



TURKEY

Performance-Based Contracting Scheme in Family Medicine – Design and Achievements

February 15, 2013

Human Development Sector Unit
Europe and Central Asia Region



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Acronyms

ANC	Antenatal Care
BCG	Bacille Calmette-Guerin
CHC	Community Health Center
CRMS	Core Resource Management System
CVD	Cardiovascular Disease
DHS	Demographic and Health Survey
DPT	Diphtheria, Pertussis and Tetanus
FM	Family Medicine
FMIS	Family Medicine Information System
FMP	Family Medicine Practice
HepB	Hepatitis B
Hib3	Haemophilus Influenza type b
HTP	Health Transformation Program
IMR	Infant Mortality Rate
M&E	Monitoring and Evaluation
MCH	Maternal and Child Health
MDG	Millennium Development Goals
MoH	Ministry of Health
NCD	Non-Communicable Disease
OECD	Organization for Economic Cooperation and Development
PBC	Performance Based Contracting
PHD	Provincial Health Directorate
Pol3	Third dose of Polio Vaccine
SSI	Social Security Institution
TL	Turkish Lira
WDI	World Development Indicators
WHO	World Health Organization

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Executive Summary

1. Prior to 2003, health outcomes in Turkey, including Maternal and Child Health (MCH) outcomes lagged behind the OECD and middle income comparators. Rural-urban and regional disparities meant that some provinces lagged even further behind. A number of health systems concerns underlay this situation. Access to primary health services, driven in large part by disparities in the distribution of health personnel, varied considerably. Delivery of care was fragmented and continuity of care limited creating service delivery inefficiencies. A combination of low salaries and a lack of performance incentives prompted staff absenteeism and public perceptions of poor quality at primary care facilities fueled dissatisfaction and patients by-passed primary care facilities to access care at hospitals instead.
2. These concerns set the stage for the Turkish Ministry of Health's wide-ranging reform agenda to improve access, efficiency and quality in the Turkish health sector through the Health Transformation Program (HTP). A key element of the MoH's response was the reform of primary care through the creation of a new primary care specialty and service delivery approach, bringing family physician salaries up to and exceeding those of specialists, promoting the use of clinical guidelines, implementing well-functioning health information and decision support systems and designing properly aligned financial incentives. This model of primary care, the family medicine program was initially introduced as a pilot in 2005, but now operates nationwide. Here, individual doctors and other clinical staff are contracted using performance based contracts. Under this contracting mechanism, up to 20 percent of the providers' payments are withheld if performance targets for Maternal and Child Health (MCH) including vaccinations are not met. It covers 72.0 million people (as of December 31, 2011) and includes a total of 20,243 FM doctors and 20,243 FM health personnel who work in 6,463 Family Health Centers in 81 provinces.
3. Although this innovative performance based contracting scheme is drawing increasing attention internationally, there is limited information on the mechanics of the scheme. Further there is no systematic review of its achievements. This report

seeks to fill this gap by:

- Describing the scheme
- Assessing whether the scheme's design, institutional, and monitoring & evaluation and verification arrangements are (i) aligned to reform priorities at the time, and (ii) facilitate the functioning of the Performance Based Contracting scheme
- Analyzing results achieved

Finally, the report seeks to identify potential areas and options for further refining the Family Medicine Performance Based Contracting scheme to meet outstanding current and future challenges.

How Does it Work?

4. Under the Performance Based Contracting Scheme, the Provincial Health Directorate¹ in each province enters into performance-based contracts with individual doctors and other FM staff to deliver an integrated package of preventive, promotive and curative services to the population registered to them. Family Medicine doctors are also contractually responsible for managing health facilities and meeting service standards. Providers are paid monthly and a capitation formula, which assigns higher payments weights to pregnant women and children, is used to calculate providers' base payments. In addition, a 'service fee', or monthly location bonus payment – which can be as high as 40 percent of the base payment -- is offered to providers who work in under-served areas. Further doctors receive additional payments and reimbursements to cover health facility operating costs, including for delivering mobile health services.
5. Here, providers risk up to 20 percent of their base salary for failing to meet performance

targets i.e., if immunization, antenatal care and follow-up of registered babies and children drops below 99 percent among their registered population. Performance is assessed on a sliding scale for each FM unit as a whole and applied to individual unit FM staff. Contracts could even be terminated for poor performance, though this rarely appears to be the case. In addition, a system of warning or admonition points for violations of service delivery governance conditions, structural measures of quality and even for failure to meet MCH service coverage targets is also included in the contract. Compliance with governance and quality service delivery conditions is assessed at least once every 6 months through facility visits by the staff of the Community Health Centers. In addition, Family Medicine doctors are randomly selected for audit each month and service delivery is verified for a 10 percent sample of the users of their services.

6. Two information systems, the Family Medicine Information System and the Core Resource Management System (CRMS) are the informational pivot on which the PBC scheme functions. Payments for each provider are calculated using data in the FMIS and CRMS. The FMIS includes comprehensive electronic patient records and offer providers decision-support features to help with patient management and follow-up. It is also a source of performance management and oversight data for the PHD and MOH.

Appropriateness of the Design, and Institutional and Verification & Monitoring Arrangements

7. The design of the Performance Based Contracting scheme is well-aligned to the main identified priorities for reform, and the implementation arrangements appear to facilitate its effective functioning.

¹ With the Decree Law dated November 3, 2011, the Ministry of Health has been restructured; and the provincial unit has been divided into three as: Provincial Health Directorate, Provincial Public Health Directorate and Provincial Public Hospitals Union General Secretariat. This study reflects the organization structure before the restructuring.

8. Incentives introduced under the scheme focus on key priority areas. Contracted providers are incentivized to focus on Maternal and Child Health (MCH) including immunizations, a key health sector priority under MDG 4 and 5, through three main performance levers:
- up to 20 percent of base salary payments are 'at risk' conditional on meeting MCH coverage targets. This is arguably substantial enough to motivate providers.
 - provider contracts could potentially be terminated for repeated failure to meet MCH performance targets.
 - the capitation formula assigns the highest payment weights to pregnant women and children under five, therefore creating incentives to enroll people in these groups.
9. Disparities in the distribution of health personnel across the country have declined since the scheme was introduced. Although the scheme penalizes providers for poor performance – rather than offering bonuses for good performance – it does not appear to have deterred voluntary participation. In fact, the distribution of health personnel under the program has improved since the scheme was implemented. Large overall increases in pay as well as incentives for working in rural areas under the FM scheme may help to explain this.
10. Admonition points and institutional arrangements foster improved accountability. The admonition points and performance points (salary deductions) systems hold providers formally accountable to provincial authorities for service delivery quality and governance and for their MCH performance. Separation of purchaser and provider and delegating contract management to the provincial level has helped to create a more manageable span of control and to hold providers accountable to provincial managers.
11. Incentives encourage health service user-centeredness. In addition, the capitation mechanism incentivizes providers to be responsive to the users of health services since payments are based on enrollments and the population has the option of voting with their feet and changing providers. The scheme also includes a toll-free national hotline. By all accounts, complaints made on this hotline are taken seriously and investigated independently of providers.
12. The scheme encourages coordination of care. The Family Medicine model, by its design, emphasizes integrated delivery of preventive, promotive and curative primary care services. The PBC scheme assesses performance for the FM unit as a whole, rather than for individual providers which incentivize FM providers in a unit to collaborate to improve MCH coverage and quality.
13. Information systems support timely reporting and verification mechanisms keep performance reporting honest. The FMIS facilitates providers' management and patient follow-up and makes performance data available in real time without making onerous demands on providers. It also greatly facilitates Provincial Health Directorates' oversight of performance and improves the transparency of the system by allowing providers to view their payments enabling them to lodge an appeal if necessary. Provider self-report of performance is verified through a system of random audit of a sub-sample of users by the CHC. Sanctions for falsifying data include contract termination and audits help to keep performance reporting honest while facilitating rapid performance assessments for monthly payments.

Achieving Results

14. Turkey's experience of successfully strengthening primary care over a period of less than 10 years has yielded significant results. Provider performance has improved, as have health outcomes. This has been achieved through a carefully designed combination of measures including properly aligned financial incentives.

Using incentives and performance targets to focus provider efforts and hold them accountable, through the family medicine performance based contracting scheme reinforced this strategy. As a result Turkey has seen considerable improvements in immunization and antenatal care coverage, postnatal care coverage, infant follow-up, utilization of primary care services, distribution of health personnel, and patient and provider satisfaction.

15. Improving maternal and child health was the overarching policy objective driving both the HTP as a whole and the FM PBC scheme specifically. Infant mortality rates and immunization and service coverage have improved considerably since the introduction of the FM PBC scheme. Infant mortality fell from 28.5 per 1,000 live births in 2003 to 10.1 per 1,000 in 2010. Average national immunization coverage rates rose from 70 percent in 2003 to 97 percent in 2010.
16. Analyses of trends in outpatient visits per capita to primary care facilities show that utilization of primary care facilities increased substantially and was significantly higher at 2.9 visits per capita in FM provinces than in non-FM provinces which had 2.1 visits per capita on average. A fixed effects regression controlling for both province and year shows that the introduction of FM was associated with a 14 percent increase in per capita consultations. This may reflect improvements in access, and also possibly, perceived improvements in quality that prompt users who would otherwise have visited hospitals to use their family medicine provider instead.
17. Significant improvements are also evident in the distribution of health personnel, a key constraint to improving access to care. In fact, as a result of increases in base salaries of family medicine providers and incentives to work in rural areas, the gap between the highest and lowest provinces fell from 0.6 general practitioners per 1,000 population in 2007 to 0.36 per 1,000 population by 2010.

18. Finally, both patient satisfaction and provider satisfaction improved over time. Surveys conducted in 2008 and 2011, show patient satisfaction with primary care services improving as provinces join family medicine system. Further, in terms of provider satisfaction, job satisfaction, motivation and commitment is seen to be highest among family medicine providers compared with other health professionals in Turkey.

The Way Forward

19. Moving forward, the study recommends that as progress is made towards the original challenges that framed the Performance Based Contracting scheme in Family Medicine, incentives should be aligned to the most important current challenges. There is also scope for fine-tuning the institutional arrangements for implementation. Generally speaking, an elaborate and functioning monitoring and evaluation system is in place to form the basis for performance-based payments. It has shown to be effective in preventing doctors from gaming the system as well as improving accountability of FM providers. However, there are still a few areas in which it is desirable to further strengthen the system. These include:
 20. *Re-orienting performance contracts to include quality of care indicators:* The quality improvement program in primary health care is already ongoing. As providers now performs very well with regard to existing MCH indicators, this study recommends that it may be time to include quality of MCH indicators in performance contracts, with a focus on clinical processes to support the ongoing quality improvement efforts. For example, quality indicators related to clinical processes in antenatal care that could be included in performance contracts:
 - pregnant women screened for hypertension in each antenatal visit

- pregnant women screened for proteinuria in each antenatal visit
- pregnant women screened for glycosuria in each antenatal visit
- pregnant women given a hemoglobin test in the first trimester
- pregnant women given a platelet count in the third trimester

Computerized medical records are being used to monitor some of these indicators, especially those related to proteinuria screening and hemoglobin tests at the facility level. It should be noted however, that for payment purposes, measuring quality of care is more complex than measuring quantity of care but it could be the natural next step.

21. *Re-orienting performance indicators to address NCDs:* Given the increasing burden of non-communicable diseases, Turkey rightly plans to implement positive incentives for FM providers in the prevention control of non-communicable diseases (NCDs). Care however should be taken to continue to maintain the simplicity of the system. Potential performance indicators could be:

- Screening adults for common cardiovascular risks (hypertension, high cholesterol, obesity)
- Successful management of NCDs (control of blood pressure in hypertensive patients, control of blood sugar in diabetic patients (HbA1c or glycosylated hemoglobin test))
- Screening of common cancers

22. With regards to the introduction of the new indicators, the MOH has the option to either:

- Retire those performance indicators where targets have been achieved and introduce new indicators that are focused

on outstanding challenges,

- Add new performance indicators and retire the original performance indicators in a phased manner, or
- Introduce new indicators while retaining the original indicators and weight these indicators differentially so that a larger portion of payment is linked to the most important policy concern.

Each option holds different risks and benefits. Retiring indicators carries the risk that providers will redirect their efforts away in favor of the new incentives. Increasing the number of performance indicators could potentially increase administrative burden. It is therefore prudent to introduce new indicators on a pilot basis with careful evaluation prior to scaling up.

23. *A need for combined demand side focus to reach the 'last mile':* Given the current high level of achievements, reaching the 'last mile' in improving MCH coverage could necessitate a demand-side focus to overcome constraints that especially hard-to-reach health service users face in obtaining such services. In this context, leveraging the benefits of existing demand-side schemes such as the conditional cash transfers² may further amplify family medicine providers' ability to improve coverage. In addition, such interventions could have an important role in the control of NCD risk factors such as obesity, smoking, hypertension and high cholesterol.

24. *Standardizing monitoring of FM providers:* Significant variations among provinces were found to exist in the procedures to monitor FM providers and verify their results for payments during the conduct of the study. Recognizing the importance of standardization, the Ministry of Health has recently introduced standardized monitoring forms and guidelines for its use.

25. *Introducing constructive feedback*

² The conditional cash transfer scheme offers the poorest women a monthly allowance of 17 TL on condition that they continue their required health check-ups during pregnancy and infant check-ups after birth, and an additional 35 TL for giving birth in a health facility.

mechanisms to and from FM providers at the local level to improve performance:

While annual meetings are held between MoH and Family Practitioners Association to resolve issues and grievances, currently, no standard guidelines on feedbacks between providers and provincial health departments exist. Standardizing these strategies across provinces could make an important contribution to further improving the performance of Family Medicine providers.

26. *Improving use of existing peer to peer learning networks for quality improvement:*

Peer-to-peer learning networks for quality improvement are used as a provider-driven tool to improve quality in many health care

settings. Turkey has taken advantage of the availability of good internet connectivity in most provinces which presents a cheap and potentially effective option and has created internet-based “open platform” for peer to peer learning. This can be a good mechanism for training forums and other modes of peer to peer learning.

27. *Conducting rigorous impact evaluations of new incentives:*

Now that the original scheme has been applied nationwide and the MOH plans to introduce new additions to the scheme in the form of positive incentives for prevention and control of NCDs, it is important that a rigorous impact evaluation is envisioned from the very beginning so that the future success of such changes in the PBC can be confirmed with solid evidence.

