respectively, this rate for midwives were 50 and 100 percent for the same years respectively. The total referral cases to the hospitals were 2676, the feedback rate was recorded in 36% of the cases. In this case the follow up rate by physicians was 0% in 2004 and 3.17% in 2008. Insurance coverage rate was 27% and 97% for 2004 and 2008 respectively within a meaningful *P* value range at 95% CI.

**Conclusion:** The findings of this study show that the family physician program has the positive impact on function of health units in terms of availability of physicians and midwives and also insurance coverage at health centers in rural area, No impact on patient follow up and case referral rate was detected.

**Keywords:** Family physician, Case finding, Referral system, Iran

### Introduction

Primary Health Care was the essential element of health for all until 2000 in the world but after two decades deviated from its preliminary goals toward disease control and health financial reform etc. Again, 10 yr later, PHC came back toward preliminary aims. A preliminary result of a large literature review shows that many people declare that PHC is necessary for development (1, 2).

Today in Iran PHC is delivered by family physician team in the rural areas and urban areas with less than 20000 population. Family physician is a kind of medical specialty which is family oriented or a kind of health care that is based on family from first contact to continuous care for chronic problems (from prevention to rehabilitation) (3). Family physicians deliver coordinated health services for people and their families. In addition, they are active in case finding, treatment, and prevention of disabilities (4).

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## Materials and Methods

This study was a before and after study. Sample size was 12 that consisted of four health centers and two health houses from each center that randomly selected from health units under family physician program coverage in Sanandaj district in the west of Iran. A questionnaire designed and data collected for years 2004 (before family physician program) and 2008 (after family physician program) from available documents (logbooks and folders) in the health units. At last, data analysis was done by using SPSS software.

## Results

In the winter of 2008 (3-month period) all centers in the study had full-time physicians but in

2004 this rate was 75%, this shows improvement in accessibility to the physician.

In the winter of 2008, (3-month period) 21597 patients were visited by physicians that 2676 cases (12.3%) need to be referred to the hospital. Health centers received 963 feedbacks from hospitals (36%), and physician followed 85 referred cases (3.17%). However, there was no data in the documents for the year 2004.

In the winter of 2008 (3-month period) all the centers in the study had full-time midwives but in 2004 this rate was 50 %, case finding was 246 in 2008 and 189 in 2004, that from the point of statistics was meaningless. Referral cases from health houses to health centers in 2008 were 1323 and in 2004 were 403 and there was no difference between two years.

The number of feedback cases to the health houses was 604 in 2008 and 19 in 2004 that there was no difference between two years. The number of monitored health houses by physicians in 2008 was 28 and in 2004 were 10 that it was meaningless in addition, Insurance coverage data was shown in Table 1.

According to these data in the villages in our study, 3502 people were covered by insurance system in 2004 and 11811 in 2008b, 28.3% and 97.5% respectively ( $P=0.001$ ).

**Table 1:** Insurance coverage according to different insurance cashes

Cash	Rural	Medical Services Organization	Social Security Organization	Imam Khomeini Committee	Armed Forces	Others	All
2004	0	197	1218	1637	72	378	3502
2008	10353	225	1161	20	40	12	11811

## Discussion

Accessibility to the health services was improved in 2008 in comparison to 2004. This means that all the centers in our study had full time physicians and midwives in 2008 but as mentioned before this rate was 75 and 50 percents for physician and midwives respectively in 2004.

This issue is very important because the health teams that deliver health services in rural areas in Iran consist of physician and midwife and accessibility to theses persons is a key to improve the health status of people.

Number of patients that referred to the health centers in 2004 was 409 that in comparison to 2008 (1323 cases) was different but was mean-

ingless. In addition, a feedback from physicians to health houses in 2008 was more than 2004 (364 versus 19) but it was meaningless (5).

In the winter of 2008, 21597 patients were visited by the physicians and 2676 of them were referred to the hospitals (12.3%), besides 963 cases had feedbacks (35.99%). In the protocol of the family physician program all referred cases should receive feedback because this is very important for the management and treatment of patients and 36% feedback is not plausible (5). Although comparison with data in 2004 is impossible but 36% feedback rate shows impairment in the referral system. In addition, another weakness in the system is that follow up rate by physician in 2008 was very low (3.17%).

One study in Lithuania showed that referral rate for specialty care by family physicians in rural areas was low (6). Another study in Tajikistan showed that there are barriers for PHC use and it can be solved by shifting health financing to health sectors, family physician program etc.

This study and other related studies show that although family physician program had a positive effect on the health services accessibility and the insurance coverage but it had no effect on case finding, follow up and referral process. Here are some solutions:

Physician working in Iran PHC system are GP that have not been trained as family physician and we think that it is very important that we train family physician to work in PHC system. In other countries, it had very good results (7-11).

At the end, according to the findings our suggestions are as follow: Training of physicians as family physician or considering short courses for GPs based on monitoring and management, Information for specialists about referral system and their cooperation, implementation of powerful monitoring system at province and district level, improvement of referral system and follow up, data gathering.

A limitation of the stud was lack of accessibility to some data in 1994 because of lack of documents in that year.

## Ethical Considerations

Ethical issues including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc. have been completely observed by the authors.

## Acknowledgements

The financial source of this study was from Kurdistan Medical University. The authors declare that there is no conflict of interests.

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