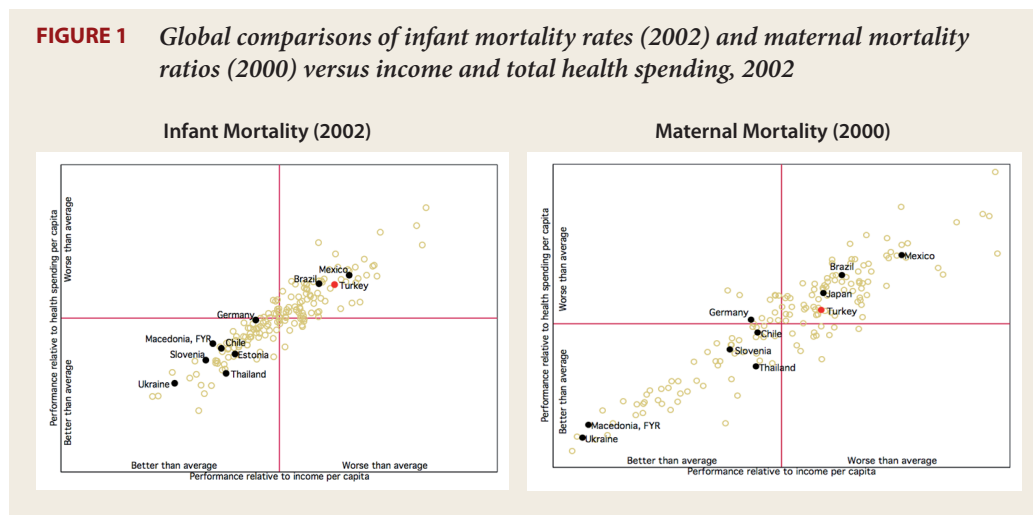
Introduction

1. Prior to 2003, health outcomes in Turkey, including maternal and child health outcomes, lagged behind those of OECD countries and of those in other middle income countries. In 2002, the infant mortality rate was 28.5 deaths per 1000 live births compared to the OECD average of 5 deaths per 1000 live births. Life expectancy at 71.9 years was significantly lower than the OECD average of 78.6 years. The maternal mortality ratio in 2000 was more than 5 times the OECD average: 61 deaths per 100,000 live births in Turkey compared to the OECD average of 11.8 deaths per 100,000 live births. For its health spending and income

levels, Turkey performed below average with respect to infant and maternal mortality relative to other countries with similar per capita income and health spending (Figure 1).

2. Furthermore, within Turkey there were clear regional and rural-urban disparities. In 2003, the infant mortality rate (IMR) was 70 percent higher in rural areas than in urban areas (39 and 23 deaths per 1,000 live births, respectively) (Table 1). Large regional disparities persisted with infant mortality rates being higher than the national average of 29 deaths per 1000 live births in the North and East regions. Istanbul had the lowest rate (19 per 1000 live births)

FIGURE 1 Global comparisons of infant mortality rates (2002) and maternal mortality ratios (2000) versus income and total health spending, 2002



Source: World Development Indicators and WHO, 2011

Note: Both axes log scale

TABLE 1 Infant mortality rates per 1,000 live births, 2003

	Infant mortality rate
Residence	
Urban	23
Rural	39
Region	
West	22
South	29
Central	21
North	34
East	41
Selected NUTS 1 Regions	
Istanbul	19
Southeast Anatolia	38

Source: Turkey DHS, 2003

while Southeast Anatolia had the highest (38 per 1000 live births) (Turkey DHS, 2003).

3. National coverage rates for immunization rates masked significant variation across provinces. In 2003, the national coverage rate was around 70 percent for BCG (Bacille Calmette-Guerin), DPT3 (Diphtheria, Pertussis and Tetanus), measles, and HepB3 (Hepatitis B3) vaccines (Table 2). In Şırnak province, coverage rates were as low as 29 percent for BCG and 31 percent for measles. In comparison, Tekirdağ and Gaziantep provinces had 100 percent coverage rates for BCG, while

Ankara and Tekirdağ had the highest coverage rates for measles (88 percent).

4. Health service utilization was low. The average number of visits per capita to primary care facilities was 0.9 visits in 2002 (MoH, 2011c). Over 18 percent of women did not seek antenatal care during their pregnancy, and this indicator was significantly higher in rural areas, where 34.2 percent of women did not receive any antenatal care (Table 3). More than 23 percent of women first sought care after the first trimester (Turkey DHS, 2003). In addition, while the national average number of antenatal care visits was 3.8, nineteen provinces had an average of less than three visits, and one province (Kilis) had an average of less than two visits per pregnant woman (Table 4).

5. A number of health systems performance concerns underlay this situation (MoH, 2006). First, access to primary health services varied considerably across the country both between rural and urban areas, and also among provinces. These inequities were to a large extent driven by uneven distribution of health personnel. In 2002, population per general practitioner varied between 875:1 and 7,571:1 among provinces (Vujicic et al., 2009). Further governance concerns existed at the service delivery level. A combination of low salaries and the absence of performance incentives prompted coping strategies like staff

TABLE 2 Immunization rates – by lowest and highest province in 2003

BCG		DPT3		Measles		HepB3	
National Average	72	National Average	68	National Average	74	National Average	69
Şırnak	29	Ağrı	31	Şırnak	31	Ağrı	25
Ağrı	31	Şırnak	38	Ağrı	35	Hakkari	25
Hakkari	33	Bitlis	43	Bitlis	46	Şırnak	26
Mus	37	Sakarya	80	Kahramanmaraş	87	Bitlis	36
Ankara	96	Antalya	81	Kocaeli	87	Düzce	84
Giresun	97	Bursa	81	Sakarya	87	Rize	84
Gaziantep	100			Ankara	88	Sakarya	86
Tekirdağ	100					Tekirdağ	86

Source: Ministry of Health, 2012

TABLE 3 Rural-Urban difference in antenatal care visits, 2003

	Urban (%)	Rural (%)	Total (%)
Number of antenatal care visits			
None	11.6	34.2	18.6
1	5.8	11.2	7.5
2-3	17.8	21.5	18.9
4+	63.7	32.5	53.9
Don't know/missing	1.1	0.6	0.9
Number of months pregnant at first visit			
No antenatal care	11.6	34.2	18.6
<4	66.5	37.8	57.5
4-5	13.5	14.6	13.8
6-7	6.2	9.6	7.2
8-7	2.0	2.9	2.3
Don't know/missing	0.3	0.9	0.5

Source: Turkey DHS, 2003

absenteeism. This had ripple effects for higher level facilities as patients responded to perceived poor quality at the primary care by by-passing primary care facilities and increasing patient loads at secondary and tertiary facilities. Only 38 percent of the population in 2002 chose to utilize outpatient care at the primary care level (MoH, 2011c).

6. Fragmentation in health service delivery, with several agencies providing care to different parts of the population meant limited emphasis on preventive health in the absence of a single point of responsibility for coordinating care and well-being across levels of the health system, leaving significant gaps across the system. Centralized administration of service delivery from Ankara made it difficult to effectively manage for results while distracting the Ministry of Health from paying full attention to its role as steward of the health sector. Public dissatisfaction with the health system was growing as a result of governance concerns and perceptions of poor quality.

7. The 2002 elections provided political impetus to health systems reform as the newly elected government perceived a clear mandate to improve social services. Responding to this situation, the Government of Turkey launched

TABLE 4 Average Number of Antenatal Care Visits, Selected Provinces, 2003

Selected Provinces	Average Number of Antenatal Care Visits
National Average	3.8
Kilis	1.4
Bingöl	2.0
Batman	2.1
Gaziantep	2.1
Denizli	6.0
Malatya	6.7
Şırnak	7.7

Source: FMIS, 2012

the Health Transformation Program (HTP) in 2003 aimed at improving access to health services, expanding coverage (particularly to low-income groups eligible under the Green Card program), narrowing regional disparities, and improving health outcomes of the population. This was to be done by making the Turkish health system more effective by improving governance, efficiency and long-term fiscal sustainability. Strengthening primary care, with specific emphasis on maternal and child health, was an important

pillar in the reform agenda.

8. A key element of these reforms was the introduction of family medicine within a performance-based contracting framework. Established as a family medicine practice (FMP) pilot scheme under the “Law on piloting of Family Medicine” (Number 5258), it was initially implemented in Düzce province in September 2005 and then rolled out nationwide starting in 2006. By December 2010 all 81 provinces in Turkey had been included in the scheme (Appendix 1: Table 1) and in November 2011 the scheme was designated a permanent program of the Government.³

9. As of end 2011, the FMP scheme covered the entire 72.0 million population of Turkey. At the time of preparation of the study a total of 20,243 Family Medicine Practice doctors and 20,243 Family Health Personnel (mainly nurses and midwives) worked in 6,463 family health centers.⁴ They provide “integrated health services⁵” covering a wide range of primary care services with an increasing emphasis on prevention of chronic diseases. Services (such as vaccination, antenatal care, and infant follow-up), which were previously delivered primarily by midwives prior to the roll out of the family medicine scheme, are now delivered jointly by family medicine teams. In addition, at the time of study preparation, there was 13,476 staff working in 960 Community Health Centers (CHCs), 2,349 of whom are physicians. On average 3,500 patients were registered for each FMP doctor but the number of registered patients per physician can be as high as 4,500. The Ministry of Health (MOH) goal is to reduce this number to 2,000 by 2023.

10. Under the FMP, doctors interested in being family medicine providers can voluntarily join the program and are contracted for a period of two years, and payment is made on the basis of capitation adjusted by the socio-economic development level of the region they

work in. In addition, the government also covers operational costs for maintenance and operation of the facilities, costs of outreach services and costs of laboratory tests and medical supplies.

11. In order to focus provider efforts on above mentioned policy priorities, and increase accountability, a performance-based payment scheme was introduced along with family medicine. The performance based payment scheme was not supplemental to the payment for providers as is commonly seen in other OECD countries but designed within the salary envelop. Two changes were made to the scheme during its rollout. In 2006, an “administrative component” which now has 35 indicators for further improvement of service delivery quality was added. In 2007, the scheme was expanded beyond doctors to include all family medicine personnel in health centers.

12. A mandatory referral system from primary care to hospitals was initially included in the performance-based payment scheme whereby payments to FM staff were deducted if referrals exceeded 15 percent. However this created severe bottlenecks in the system and placed a high burden on FM physicians. The system was removed by a constitutional court order in 2009.

13. It is widely believed that the family medicine program is working well and reinforced by performance-based contracting, has contributed to the improvement of primary health care services and patient satisfaction. Individual studies do exist that focus on various aspects of the family medicine program such as patient and provider satisfaction. However, there has been no systematic description and comprehensive review of the performance-based contracting scheme.

14. This report aims to add to this body of evidence through the conduct of a comprehensive review of the scheme within

³ Decree in Force of Law no. 663 on the Organization and Duties of the Ministry of Health and Its Affiliates.

⁴ A Family Health Centre is defined as a health care organization which provides family health care services through one or more doctor (family physician) and at least an equal number of family health personnel (midwives/nurses)

⁵ Integrated health care is defined as the health care service designed for performing primary health care services intensively at locations designated by the Ministry, where preventive health care services, emergency health care services, examination, treatment and rehabilitation services, maternity, maternal and infant health, outpatient or inpatient medical or surgical intervention and environmental health, forensic medicine and oral and dental health services are given within its structure.

the context of the overall family medicine program. It describes and assesses Turkey's performance based payment scheme in family medicine with regard to design, institutional arrangements, governance, monitoring and evaluation, implementation, results and financial implications. Potential areas for improvement are identified and further refinements of the current system are suggested. The report will also contribute to the current body of knowledge on the experience with pay for performance in primary care for the interest of other countries.

15. The study methodology uses both quantitative and qualitative approaches. Further as the scheme was rolled out among Turkey's provinces gradually, the quantitative assessment uses before-and-after comparisons for providers/provinces in the scheme as well as comparison of providers/provinces in the scheme and outside the scheme where feasible. The quantitative assessment is based on review of existing literature and Ministry of Health reports, analysis of data from the health information system, relevant surveys and financial data. The qualitative analysis relied on key Informant interviews and focus group discussions (with regulators/purchasers and providers) to get their views on what works, what does not work and why. It should be noted, however, that as the scheme was merely one aspect of an integrated approach to primary care, it did not allow for a rigorous evaluation of the impact of the scheme.

16. Three focus groups were conducted with Family Medicine Practice (FMP) doctors,

FMP health personnel and division chiefs (or deputies) from the provincial administration/Community Health Centers (CHC) to obtain their views about the performance-based contracting scheme and to complement the information gathered from other sources. Each focus group comprised 10 participants, each participant representing a different province. Efforts were made to cover as wide as possible a geographical and urban/rural spread as well as the range of dates when the provinces entered the scheme.

17. The focus groups were conducted separately for each of the three professional groups to encourage participants to speak freely and openly about their experience and lasted for four hours. The discussions were translated simultaneously and transcribed. Four key topics were discussed, in line with the objectives of the review, focusing on the design, contractual agreements, reporting and monitoring and effect on service delivery. Open ended questions were asked followed by prompts and probes to focus on specific aspects.

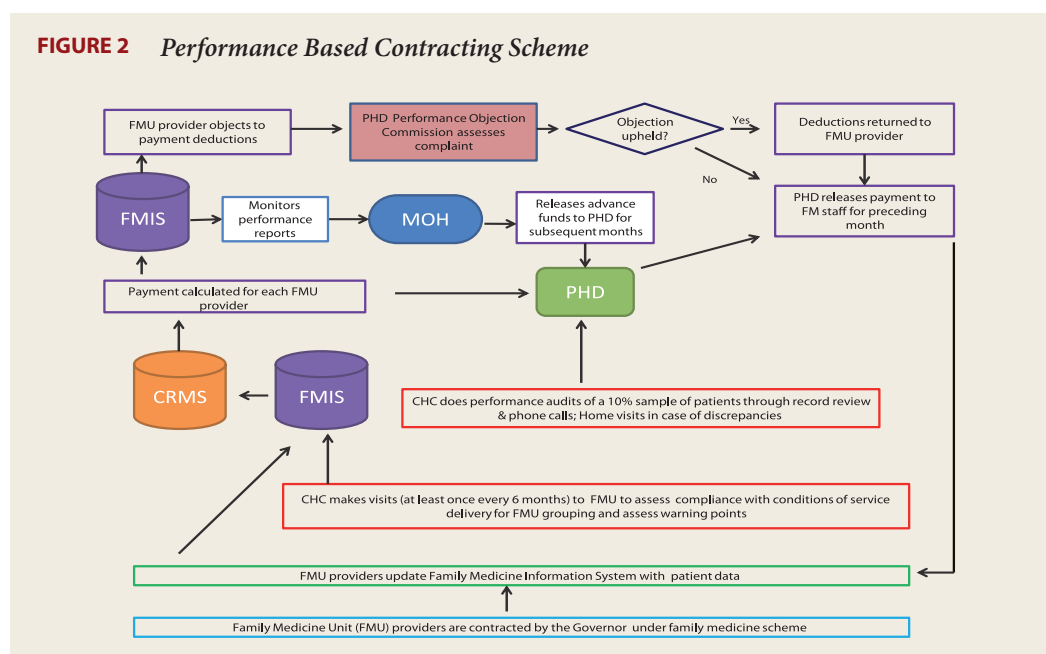
18. The report is organized as follows. The next two sections briefly describe the scheme and assess the design, institutional arrangements and governance and monitoring and evaluation framework of the scheme. Section four outlines the achievements based on available recent data. Section five concludes with lessons learned and implications for future interventions such as expanding the scheme to cover positive incentives for prevention and control of non-communicable diseases.

The Family Medicine Performance Based Contracting Scheme – How does it work?

19. Performance Based Contracting is an integral part of Family Medicine Practice model in Turkey and is set as a sub-legislation to the “Law on piloting of Family Medicine” (Number 5258). The policy concern driving the introduction of the scheme was that Turkey was lagging behind other European countries in achieving Millennium Development Goals (MDG) 4 and 5, thus leading to an emphasis on maternal and child health indicators in selecting performance targets. The scheme sought to take a zero tolerance approach to failure to meet performance targets and therefore

established negative incentives if targets were not met rather than positive incentives for rewarding greater effort. In addition this system was perceived to be more affordable as it set a ceiling for maximum payment to providers thus controlling health expenditures.

20. This section describes the family medicine performance-based contracting scheme in terms of the contractual arrangements, payment terms, monitoring and evaluation and governance mechanisms. Figure 2 is a schematic of the scheme.



Contractual Arrangements and Pay

21. The family medicine scheme is funded through general revenues within the budget of the Ministry of Health. The main stakeholders in the family medicine performance-based contracting scheme are:

- Ministry of Health (MOH): who are the stewards of the scheme
- Provincial Health Directorate (PHD): who are delegated the responsibility of managing and monitoring performance-based contracts under the scheme, and of supporting contracted family medicine staff
- Community Health Centers (CHC): provide logistical and technical assistance to family medicine units and supervise and monitor the FMP on behalf of the PHD
- Individual family medicine staff, including family physicians, nurses and other staff who work in a family medicine unit. Family medicine staff members are individually contracted by provinces to deliver a package of services under the scheme.

22. Here, under the scheme, each Provincial Health Directorate, on behalf of the Ministry of Health, enters into contracts with individual family physicians and other family medicine staff. The maximum duration of each contract is 2 fiscal years.⁶ In principle, the Governor of the province is responsible for entering into and canceling contracts but this responsibility is typically delegated to the Provincial Health Director or Deputy Provincial Health Director. Doctors and other clinical staff who are government employees can opt to take a leave of absence from their government jobs to join the family medicine scheme as individually contracted family medicine personnel.

23. Family physicians and ancillary family medicine staff function as a single family medicine unit to deliver an integrated package of primary diagnostic, therapeutic and

preventive care services to a roster of registered patients. In addition, they are responsible for providing mobile services in hard-to-reach rural areas and also, since 2010, for providing home-based care to their bedridden patients. In contrast to other family medicine staff, family physicians are also contractually responsible for managing health facilities⁷ so that services meet contractually specified standards and that health information reporting and record keeping is in line with protocols. All individuals are assigned to a specific family physician, who is expected, to act as the custodian of the health and well-being of his or her patients. Patients do have the option of changing their family physician if an alternative is available.

24. The contractual approach provides considerable flexibility to family medicine personnel in how to improve service delivery while holding them accountable for meeting standards and performance targets. Family physicians and other family medicine staff are not permitted to practice at other health facilities or take up any other occupation. All family medicine staff is held to administrative standards related to service delivery quality, and also for meeting performance targets focused on maternal and child health. Failure to meet administrative standards can result in contract termination and failure to meet performance targets can result in payment cuts and also contract termination for both family physicians and other family medicine staff in their unit.

25. The day-to-day responsibility for managing and monitoring contracts is assigned to the Provincial Health Directorate (PHD) in each province. The PHD, in turn, is supported by Community Health Centers (CHCs) in verification and supervision. A team from the CHC visits family medicine health centers at least once every six months to assess their level of compliance with service conditions to verify FMU groupings. In addition, the CHC also selects doctors for a performance audit each month and verifies service delivery for a sub-sample of patients through a combination of phone calls and home visits as needed. The

⁶ In practice this means that an individual contract can be a maximum of 2 calendar years and could be less depending on when the contract is signed.

⁷ Family physicians' management role includes managing expenses for emergency care and first aid drugs, equipment and supplies that are not provided in kind, for securing and maintaining the clinic itself and other operational expenses.

PHD, in turn, uses the information generated by the CHC to release payments to family medicine providers.

26. The payment for family medicine staff has five components:

- A. **Capitation based payment.** The monthly base payment for family physicians is defined with a capitation-linked formula, i.e., in proportion to the number of people registered to the family physician. The monthly base payment for each registered person varies depending on the potential resource intensiveness of providing health care for that category of persons. Pregnant women have the highest payment coefficient (adjustment factor of 3), followed by prisoners (adjustment factor of 2.25), children under 4 years and the elderly over 65 years (adjustment factor of 1.6) and finally the general population which does not fall into any of these categories (adjustment factor of 0.79). Payments are calculated by computing the total number of points by multiplying the number of patients in each category by the adjustment factor points for that category and summing up across categories. Family medicine specialist doctors are paid at the rate of TL 3.139 per point for the first 1,000 points for a maximum of TL 3,139. Non-specialist physicians are paid at the rate of TL 2.4 per point for the first 1,000 points for a corresponding total of TL 2,400. The balance of points over a 1,000 are multiplied by an adjustment factor of 1.44 to calculate the total underlying capitation payments up to a maximum of 2,400 points for integrated health centers and up to 4,000 points for all other family medicine facilities. Over and above this, doctors working in integrated health service centers are paid an additional 65 percent on this capitation base. Similarly, doctors working in designated sparsely populated areas are paid an additional 100 percent on their capitation base if the number of patients registered to them is below 1,350.
- B. **Capitation adjusted for socio-economic level of area.** The monthly base payment is adjusted for the socio-economic development of the area in which the family physician practices. Family physicians

serving in less developed districts with a shortage of medical personnel receive an additional payment “service credit” on a sliding scale that is linked to the socio-economic development index of the district. At its maximum, this increment can be as high as TL 1,384 for family physicians in the most disadvantaged areas. This amounts to close to 40 percent of the maximum base payment.

C. **Operational costs and other reimbursements:**

(i) Family physicians are paid a lump sum each month to cover equipment and operational expenses including rent (where needed), electricity, fuel, water, telephone, internet, data processing, cleaning, office supplies, small repairs, secretarial and medical consumables. This lump sum payment is calculated as 50 percent of the maximum monthly base payment.

(ii) The range of services and quality standards to be satisfied vary by the category of the family medicine unit. Depending on the category of the family medicine unit, family physicians are paid an additional lump sum payment that ranges from 10 percent of the maximum monthly base capitation payment for category D family medicine units to 50 percent of the maximum monthly base capitation payment for category A family medicine units. The purpose of this monthly lump sum payment is to ensure that family physicians have the additional resources needed to meet the mandated service delivery conditions.

D. **Reimbursements for expenditures on laboratory tests and consumables.**

- E. **Ambulatory health care service fees.** To meet mobile health care service expenditures, family physicians receive an additional lump sum payment of 1.6% of the maximum base capitation payment for every 100 persons who receive mobile services. If the mobile health service is carried out by using a vehicle provided by the PHD; then the payment for related cost that is normally paid to the family physician, is funneled to the revolving fund of PHD.

27. Although family physicians and other family medicine staff are contracted individually, they are expected to function as a unit under the overall guidance and management of the family physician. The total monthly payment for all family medicine staff in the family medicine unit is calculated using the above approach.

Performance Incentives and How They Work

28. The performance aspect of the family medicine contracting scheme includes two components:

A *salary deduction system* (Performance point system) focusing on three performance indicators and targets which applies to FMP physicians and to FMP health staff as well as to FMP managers. The three performance indicators in the salary reduction scheme also included as criteria in contract cancellation. Here, the contracting framework links payments to individual family medicine staff to their verified performance on the following maternal and child health service coverage indicators:

- Immunization coverage rate of registered children for each target vaccination (BCG, DPT3, Pol3, measles, HepB3, Hib3)
- Registered pregnant women with a minimum of 4 antenatal care visits according to schedule
- Follow-up visits of registered babies & children according to the schedule

An *administrative system* comprising 35 indicators which form the basis for written admonitions or contract cancellation (Appendix 1: Table 2). These include among other indicators for abiding with working hours and duties as per contract regulations, maintenance and security of health records, ensuring patient confidentiality and maintenance of property and equipment. Each violation is linked to a pre-specified number of points defined with reference to the severity of the violation. If a family medicine staff member accumulates 100 or more warning points over

a single contract period (i.e., a maximum of 2 years), his or her contract is terminated and he or she is debarred from applying for a new contract for a year.

29. In terms of salary deduction, deductions are made from the total monthly base payment of family physicians based on the gap between the target level for each indicator, which is set at 98% for all indicators and applied uniformly across all practices, and the coverage level attained:

- A deduction of 2% if the monthly coverage rate is 97% to 98%
- A deduction of 4% if the monthly coverage rate is 95% to 96%
- A deduction of 6% if the monthly coverage rate is 90% to 94%
- A deduction of 8% if the monthly coverage rate is 85% to 89%, and
- A deduction of 10% if the monthly coverage rate is lower than 85%

The maximum total deduction for performance is capped at 20 percent.

30. For the administrative system, the conditions are a mix of indicators that relate to governance at the service delivery level, structural measures of quality and service coverage targets. In fact, repeated failure to meet targets for key maternal and child health indicators could result in contract termination for all the family medicine staff in the unit, in addition to the payment deductions levied for each indicator falling below the desired performance target. Furthermore, it is also clear that the family medicine contracting scheme is very concerned about the quality of reporting and patient privacy. Incorrect ('non-factual') reporting or failure to keep patient records secure can result in 50 warning points respectively, implying that two violations over two years would result in contract termination.

31. In practice, the actual penalty amounts for the performance points system are relatively low as most of the provincial authorities prefer resolving current problems and increasing patient satisfaction rather than penalizing responsible personnel, so FM doctors' concerns are primarily about the administrative warning points system.

32. Further, the contracts of family medicine staff may be terminated without warning if they fail to meet specific administrative conditions of service, including:

- If the number of people registered to the family physician in question falls below 1,000 for two continuous months
- If the family medicine staff member is absent from duty without excuse for 10 consecutive days
- If the family medicine staff member is unable to carry out his or her duties for more than 180 days for health reason
- Any falsification of records or documents
- Absence from duty for 8 weeks or more because he or she was arrested

Measuring and Managing Performance

33. The family medicine scheme is supported by two main information systems that are used to track performance on technical and managerial/ budgetary parameters namely the Core Health Resource Management System and the Family Medicine Information System.

34. The *Core Resource Management System* (CRMS) is a Ministry of Health wide information system that is used to track budgets and expenditures. It includes data on parameters that determine payments to family medicine staff: including socio-economic development coefficients for each district, expenditures on lab tests, staffing, expenditures on mobile services etc. Not all districts were initially covered by the CRMS, however and some did not input data correctly in the past. The Provincial Health Directorate also manually tracks these data in the provinces to ensure data validity.

35. The *Family Medicine Information System* (FMIS) was developed and introduced in 2005 in conjunction with the family medicine scheme to track health-related indicators that are relevant to family medicine services and as a decision-support system for health providers. The provider interface of the FMIS includes

an electronic health record for each person registered to the family physician. Family medicine staff – doctors and nurses – updates patient records with health data for their registered population into the FMIS. The FMIS therefore includes a comprehensive record of patient characteristics and services received, including Maternal and Child Health services that are specifically targeted by performance incentives in the family medicine scheme, other services provided by the family medicine unit and referrals. Diagnostic test results from laboratories to which patients are referred, for instance, are scanned and available via the FMIS to the referring family physician. The FMIS provides decision support to family medicine staff by generating reminders and lists of persons who need to be followed up (for instance, by providing lists of those who need follow-up for specific immunizations or antenatal check-ups), and allowing family medicine providers to track their progress with attaining performance targets for indicators that are linked to payment deductions.

36. FMIS data can be accessed from multiple geographic locations. Family medicine staff can enter data offline if necessary. When they connect to the internet, these data are updated on a central server. Therefore, regularly updated data can be accessed by authorized staff in the PHD and by the Ministry of Health. The FMIS enables the PHD and MOH to assess each individual family medicine unit's performance on targeted performance indicators by calculating service coverage rates among eligible population registered to each family medicine unit.

37. The information generated through these information streams are used by Provincial Health Directorates (PHD) to assess the level of payments to be made to individual family medicine staff, compliance with standards and to identify whether contracts should be terminated. The exact payment due to each provider is calculated in the CRMS. The PHD, in turn, uses data from the FMIS, CRMS and the CHC's reports on performance audit findings to release payments to providers by the 15th of each month. Providers are also informed of their calculated payments, and of possible deductions, each month through the FMIS by the 13th of each month. The FMIS provides

a source of oversight data for the Ministry of Health who oversee the performance of the scheme and release advance funds to each PHD assuming satisfactory performance.

Performance Verification - Audits

38. Mechanisms for data verification and counter-verification are crucial to the success of a performance-based system. This is of utmost importance in the case of the Turkey model as performance indicators in the FMIS are entered into the information system by family medicine staff themselves and are therefore self-reported data. To ensure accurate reporting, family medicine staff are contractually obliged to report on a regular basis, and falsification of data carries heavy penalties with 50 warning points per violation. If within a contract period, a FM provider falsifies data twice, it can result in contract termination.

39. The PHD is responsible for verifying that these self-reported data on service coverage are accurate. Every month, approximately 10 percent of family physicians are selected for data verification by the CHC. Staff from the CHC conducts a performance audit of the selected doctor through a combination of patient records review, phone calls or home visits. Approximately 10 percent of the patients for an audited doctor are selected for participation in this audit. Findings from regular audits can trigger a more in-depth audit or investigation of the FM physician in question. However, except under exceptional circumstances, no doctor is audited in two consecutive months.

40. The CHC is also responsible for auditing compliance with the standards and conditions of service delivery, and assigning warning points when necessary. CHC staff visit each family medicine practice a minimum of once every six months to assess compliance with standards and identify any violations. These data are also used to verify that the family medicine unit satisfies the conditions associated with its service classification (A-E). In 2011, the Ministry of Health introduced a standard checklist that all provinces now use to assess

performance. Any discrepancies identified during routine visits can trigger a more in-depth audit of individual family medicine staff. Mobile services are audited directly by the PHD.

41. If FM practices fail to meet the conditions of service for a particular quality standard the audit report will include the date when failure started. Following the approval of the audit report by the MOH Primary Health Care Directorate, payment is revised downward accordingly and the over payments are covered with interest at around 9 percent per year from the date the failing was identified.

Appeals and Grievance Resolution

42. FM physicians who have had their contract terminated can appeal against the contract decision to the provincial discipline committee within 7 days of the notification date. The appeals committee has 30 days to investigate the appeal and provide information on the decision back to FM physicians.

43. FM doctors and FM health staff can complain to the provincial Performance Objection Commission to contest deductions either before or after the payment has been made. In addition, appeals can be lodged against the audit report prepared by the audit team within five work days. Appeals are made to the FM directorate at the MOH and are evaluated within 10 working days, on the basis of documents provided by the PHDs. In practice, grievances against payment deductions have seldom been contested. Grievances have been mostly about heavy workload.

44. In addition, PHDs have a complaints mechanism whereby patients can send complaint letters or use a hot line SABIM (Hello 184) for oral complaints. A commission of 7-8 people within the PHD makes the final decision. There is no set process for this, but most of the provinces apply the current investigation/inspection practices of the Ministry of Health.

Assessing the Design

45. This chapter presents an assessment of the Family Medicine Performance-Based Contracting scheme from a programmatic perspective. The discussion in this chapter is framed around the following guiding questions:

- a. Is the design of the Performance-Based Contracting incentives appropriate, and are the indicators used to measure the performance of contracted providers appropriate?
- b. Are the institutional arrangements for governing and managing the Performance-Based Contracting scheme appropriate?
- c. Are the methods for measuring and verifying the performance of contracted Family Medicine providers appropriate?

46. The question of appropriateness is discussed with reference to whether the design, institutional arrangements and methods for measuring and verifying performance are aligned to the main challenges highlighted by the Ministry of Health for the health sector and for primary care, and how they may facilitate the functioning of the Performance Based Contracting scheme.

Appropriateness of Design

47. As noted earlier, the scheme incentivizes primary care providers to focus on key priority reforms areas for the Ministry of Health under the Health Transformation Program. At the time of design, Turkey's maternal and child health outcomes were lagging behind those of OECD countries and other middle income countries. Regional and rural-urban disparities in outcomes prevailed fueled largely by disparities in the distribution of health personnel. Also, most service delivery was hospital focused – patients bypassed low quality primary care services to seek care at higher levels of care. Further fragmentation of service delivery led to inadequate coordination of care. The design of the Performance-based Contracting framework clearly reflects these concerns.

48. First, the design includes a number of mechanisms to incentivize providers to focus their efforts on reaching pregnant women and children through the following three performance levers:

49. *Payments held 'at risk' conditional on*

performance: The contracting framework for family medicine staff specifies that a portion of their individual salaries may be deducted if critical MCH performance targets (targets relate to coverage of BCG, DPT3, polio, measles, Hepatitis B and HiB (Haemophilus Influenza type b)vaccines, the proportion of pregnant women who receive 4 or more antenatal care visits and follow-up visits to pregnant mothers and children under 4 years) are not met by the Family Medicine unit. In all cases, the minimum performance threshold below which deductions apply is 98 percent. Salary deductions are made on a sliding scale in inverse proportion to the coverage achieved and capped at 20 percent of each contracted provider's salary. This creates strong incentives to focus on immunizations, ensuring that antenatal care services are delivered and mothers and children are followed up.

50. Performance conditions linked to contract termination: Contracts can be terminated if a family medicine provider accumulates 100 or more admonition points over a single contract period (i.e., a maximum of two years). Failure to maintain vaccination rates, follow-ups of pregnant women and infant and child follow-ups at 90% or higher results in 10, 20 and 20 warning points per violation respectively so that five failures to meet performance targets could, in principle, result in contract termination. Furthermore, a survey of 38 provinces that had implemented PBC for 3 or more years found that failure to meet performance targets was the most frequent reason for assigning admonition points in the first year of family medicine in 47.8 percent of family medicine provinces. This risk has incentivized providers to focus their efforts on improving maternal and child health services. By 2011, significant improvements had been achieved in MCH services and the share of provinces citing failure to meet performance targets as the most frequent reason for assigning admonition/warning points decreased to 29.2 percent. The second most common reason for the issuance of admonition points in the first year of implementation was the failure to comply with working hours (13%). By 2011, it has become the most common reason for

issuance of warning points. The complete list of reasons for the issuance of admonition points is presented in Appendix Table 2.

51. Incentives created by the capitation-based formula used to calculate Family Medicine provider salaries: The base capitation payment assigns higher weights to enrolling pregnant women and children to motivate providers to improve access to care among these categories of the population. Pregnant women have a payment coefficient of 3 while under-fives have a payment coefficient of 1.6. Both these payment coefficients are considerably higher than the coefficient of 0.79 for the general (non-prison) population. In effect this means that family medicine providers are paid more per pregnant woman and child under five. This incentivizes family medicine personnel to proactively seek out pregnancies and register children under five therefore improving access to care among these population groups.

52. Second, recognizing that unevenness in the geographic distribution of health personnel was a critical deterrent to improving access in poorly served area, extra payments “service credits” (see paragraph 24) are provided to family medicine providers for working in such areas. Pre-HTP, approximately 50 percent of the variation in the distribution of general providers and specialist doctors was correlated with provincial levels of economic development.⁸ With the implementation of the FM PBC scheme differences in distribution among provinces appear to have lessened and the gap between the best and worst-off provinces has narrowed (Table 13).

53. Third, uniform absolute performance targets – rather than targets that are relative to baseline – reflect the Ministry of Health's policy objective of closing geographic gaps in performance. Performance targets for Maternal and Child Health indicators in the Family Medicine Performance Based Contracting scheme are set at an absolute level and are uniform for all provinces and providers irrespective of their starting point. In effect, they incentivize family medicine providers in areas with lagging performance to work harder

⁸ Ministry of Health 2007 as cited in Vujicic, M., Sparkes, S. & Mollahaliloglu, S. 2009. *Health Workforce Policy in Turkey: Recent Reforms and Issues for the Future*. HNP Discussion Paper. The World Bank. July 2009

to prevent salary deductions for failure to meet these performance thresholds.

54. Fourth, to reduce fragmentation and improve accountability, performance is assessed for the family medicine unit as a whole thus improving co-ordination of care. Although family medicine staff are contracted individually and performance sanctions applied to each individual, the performance of the team is assessed as a unit to incentivize co-operation and co-ordination within the team. Family physicians and ancillary staff are responsible for delivering an integrated package of primary level preventive and curative health services to a roster of registered patients, and the family physician is expected to co-ordinate care of his or her patients across levels of the health system therefore creating a single point of responsibility for primary care services and reducing the fragmentation in service delivery at the primary care level.

55. Further to elevate the status of family physicians and attract doctors to family medicine under the FM PBC scheme, salaries for family medicine general providers were made attractive enough to induce them to leave government positions and join as a contracted family medicine physician. In fact, family medicine doctors are now paid as almost the same as specialists working in hospitals on average.

56. A common driver of the performance based payment mechanism is the size of the performance risk transferred to the provider. In Turkey, as we see the payment risk borne by family medicine providers is arguably high enough to incentivize performance. Under the performance points system, family medicine providers risk an increasing proportion of their salary as the gap between the target and achieved coverage increases. A maximum of 20 percent of providers' base salary payments (around 915 TL) is at risk, which is substantial given it amounts to around 16 percent of total take home pay, to motivate providers to reach targets.

57. As noted above, the performance-based contracting scheme includes both positive and negative incentives. As the positive incentives are related to locating in underserved areas, it can be said that service delivery performance is mainly framed in terms of penalties.

Penalties can, in principle, deter participation if it is voluntary as is the case in the FM PBC scheme. However, there is little evidence that performance penalties have adversely affected participation in the Turkish context, and in fact, the distribution of health personnel appears to have improved because of other incentives built into the family medicine program such as bonus payments for working in under-served areas. Further, the large overall increase in payment for FM personnel may have strongly encouraged voluntary participation in the FM PBC scheme.

Governance and Accountability Mechanisms

58. Governance concerns at the service delivery level prior to the launch of the HTP meant that improving accountability was a key health systems objective. The admonition points and performance points system aimed to achieve this objective as seen below:

59. *Admonition points system* in the contracting framework are a mechanism for the provincial health authorities to hold family medicine providers accountable for maintaining basic service standards that relate to structural aspects of quality and also to maintain expected standards of behavior for health professionals. Supervisors from Community Health Centers visit family medicine units to assess whether warning points must be awarded. This direct link between independently assessed performance along pre-determined parameters and contract termination is an important mechanism in the scheme for improving accountability, for ensuring that services meet basic quality standards and for improving service delivery governance. In reality however, contract termination is a rare event – only 1.4 percent and 1.6 percent of contracts were terminated in 2011 and 2012 respectively (see Appendix Table 15).

60. *Performance points* that result in salary deductions for failing to meet Maternal and Child health service coverage standards are a mechanism to improve accountability for results to provincial health authorities. Warning

points are also assigned if providers fail to meet 90 percent coverage targets for vaccinations, follow-up of pregnant women and follow-up of infants and children under five years of age (see Page 11 for details).

61. High levels of public dissatisfaction with health services due to perceptions of poor quality and staff absenteeism before family medicine was introduced meant that improving service deliveries to meet user expectations was an important reform objective for the Turkish Ministry of Health. Under the FM-PBC scheme the population has the option of voting with their feet and choosing their family physician if dissatisfied with the one assigned to them. Since family medicine providers are paid based on the number of people registered with them, this creates incentives for responsiveness to their registered population.

62. Grievance mechanisms too are an important feature of user responsiveness. The Ministry of Health has a national toll-free hotline that people can call to lodge their grievances. SABIM hotline complaints are investigated by the Provincial Health Directorate and the Community Health Center, independently of the family medicine providers, and can trigger an audit. The separation of purchaser and provider created by the contracting framework helps to maintain the independence of provincial-level authorities who are effectively responsible for holding family medicine providers accountable to the requirements of the contracting agreement. Findings from key informant interviews with provincial regulators and contracted providers suggest that investigations based on complaints are taken seriously.

63. Performance payments are frequent enough to lend visibility to the link between performance on contract-specified parameters and payments. Payments under the Performance Based Contracting scheme are made by the 15th of each month for the preceding month. Performance is monitored largely through self-reported data by family medicine providers, and verified independently through a combination of facility visits, patient record review, patient phone calls and home visits. The reporting and verification system is agile enough to enable monthly payments.

64. Delegating contract monitoring and

management to the provincial level improves provider accountability and facilitates the Ministry of Health's stewardship of family medicine results. Although funding originates from the Ministry of Health, the purchaser and contract manager for all practical purposes is the Provincial Health Directorate (PHD). Delegating contract management and monitoring responsibilities to the provincial level creates a more manageable span of control which allows PHDs to play a more active role in monitoring, supervising and managing providers and to respond quickly to any concerns. Furthermore, the purchaser-provider split also facilitates a more objective and independent assessment of providers' performance by the Provincial Health Directorate. This institutional arrangement has also liberated the Ministry of Health from the responsibility of day-to-day monitoring of providers or managing contracts and enables the Ministry to focus on overseeing the PBC scheme and the health sector as a whole.

65. A focus on results with management flexibility to attain them gives providers and PHDs the space to achieve results. The PBC scheme holds family medicine providers in a unit jointly accountable for achieving contractually specified results while giving providers management autonomy. To illustrate, while contracts specify service standards that must be met, providers are given flexibility in organizing their work hours, in recruiting non-clinical support staff or in maintaining physical premises of their facilities (for which they receive a lump sum payment). In effect, the contracting mechanism has given family medicine providers managerial responsibilities in terms of facility and performance management for their own unit.

66. Similarly, PHDs have the autonomy to exercise their contract management role within the guidelines specified by the Ministry of Health. Key informant interviews with provincial health officials and family medicine providers showed that provinces showed considerable initiative and diversity in their strategies to supervise and support family medicine providers. For instance, the PHD in Düzce province organizes weekly meetings with all the FM providers. The meetings are used as a platform to provide additional information and feedback to FM providers and

get their feedback on the types of support and information they need from the PHDs to work more effectively.

Monitoring and Verifying Performance

67. Crucial to the success of any performance based payment system is an information system that (i) supports providers in the management and follow-up of patients and (ii) facilitates the rapid and transparent performance reporting and payment administration.

68. *Facilitating health service user management by provider.* The Turkey FMIS has a cutting-edge patient records management system that facilitates health service user management by providers. It helps to maintain a complete electronic history of everyone registered in and using services in the family medicine system. Patient medical records enable providers to easily maintain and update the medical and service provision history of all their registered population. It also incorporates a decision support feature that reminds providers of people that require follow-up, for instance infants who need to be immunized. None of the contracted providers interviewed by the assessment team suggested that the data entry is onerous or excessively time consuming.

69. *Facilitating rapid and transparent reporting of performance and administration of payments.* Providers' reporting of their own performance via the FMIS is the start point for performance reporting in the PBC scheme. Providers' performance data sourced from the FMIS provide a vital input for the automatic calculation of providers' payments in the Ministry-wide Core Resource Management System. The ability to share information with multiple parties both facilitates the administration of payments and improves the transparency of the PBC system. Providers can view the payments due to them in the FMIS and, if necessary, lodge an appeal against deductions so that deductions may be reversed if necessary before the payment is made. At the same time, data from the FMIS enable the PHD to track provider performance and manage contracts

effectively. Similarly, the Ministry of Health is able to monitor the overall performance of the FM PBC scheme.

70. *Facilitating rapid and credible performance assessment:* This is enabled by self-reporting of performance combined with independent audits of service delivery. Self-reporting, backed up by a solid family medicine information system, is adequately structured to trigger monthly performance-based payments. Given the large number of FM providers who need to be paid monthly, it makes sense to rely on self-reporting by providers as the mechanism to trigger performance-based payments. This is also the experience of most performance-based incentive schemes for FM in other OECD countries such as the UK, Australia and New Zealand (Cashin, 2011; Cashin and Chi, 2011).

71. Rigorous random audits also help prevent providers from gaming the system. As performance reporting to trigger payments is primarily through self-report, independent verification of results is vital to deter over-reporting by providers and trigger sanctions if over reporting is found. The monthly random audit covers 10 percent of doctors. For each audited doctor, 10% of patients are selected for a random audit. Since FM has been scaled up in the whole country, around 110,000 infants under 11 months and 90,000 mothers are checked annually for the MCH services they received. This mechanism is both cost-effective and a deterrent to inaccurate self-reporting by FM providers.

72. During the conduct of the study it was seen that despite existing central guidelines on monitoring and supervising family medicine providers, there appeared to be a high degree of diversity in the practices followed by individual provinces. A survey of provincial officials in 38 provinces where the family medicine scheme has been implemented for 3 or more years also showed that important differences between provinces in how providers are selected for performance audits, whether visits to family medicine units to verify service conditions and assess warning points are announced or not, and on guidelines for supervisors (Table 5). Furthermore, the provincial survey, key informant interviews and focus group discussions with Provincial Health Directorate staff and Family Medicine providers too

TABLE 5 *Auditing and monitoring practices reported by provinces*

Audit and monitoring practice reported	% of provinces
1. The selection of 10% of family medicine doctors for monthly audits is done	
a. Using a random number generator	36.8
b. Manually	44.7
c. No standard approach: it varies by each community health center	18.4
2. All random audits are followed by a home visit:	
a. Yes, all the time	26.3
b. Only in cases where the household says service was not received by the patient	26.3
c. No, never	15.8
d. Other	31.6
3. The province developed its own guidelines on how to conduct monthly 10% random audits:	
a. Yes	57.9
b. No	42.1
4. The date of the six-monthly Family Medicine Unit audit	
a. Is communicated to the family doctors in advance	65.8
b. Is unannounced	21.1
c. The practice varies by each Community Health Center	13.2
5. The province developed its own guidelines on how to conduct twice-a-year audits:	
a. Yes	73.7
b. No	26.3
6. Are the methods to assess the warning points clear to the management team of the Provincial Directorate?	
a. All is clear	48.7
b. For some warning points, the methods for their assessments are not clear	51.4

highlighted the importance of reducing ambiguities in interpretation of when warning points may be awarded. Recognizing this, the Ministry of Health has recently introduced standardized monitoring forms with guidelines for its use throughout the country.

Conclusion

73. As can be seen, the design of incentives is aligned to the main challenges in the health sector at the time of initiation. The institutional arrangements for implementation too appear to be appropriate in the context of sectoral

priorities and support the smooth functioning of the PBC scheme. Further, the monitoring and evaluation system in FM appears to facilitate performance tracking and accountability for results.

74. However, as many of the original challenges that framed the introduction of the FM PBC scheme have been achieved, the FM PBC scheme faces the task of addressing outstanding as well as new challenges that emerge as the scheme evolves. The experience with implementing FM PBC in Turkey has also yielded many insights about some options for further refining its design, institutional arrangements and performance monitoring and verification mechanisms. These are discussed in the final section.

From Design to Achievements

75. Turkey has seen significant improvements in key health outcomes in the period surrounding the introduction of the family medicine program. The infant mortality rate fell from 28.5 per 1,000 live births in 2003 to 10.1 deaths per 1,000 live births by 2010 at the national level with substantial narrowing of regional disparities (Table 6). The maternal mortality ratio fell from 61 deaths per 100,000 live births in 2003 to 16.4 in 2010. The averagenational vaccination coverage rates for DPT3 rose to approximately 96 percent in 2008 and to 97 percent in 2010 from 68 percent in 2003, while regional disparities narrowed. In addition, more and more pregnant women have at least four antenatal care visits in line with WHO standards.

76. It should be noted that in addition to the Family Medicine program roll out in 2005, a myriad of other measures were initiated since 2003 to reduce infant and maternal mortality, improve immunization coverage, and increase the number of antenatal and postnatal visits. In order to inform family planning decisions and detect pregnancies at an early stage, women 15-49 years old are now followed-up twice a year by primary health care and family medicine providers. Prenatal and postnatal care management guidelines have been developed

TABLE 6 *Infant mortality rates per 1,000 live births, 2010*

2010	Infant mortality rate
Region	
West	7.7
South	11.0
Central	9.5
North	8.8
East	13.7
Selected NUTS 1 Regions	
Istanbul	7.5
Southeast Anatolia	14.1

Source: MOH (2011a).

and standards set of minimum number and timing of antenatal and postnatal care visits. Beginning 2005, free iron supplements are distributed to infants and pregnant women as part of the Iron-Like Turkey and Iron Supplement for Pregnant Women programs.

77. Several improvements have also been made in the immunization schedule and delivery. Prior to the introduction of the HTP, children were immunized against seven diseases (diphtheria, pertussis, tetanus, polio, hepatitis

TABLE 7 Vaccine Antigens, 2002, 2010 and 2012

2002	2010	2012
Trivalent combined vaccine Diphtheria Pertussis Tetanus Measles BCG Oral Polio Hepatitis B (7 antigens, 9 injections)	Pentavalent combined vaccine • Diphtheria • Acellular Pertussis • Tetanus • Polio • Haemophilus influenza type B Trivalent combined vaccine • Measles • Rubella • Mumps Conjugated pneumococcus BCG Hepatitis B (11 antigens, 13 injections)	Pentavalent combined vaccine • Diphtheria • Acellular Pertussis • Tetanus • Polio • Haemophilus influenza type B Trivalent combined vaccine • Measles • Rubella • Mumps Conjugated pneumococcus BCG Hepatitis B Hepatitis A Chicken pox (Beginning December 2012) (13 antigens, 16 injections)

Source: MOH (2011), HTP Evaluation Report (2003-2010)

B, and tuberculosis). In 2006, haemophilus influenza type b (Hib), rubella and mumps were also included in the program. Table 7 shows the changes over the period 2002 to 2012. Spending on vaccination too increased more than nineteen-fold from 20 million TL in 2002 (in 2010 prices) to 397 million TL in 2010.

78. Recognizing that performance based contracting was merely one aspect of an integrated approach to primary care supported under the HTP, this section analyzes the trends in health outcomes in terms of key performance indicators which the scheme reinforces such as vaccination coverage, access and utilization of services such as antenatal care services, resource allocation – human and financial and consumer and provider satisfaction. It assesses trends, pre-HTP and currently through international benchmarking and comparisons over time relative to other upper middle-income countries.

Antenatal Care

79. Prior to 2003, there were significant variations in antenatal care visits across the regions and in many cases pregnant women did

not seek care during the first trimester of their pregnancy. To address this important service gap, service standards for care of pregnant women were set to ensure at least four antenatal care visits during pregnancy; following the schedule of at least 1 visit in the first trimester, 2 in the second and 1 in the third. To further emphasize the importance of these standards, these were included as performance targets.

80. As a result, the national average number of antenatal care visits increased from 3.8 visits in 2003 to 4.6 visits in 2010. By 2010, twenty provinces had an average of less than four antenatal care visits and only two had an average of less than three visits compared with fifty provinces with less than four antenatal care visits and twenty with less than three visits in 2003 respectively. Istanbul at 1.9 visits per pregnant woman had the lowest average. The number of consultations in Istanbul, however, appears to be underreported, as most women seek care at private facilities. According to estimations from the Demographic Health Survey (2008) conducted by Hacettepe University, 51 percent of women in Istanbul sought antenatal care from private clinics and 25.7 percent from a mix of public and private facilities. Only 23.3 percent sought antenatal care solely from public facilities.

81. Figure 3 displays the average number of

TABLE 8 Average Number of Antenatal Care Visits, selected provinces, 2010

	Average Number of Antenatal Care Visits
National Average	4.6
İstanbul	1.9
Erzincan	2.5
Giresun	3.0
Yozgat	6.8
Muğla	6.9
Aydın	7.5

Source: FMIS (2012).

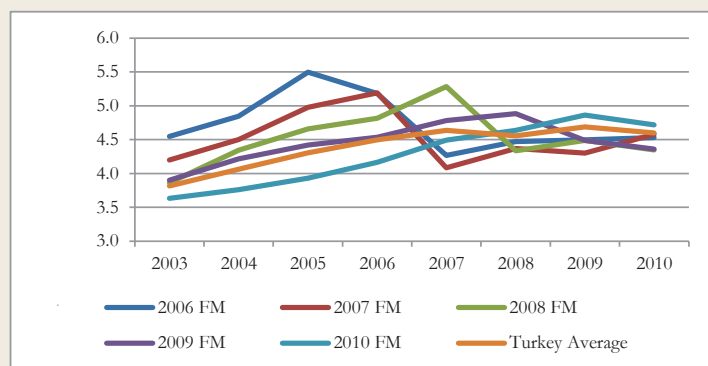
antenatal care visits for all provinces according to their year of entry into the Family Medicine program. This indicator also follows an upward trend, with most provinces having reached the target rate of at least four antenatal care visits. As can be seen, prior to the implementation of family medicine, there were large variations in the average number of antenatal visits. By 2010 the gap has narrowed with all provinces converging to the set target of at least four visits.

Immunization Rates

82. As noted in the earlier section, vaccination coverage for six vaccinations (BCG, DPT3, Polio 3, Measles, Hepatitis B3, Hib3) very key priority area of focus in the reform of primary care in Turkey and formed part of the Performance Based Contracting Scheme in the Family Medicine Practice. These are included as performance indicators linked to salary payment reduction and also among the 35 criteria for the contract cancellation component. Salary deductions incur if providers fail to achieve 99-100 percent coverage rates. In addition, the number of “admonition/warning points” for failing to achieve the 90% target is 10 points for each target vaccine.

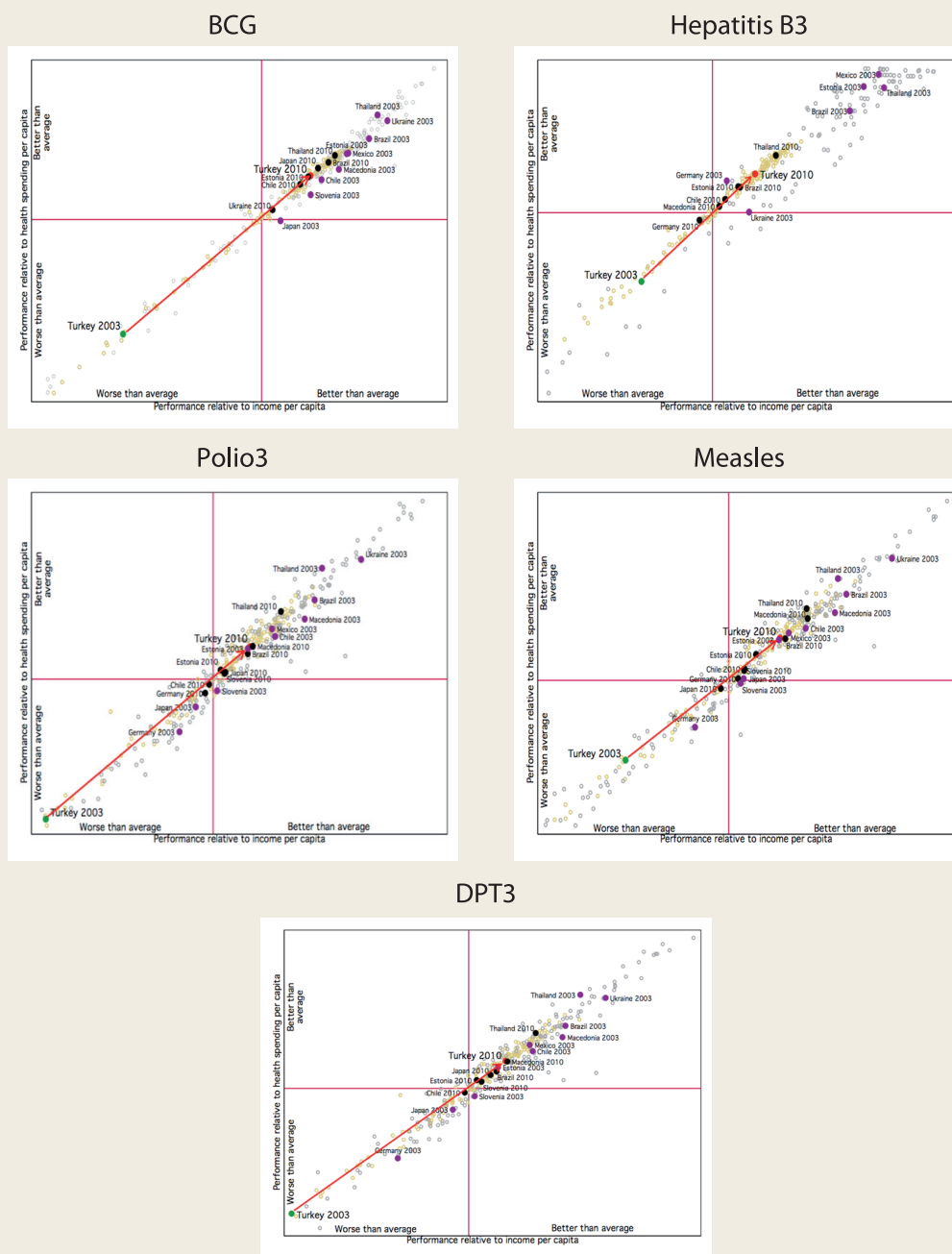
83. In 2003, Turkey’s immunization coverage rates were well below average for comparable health spending and income level countries for the five vaccines (BCG, DPT3, Polio 3, Measles, and Hepatitis B3). Significant improvements in immunization service including a focused approach in family medicine have yielded results. By 2010, Turkey performed well above average relative to comparator health spending and income level countries in all five cases (Figure 4).

FIGURE 3 Average Number of Antenatal Care Visits, 2003 - 2010



Source: Primary Care Statistic Module (2012).

FIGURE 4 Global Comparisons of Immunization Coverage versus Income and Total Health Spending, 2003 and 2010



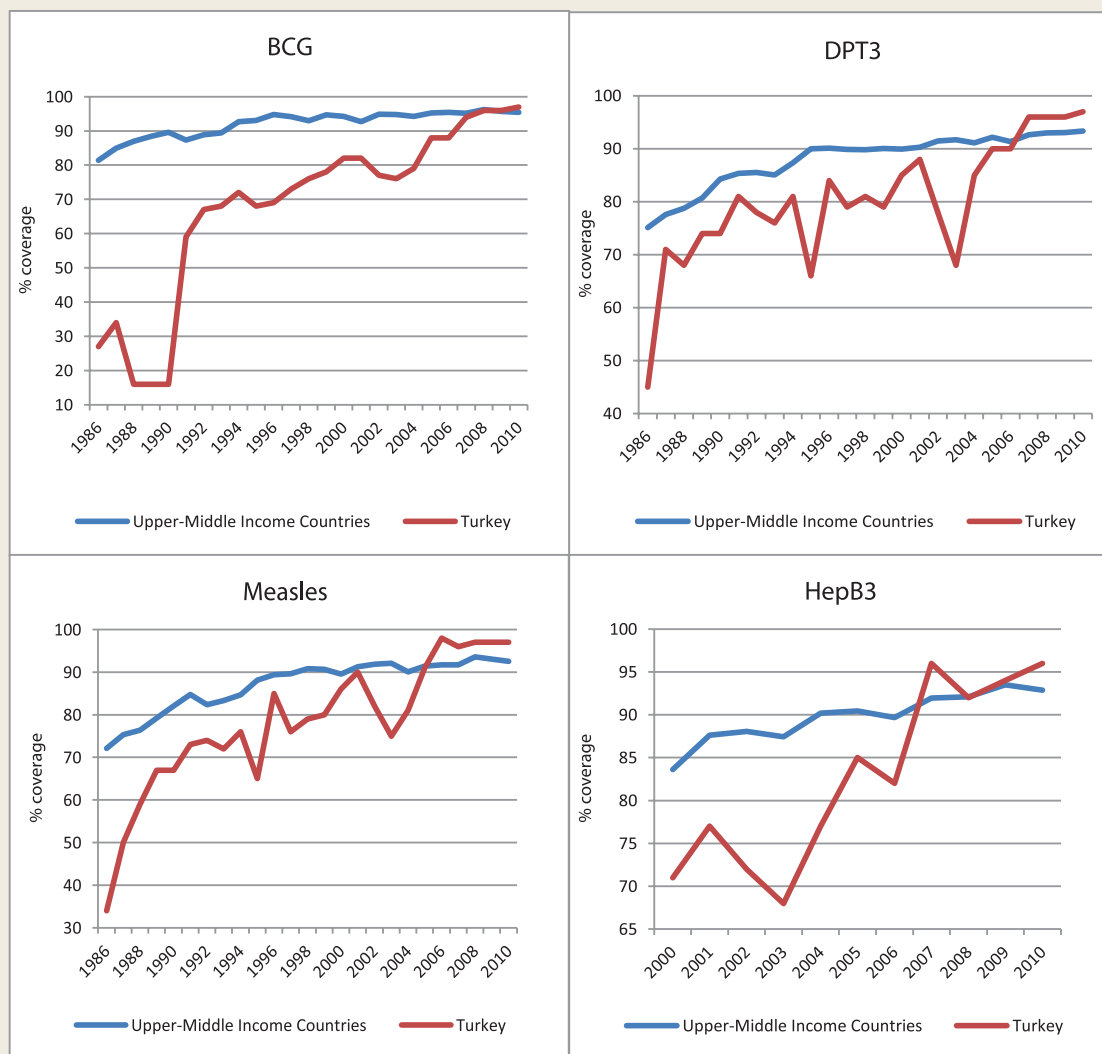
Source: WHO and WDI, 2012

84. Further this increase in immunization coverage rates was achieved in a relatively short time frame compared with other upper-middle income countries. As shown in Figure 5, despite starting at much lower levels than upper-

middle income countries in 1986,⁹ by 2009 Turkey had surpassed the average vaccination coverage rates for upper-middle income countries for all four vaccines and continues to see high growth rates. Between 2006 and

⁹ Hepatitis B3 data is alone available starting 2000.

FIGURE 5 Vaccination Coverage, Turkey and Upper-Middle Income Countries



Source: WHO and OECD (2012)

TABLE 9 Number of Infectious Diseases Cases

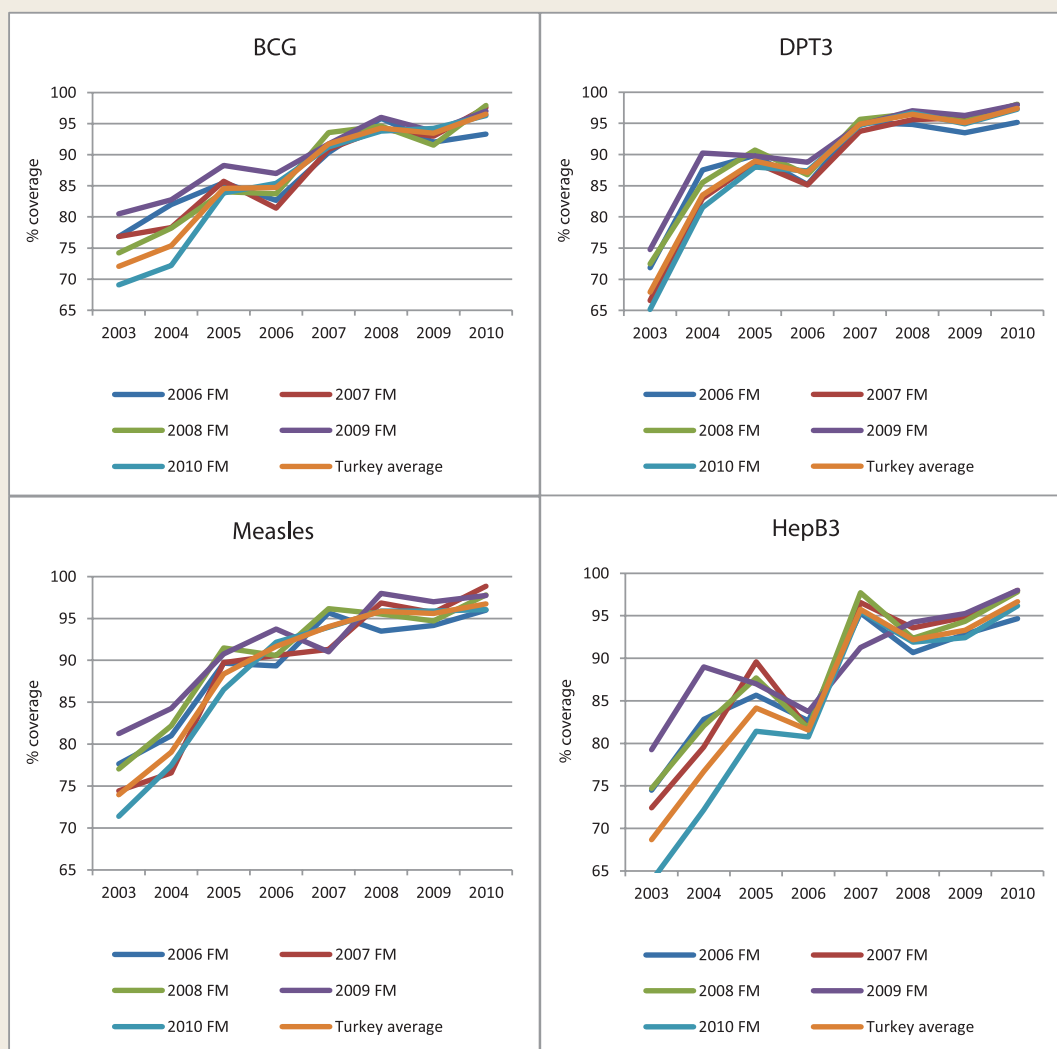
	2002	2006	2007	2008	2009	2010
Measles	7810	34	3	4*	4*	7*
Tetanus Neonatal	16	10	14	14	12	25
Tetanus	32	18	5	7	0	2
Pertussis	193	57	51	24	10	48
Hepatitis B	5813	6612	6451	5849	5005	3099
Diphtheria	2	0	0	0	0	0

Source: Health Statistics Yearbook, 2010

*Note: 2008 - 1 imported case and 3 import-related cases. No local cases were reported. 2009 - 3 imported cases out of 4 and 1 import-related case. No local cases were reported. 2010 - All of 7 imported cases. No local cases.

2007, Turkey’s immunization coverage for BCG rose from 88 percent to 94 percent. Upper-middle income countries required four years (1992-1996) to achieve the same improvement. Turkey’s Hepatitis B3 coverage increased from 82 percent in 2006 to 96 percent in 2007, while upper-middle income countries required seven years to improve their coverage from 83.6 percent to 93.5 percent between 2000 and 2007.

85. These high vaccination coverage rates have resulted in reducing the prevalence of vaccine preventable infectious diseases. The most notable decrease is seen in measles, which dropped from 7810 cases in 2002 to 7 in 2010. All of the 7 cases are either imported or related

FIGURE 6 Immunization coverage, 2003-2010

Source: Ministry of Health (2012).

to imported cases.

86. Analysis of trends in coverage rates for four of the six vaccines of interest, i.e., BCG, DPT3, measles, and HepB3 show an upward trend (Figure 6). Despite the upward trend in vaccination coverage for the four target diseases, (perhaps with the exception of HepB3) between 2003 and 2010, the greatest increase (gain) occurred before 2006 and therefore before the family medicine scheme was introduced. As a result, no significant difference in coverage rates based on the year the Family Medicine program was implemented is noticed. As explained earlier, other programs

were implemented during the same time period targeted at improving immunization rates thus it is difficult to separate out the effect of the Family Medicine program.

87. As can be seen from Figure 6, while the average vaccination coverage rates for provinces that joined FM in 2010 were lowest in 2003, by 2006 they had converged to the national average and in 2010 had surpassed it. Thus, the success of the improvement in vaccination coverage rates cannot be attributed solely to the implementation of the FMP, as a number of other activities were being implemented since 2003 to increase immunization coverage rates.

TABLE 10 Share of provinces reporting 99-100 percent coverage, 2005-2010

	BCG	DPT3	Measles	Hepatitis B3
2005	3.7	1.2	11.1	4.9
2006	3.7	4.9	28.4	1.2
2007	6.2	7.4	25.9	64.2
2008	7.4	22.2	17.3	6.2
2009	18.5	23.5	28.4	11.1
2010	34.6	40.7	32.1	32.1

Source: Ministry of Health (2012).

TABLE 11 Share of FM/non-FM provinces reporting 99-100 percent coverage, 2005-2010

	BCG		DPT3		Measles		Hepatitis B3	
	FM	Non-FM	FM	Non-FM	FM	Non-FM	FM	Non-FM
2005	0	4	0	1	0	11	0	3
2006	14	3	14	4	29	28	14	0
2007	7	6	7	7	29	25	50	67
2008	3	10	16	26	26	32	6	6
2009	11	26	23	24	23	33	17	7
2010*	43	28	37	43	49	20	31	33

*Provinces that implemented FM in 2010 are treated as non-FM provinces in 2010.
Source: Ministry of Health (2012).

88. While initially a larger share of FM provinces had achieved 99-100 percent vaccination coverage; by 2010, this was no longer the case. By 2010, a larger share of non-FM provinces had 99-100 percent coverage rates for DPT3 (43 percent) and Hepatitis B3 (33 percent) compared to FM provinces (37 percent and 31 percent, respectively). In all by 2010, over 30 percent of provinces had reached the 99-100 percent target rate for immunization coverage

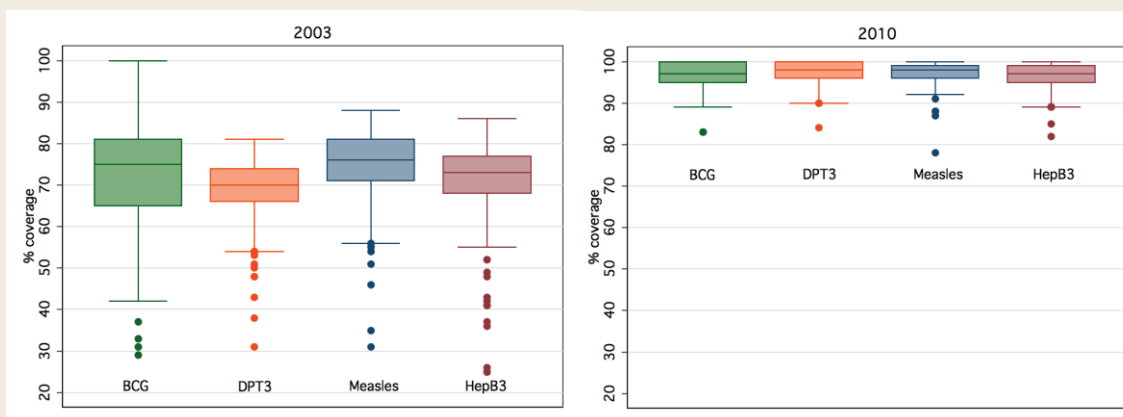
(Table 11).

89. In addition to increases in the national coverage rates, between 2003 and 2010 regional gaps too narrowed significantly (Figure 7). By 2010, only eight provinces had coverage rates lower than 90 percent with only one province falling below 80 percent (Batman reported 78 percent for measles immunization coverage). Of the eight provinces that fell below 90 percent coverage, six joined the Family Medicine program in 2010.

Health Care Utilization

90. The number of primary health care consultation increased with the implementation of family medicine. Utilization increased substantially, rising from 1.9 visits per capita in 2005 to 2.8 visits per capita in 2009. As shown in Figure 8, in 2009, the number of visits per capita to primary health facilities was significantly higher in provinces that had implemented family medicine – 2.9 visits per capita compared to 2.1 visits per capita in non-FM provinces. In fact, a fixed-effects regression controlling for both province and year shows that the introduction of family medicine is associated with an increase in per capita consultations by 0.28, a 14% increase in visits over this short time span. Further, the share of population that chose to utilize outpatient services at the primary care level rose from 38 percent in 2002 to 51 percent in 2010 (MoH, 2011c).

FIGURE 7 Box Plot of Immunization Coverage Rates, 2003 and 2010



Source: Ministry of Health.

Human Resources

91. **Distribution.** While Turkey's level of health workers per capita remains lower than the OECD average, Turkey has made significant improvements between 2003 and 2010 in scaling up its health workforce. The number of physicians per 1,000 population increased from 1.29 in 2003 to 1.68 in 2010 (of which family physicians represent 17 percent). In line with the increased focus on primary care and family medicine, the number of general practitioners (including family physicians) per 1,000 population increased from 0.43 in 2003 to 0.53 in 2010 (Table 12: Number of Health Personnel per 1,000 Population, 2003-2010).

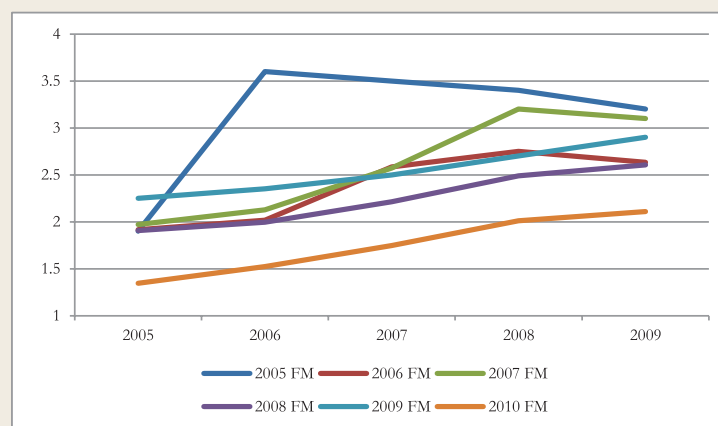
92. Significant improvements have been made in narrowing regional differences in distribution of health personnel. As can be seen in Table 13, inequality in the distribution of general practitioners decreased with the gap between the highest and lowest provinces falling from 0.6 per 1,000 population in 2007 to 0.36 per 1,000 population in 2010. Such a shift indicates that given the focus on primary care, particularly family medicine, and the relatively low levels of physicians in some provinces, concerted efforts are being made to relocate physicians to fill the regional needs.

93. **Remuneration.** Prior to the nationwide implementation of the family medicine scheme, remuneration for general practitioners¹⁰ and nurses was substantially higher in hospitals than in primary care settings due to the more rapid increase in additional payments¹¹ in hospitals. A change in the trend, however, can be seen since 2009. In 2007, the monthly base salary for general practitioners in hospitals and primary care settings was roughly the same – TL 1,272 and TL 1,265, respectively. Monthly additional payments, however, were almost 2.7 times higher in hospitals than in primary care – TL 2,680 in hospitals compared with TL 997 in primary care. As a result, in 2007, GPs in hospitals received a total monthly remuneration of TL 3,952 and GPs in primary care settings received TL 2,262. By 2010, the gap in additional paid to GPs in hospitals and primary care narrowed significantly as did the gap in total remuneration. In 2010, monthly

¹⁰ GPs in primary care include family medicine providers.

¹¹ Additional payments are incentive payments.

FIGURE 8 Primary Health Care Visits per Capita, 2005-2009



Source: Primary Care Statistics Module (2012 and FMIS(2012)).

TABLE 12 Number of Health Personnel per 1,000 Population, 2003-2010

	2003	2004	2005	2006	2007	2008	2009	2010
Specialist physician	0.66	0.75	0.74	0.74	0.77	0.80	0.84	0.86
General practitioner	0.43	0.44	0.46	0.48	0.49	0.52	0.52	0.53
Residency assistant	0.20	0.22	0.24	0.25	0.27	0.29	0.29	0.29
Total physicians	1.29	1.42	1.45	1.47	1.54	1.60	1.65	1.68
Nurses	1.17	1.16	1.16	1.17	1.38	1.42	1.45	1.59
Midwives	0.59	0.60	0.60	0.60	0.68	0.67	0.68	0.70

Source: MOH (2012).

TABLE 13 Distribution of personnel per 1,000 population, 2007 and 2010

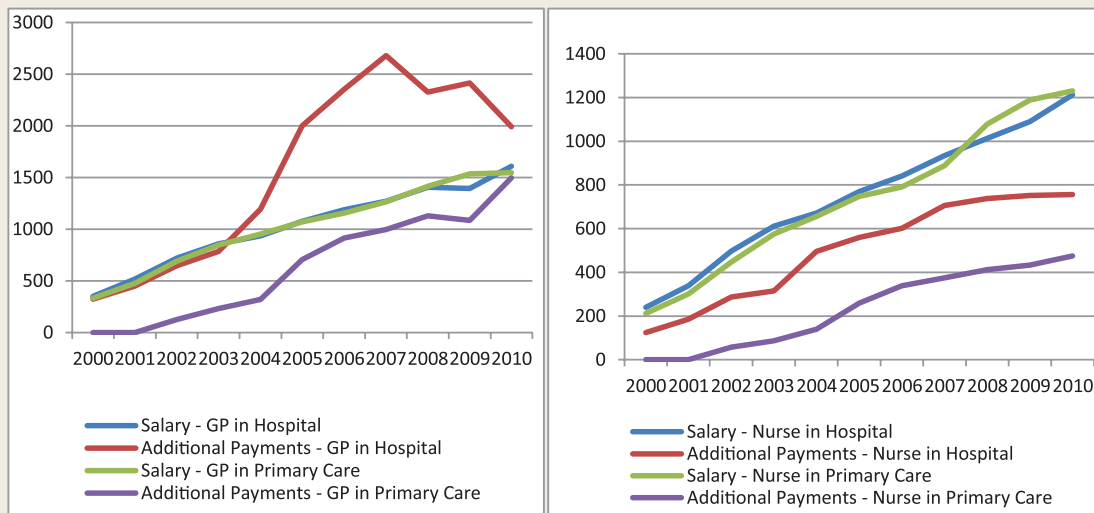
	Best province	Worst province	Turkey
2007			
Specialist physician	2.06 (Ankara)	0.22 (Şırnak)	0.77
General practitioner	0.91 (Ankara)	0.31 (İstanbul)	0.49
Nurses	2.43 (Trabzon)	0.50 (Şırnak)	1.38
Midwives	2.05 (Tunceli)	0.28 (Şırnak)	0.68
2010			
Specialist physician	1.79 (Ankara)	0.37 (Şırnak)	0.86
General practitioner	0.80 (Tunceli)	0.44 (Sanliurfa, Gaziantep, İstanbul)	0.53
Nurses	3.48 (Ankara)	0.82 (Şırnak)	1.59
Midwives	2.24 (Tunceli)	0.41 (İstanbul)	0.70

Source: MOH (2012)

additional payments for general practitioners in hospitals were only 1.3 times higher than for those in primary care – TL 1,991 and TL 1,496, respectively (Figure 9).

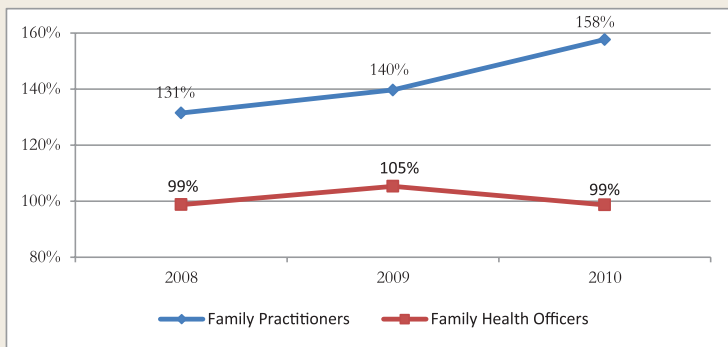
94. Remuneration for family physicians appears sufficiently high to attract general practitioners

FIGURE 9 Remuneration of General Practitioners and Nurses, 2000-2010



Source: Ministry of Health, 2012

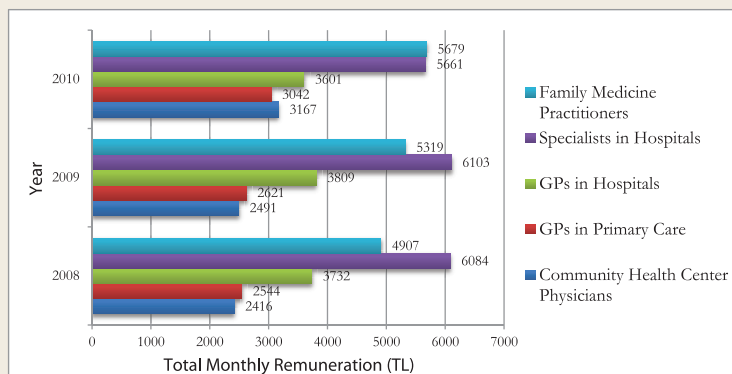
FIGURE 10 Total remuneration of physicians and health officers in family medicine relative to that of GPs and nurses in hospitals



Source: Ministry of Health, 2012

Note: Family health officers include nurses, midwives, and health officers

FIGURE 11 Total Remuneration (Monthly, Salary + Additional Payments) by Type, 2007-2010



Source: Ministry of Health.

into the family medicine program. Total gross monthly remuneration for family physicians as a share of total monthly remuneration of general practitioners in hospitals rose from 131 percent in 2008 to 158 percent in 2010, while family health officers are paid approximately as much as nurses in hospitals (Figure 10).

95. As shown in Figure 11, in 2010, family physicians report a gross monthly income of TL 5,679 – 1.6 times higher than the average gross monthly income of general practitioners in hospitals, 1.9 times higher than the average gross monthly income of general practitioners in primary care, and on par with the average gross monthly income of specialists. Given the previous emphasis on curative care and high levels of specialization among physicians, the high remuneration levels for family physicians are expected to further encourage new graduates to specialize as family medicine practitioners.

Financing

96. In 2009, Turkey’s total health spending as a share of GDP and in per capita terms was about average relative to comparable income countries. Over the past decade, the relatively high economic growth and continued

prioritization of health in total government spending has resulted in increased resources for health in all aspects – hospital care, primary care, pharmaceuticals and medical supplies. In terms of primary care, spending almost doubled between 2002 and 2010, rising from 2,169 million TL (in 2010 prices) in 2002 to 4,136 million TL in 2010. Spending on primary care as a share of public health spending rose from 4.9 percent in 2002 to 7.4 percent in 2010. Latest available figures for 2011 indicate a further increase to 6,424 million TL, roughly 11.4 percent of public health spending.

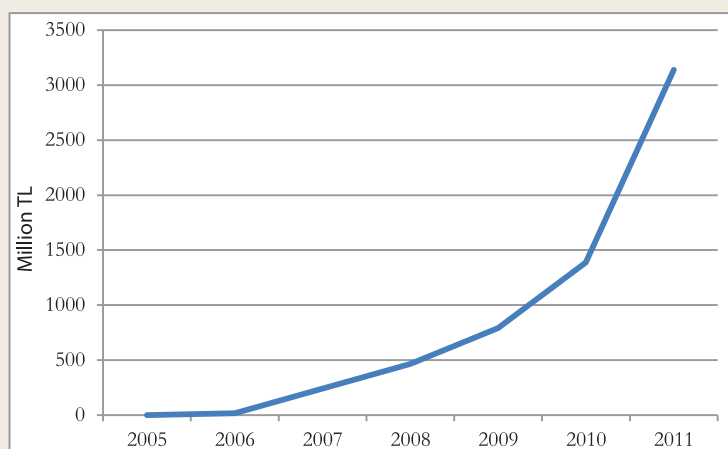
97. In 2011, spending on family medicine constituted 3,137 million TL. Family medicine expenditures comprised 48.8 percent of primary care spending and 5.6 percent of public health spending. Figure 12 shows the rise in family medicine expenditures as provinces joined the scheme.

Responsiveness to Users of Health Services

98. An important dimension health system performance is health service user responsiveness. This has been studied very closely in Turkey in the implementation of family medicine. In 2008 and 2011, patient satisfaction surveys were conducted to ascertain satisfaction rates with different aspects of primary care using the EUROPEP scale (Table 14). In 2008, satisfaction rates were compared between provinces that had implemented the FM program and those that had yet to do so and were found to be significantly higher in FM provinces ($p=0.000$).

99. Since by 2011, all provinces had joined the FM program, here in column 3 and 4 respectively, the provinces are broken down into “old” reformers (those that joined the program prior to 2008) and “new” reformers (those that have joined the program in 2008 and later). In addition, in columns 5 and 6,

FIGURE 12 Spending on Family Medicine in Million TL, 2005-2011



Source: Ministry of Health, 2012

we also break down the provinces into those that implemented FM in 2006 and those that implemented FM in 2010. As can be seen, in 2011 patient satisfaction rates are slightly higher among old reformers - 92.1 percent compared to 90.2 percent among new reformers, however these differences are not statistically significant ($p=0.4071$). Between 2008 and 2011, satisfaction rates among new reformers rise from 80.8 percent to 90.2 percent. If we look at 2006 FM provinces and 2010 FM provinces, we see larger differences in patient satisfaction – 94.7 percent compared to 89.6 percent, respectively and these are statistically significant ($p=0.0048$).

100. A key area of improvement in patient satisfaction between FM and non-FM provinces (old reformer versus new reformer provinces) is related patient confidentiality (as highlighted in line 6 in Table 14). Patient confidentiality is included in the warning point system (see Appendix 1 Table 2). Thus higher satisfaction for this indicator among patients in FM provinces suggests that the warning points have had a positive impact in improving confidentiality of patient records and data.

TABLE 14 Patient Satisfaction EUROPEP Scale, 2008 and 2011

		Satisfaction (%)					
		2008		2011			
		Non - FM	FM	Old-reformer (joined FM prior to 2008) (3)	New-reformer (joined FM in 2008 and later) (4)	Provinces that implemented FM in 2006 (5)	Provinces that implemented FM in 2010 (6)
	What is your opinion of the general practitioner and/or general practice over the last 12 months with respect to...						
1	Making you feel you had time during consultations	78.5	91.7	95.8	93.0	96.0	92.3
2	Interest in your personal situation	79.4	91.8	93.3	91.6	94.7	91.1
3	Making it easy for you to tell him or her about your problems	82.1	92.3	95.0	93.6	96.2	93.0
4	Involving you in decisions about medical care	78.2	89.2	92.0	90.4	94.8	89.8
5	Listening to you	84.8	94.1	95.4	94.6	96.2	93.8
6	Keeping your records and data confidential	85.6	93.7	94.3	90.4	96.8	90.3
7	Quick relief of your symptoms	80.3	89.8	91.2	89.3	94.9	88.4
8	Helping you to feel well so that you can perform your normal daily activities	80.7	90.1	92.0	89.8	95.3	88.9
9	Thoroughness	85.2	92.7	94.5	93.2	96.3	92.6
10	Physical examination	85.1	93.4	94.4	93.6	95.6	93.1
11	Offering you services for preventing diseases (e.g. screening, health checks, immunizations)	82.4	88.5	89.2	88.4	93.7	87.6
12	Explaining the purpose of test and treatments	80.4	91.3	91.2	88.5	93.6	87.6
13	Telling you what you wanted to know about your symptoms	80.9	92.6	93.0	91.6	95.3	90.7
14	Help in dealing with emotional problems related to your health status	76.1	87.9	84.6	85.7	92.1	84.5
15	Helping you to understand the importance of following his or her advice	79.4	91.0	91.2	90.7	94.6	89.9
16	Knowing what s/he had done or told you to do during previous contacts	76.7	88.2	89.3	86.0	91.6	85.5
17	Preparing you for what to expect from specialists or hospital care	78.8	88.3	91.1	87.1	94.6	85.8
18	The helpfulness of the staff (other than the doctor)	80.6	89.2	89.7	86.7	92.6	86.6
Total		80.8	90.9	92.1	90.2	94.7	89.6

Source: MOH (2008, 2011).

Responsiveness to Providers

101. Health providers are important stakeholders in any health reform effort. Managing provider expectations and supporting provider performance by responding to their legitimate needs is essential to ensure that health reform yields good results.

102. In 2008, a health care employee satisfaction survey was conducted in public health facilities and university hospitals to evaluate providers' views on job satisfaction, motivation and commitment. Further, providers were also asked a series of questions regarding their views on elements of the Health Transformation Program, such as performance based payments, family medicine

practice, and patient satisfaction (MoH, 2010). Providers were asked to rate their responses on a scale ranging from 1 being the most favorable option to 6 being the least favorable option. Family physicians ranked most favorable on most of the questions asked.

103. Job satisfaction was highest among family physicians (average score of 2.32 compared to an average score of 2.64 among specialists). Motivation and commitment were also highest among family physicians – 2.86 and 2.60, respectively, compared to 3.25 and 2.90 among specialists (Figure 13).

104. Views regarding family medicine were most positive among family doctors themselves (2.44) and most negative among specialists (3.54) and assistants (3.57). Family physicians also had the second most positive views about patient satisfaction after managers - 2.32 and 2.11, respectively, compared to 2.91 among specialists and 3.09 among assistants.

Conclusion

105. As can be seen while it is difficult to disentangle the impact of the family medicine performance-based payment system given the significant investments in the sector that were undertaken just prior to its implementation, it is evident that a comprehensive reform of

FIGURE 13 Health Care Employee Satisfaction by Profession, 2010



Source: MoH, 2010, Healthcare Employee Satisfaction Survey.

how maternal and child health services are delivered in Turkey has resulted in significant improvements both on health outcomes and service delivery. In addition, gaps narrowed between the various regions and the success was achieved in a very short period of time. Resources allocated both in terms of human and financial resources increased in support of the reforms. Higher remuneration for family physicians have attracted much needed personnel to join family medicine practices. As a result, both user and provider satisfaction improved significantly.

The Way Forward

106. Within a relatively short time, Turkey successfully introduced and rolled out nationwide family medicine model of which performance-based contracting is an integral component. As discussed in the earlier chapters, in combination with other interventions, maternal and child health indicators have significantly improved. Performance-based contracting was appropriate to meet the priority needs of the sector at the time of implementation. The institutional arrangements, accountability structures as well as M&E systems are fully functional at all levels - national, provincial and provider and adequate in the context of sectoral priorities and support the smooth functioning of the performance based contracting scheme.

107. Based on these findings, the study finds that there is now an opportunity to fine-tune the scheme and scale up its success. While the “rules of the game” should not change too often to confuse providers and supervisors of the scheme, it should also not remain static as over time this could reduce the benefits. Rather, performance indicators and targets, size of incentives, methods and sample size for counter verification of results, sanction measures, etc. need to be periodically reviewed and modified

during implementation as needed. Any changes could be reflected in the contract with FM providers in the next contracting cycle. Possible areas for fine-tuning in the Turkey’s scheme can include:

108. *Re-orienting performance contracts to introduce quality of care indicators in MCH:* The admonition or warning points system includes a number of indicators which primarily capture structural aspects of quality of care such as expired drugs or failure to adhere to cold chain rules - basic minimum pre-requisites for service delivery. However, the performance-based contracting scheme does not incentivize the clinical process dimension in quality of care. For example, the ANC indicator concerns with the coverage with 4th ANC visits but the clinical content of such visits are not an area of focus. It can therefore be said that the performance-based contracting scheme in Turkey started out with a mostly “pay for quantity” approach for MCH.

109. Turkey already has quality checks as an integral part of its quality improvement program in primary health care. As providers now perform very well with regard to existing MCH quantity indicators, this study

recommends that it may be time to include quality of MCH indicators in performance contracts, with a focus on clinical processes to support the ongoing quality improvement efforts. For example, quality indicators related to clinical processes in antenatal care that could be included in performance contracts are:

- pregnant women screened for hypertension in each antenatal visit
- pregnant women screened for proteinuria in each antenatal visit
- pregnant women screened for glycosuria in each antenatal visit
- pregnant women given a hemoglobin test in the first trimester
- pregnant women given a platelet count in the third trimester

110. The monitoring of these indicators would depend on the computerized medical records as part of the FMIS. Some of the above indicators such as proteinuria screening and hemoglobin tests are already being monitored at the facility level. FMIS record of such tests for pregnant women could form the basis for the achievement of the target by the provider. Audit methods can include comparing of laboratory records with medical records, as well as interviewing a random sample of patients to see if urine and blood samples were taken from them during ANC visits. For payment purposes, measuring quality of care is more complex than measuring quantity of care but it would be the natural next step for the scheme. The introduction of such complex indicators should be conducted on a pilot basis with rigorous evaluations prior to scaling up.

111. *Re-orienting performance indicators to address NCDs* Given the increasing burden of non-communicable diseases (NCD), it is encouraging that Turkey now plans to implement positive incentives for FM providers in the prevention control of NCD. Care however should be taken to continue to maintain the simplicity of the system. A scheme with both negative incentives for certain indicators and positive incentives for others could potentially complicate matters for both providers and supervisors of the scheme. For NCD, possible performance indicators can be:

- Screening adults for common cardiovascular risks (hypertension, high cholesterol, obesity)
- Successful management of NCDs (control of blood pressure in hypertensive patients, control of blood sugar in diabetic patients (HbA1c or glycated hemoglobin test))
- Screening of common cancers

112. With regards to the introduction of the new indicators, the MOH could:

- Retire those performance indicators where targets have been achieved and introduce new indicators that are focused on outstanding challenges,
- Add new performance indicators and retire the original performance indicators in a phased manner, or
- Introduce new indicators while retaining the original indicators and weight these indicators differentially so that a larger portion of payment is linked to the most important policy concern.

Each option holds different risks and benefits. Retiring performance indicators carry the risk that providers will redirect their efforts away in favor of the new indicators that are incentivized and undermine existing achievements. Increasing the number of performance indicators increases the administrative burden of the system. It should be noted that moving to new performance indicators such as those mentioned above could be an enormous challenge, as the current performance indicator definitions are widely accepted, relatively easy to measure, and to a significant extent within the control of providers. There is very little international evidence that points to the effectiveness of tying incentives to complex performance indicators. It would therefore be prudent to introduce new indicators on a pilot basis with careful assessment before scaling up. This also underscores the importance of stewardship and the Ministry of Health's role in periodically reviewing patterns of performance for indicators linked to payments and those that are not to assess the need for further changes.

113. *A need for combined demand side focus to reach the 'last mile'*: The incentives in the

PBC scheme are primarily on the supply-side, i.e., they motivate family medicine providers to increase their effort in favor of services that are captured in either the performance points or admonition/ warning points system. Reaching the ‘last mile’ in coverage of MCH interventions may, however, necessitate a demand-side focus to overcome constraints that especially hard-to-reach population face in obtaining maternal and child health services. In this context, leveraging the benefits of existing demand-side schemes such as the conditional cash transfers¹² may further amplify family medicine providers’ ability to improve coverage. In addition, demand side interventions can have an important role in disease control especially with regards to NCDs. This is particularly relevant to address NCD risk factors such as obesity, smoking, hypertension, high cholesterol for which the patients might not seek care from their FM providers.

114. Standardizing monitoring of FM providers: As Table 5 shows, the study revealed significant variations among provinces in the procedures used to monitor FM providers and verify their results for payments (e.g. the methodologies to audit 10% of doctors, conduct twice-a-year evaluation of FM units and assess the warning points). To reduce such variations, the Ministry of Health has recently introduced standard monitoring forms and guidelines for its use.

115. Introducing constructive feedback mechanisms to and from FM providers at the local level to improve performance: Ministry of Health conducts annual meetings with the Family Practitioner Association to understand and resolve issues and grievances. However, currently, there are no standard guidelines on regular feedbacks between providers and provincial health departments. Some provinces are, on their own initiative, implementing meetings to provide and elicit feedback.

Standardizing these strategies across provinces could make an important contribution to further improving the performance of Family Medicine providers. Obtaining feedbacks from Family Medicine providers is also important to ensure that the PBC scheme remains responsive to the legitimate expectations of providers and does not undermine their intrinsic motivation to perform well in the interest of their registered population. Finally, provider feedback can help provincial officials to tailor training or technical assistance to providers’ needs. It is important that the “random audit” “twice a year” visits and the accompanying feedbacks are conducted in a constructive manner to motivate family medicine providers. As discussed above, guidelines and supervision formats to standardize the process and training for supervisors that have recently been introduced would help address this issue.

116. Improving use of peer to peer learning networks for quality improvement: Peer-to-peer learning networks for quality improvement are used as a provider-driven tool to improve quality in many health care settings. Key informant interviews with Family Medicine providers highlighted their continued interest in using the existing open platform as a forum for sharing common operational problems and solutions to these problems. This could be further strengthened.

117. Conducting rigorous impact evaluation for the new incentive scheme: It is a challenge to ascertain the success of the current PBC scheme as a rigorous impact evaluation was not built in when it was rolled out. Now that the original scheme has been applied nationwide and MOH plans to introduce new additions to the scheme, it is important that an impact evaluation is envisioned from the very beginning so that the future success of such changes in the PBC can be confirmed with solid evidence.

¹² The conditional cash transfer scheme offers the poorest women a monthly allowance of 17 TL on condition that they continue their required health check-ups during pregnancy and infant check-ups after birth, and an additional 35 TL for giving birth in a health facility.

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Appendix Tables

TABLE 1 Roll out of Family Medicine in Turkey (as of December 31, 2011)

NAME OF PROVINCE	DATE OF INTRODUCTION	FMDS (Family Medicine Data System) POPULATION	Family Doctors	Family Health Centers	Community Health Centers
DÜZCE	15.09.2005	334.594	98	31	8
ESKİŞEHİR	17.07.2006	749.887	217	65	14
BOLU	16.10.2006	284.748	79	28	9
EDİRNE	01.12.2006	392.611	112	48	9
ADİYAMAN	25.12.2006	569.020	165	68	9
DENİZLİ	25.12.2006	954.272	265	107	22
GÜMÜŞHANE	29.12.2006	122.069	41	20	6
ELAZIĞ	04.01.2007	554.015	167	71	11
ISPARTA	18.01.2007	399.021	121	55	13
SAMSUN	01.03.2007	1.237.222	351	132	17
İZMİR	14.05.2007	3.896.974	1123	311	30
SİNOP	15.08.2007	204.024	56	27	9
BARTIN	01.11.2007	184.349	57	30	4
AMASYA	03.12.2007	329.817	95	41	7
BAYBURT	02.01.2008	78.739	24	14	3
ÇORUM	02.01.2008	533.879	164	69	14
MANİSA	02.01.2008	1.311.734	378	154	16
OSMANİYE	14.01.2008	490.202	140	54	7
KARAMAN	15.01.2008	238.058	72	27	6
KARABÜK	01.02.2008	222.422	64	26	6
ADANA	21.05.2008	2.092.200	591	153	15
BURDUR	14.07.2008	252.677	73	34	11
KIRIKKALE	18.08.2008	281.239	84	33	9
ÇANKIRI	15.10.2008	159.323	46	19	12
TUNCELİ	15.10.2008	71.426	25	14	8
YALOVA	15.10.2008	202.421	53	27	6
BİLECİK	10.11.2008	197.920	55	24	8
KASTAMONU	10.11.2008	347.851	102	48	20
ERZURUM	21.11.2008	785.517	231	71	20
KIRŞEHİR	21.11.2008	220.033	62	20	7
KAYSERİ	15.12.2008	1.236.453	357	65	16
RİZE	05.01.2009	313.663	93	31	12
TRABZON	05.01.2009	761.600	216	74	18
UŞAK	13.07.2009	349.128	102	30	6
BURSA	01.10.2009	2.641.336	724	170	17
KÜTAHYA	04.01.2010	565.839	167	69	13
NEVŞEHİR	04.01.2010	292.619	84	30	8
SAKARYA	04.01.2010	883.000	246	81	16
ARTVİN	18.01.2010	162.507	49	15	8

NAME OF PROVINCE	DATE OF INTRODUCTION	FMDs (Family Medicine Data System) POPULATION	Family Doctors	Family Health Centers	Community Health Centers
ERZİNCAN	18.01.2010	213.365	63	24	9
İĞDIR	12.04.2010	185.317	47	21	4
KİLİS	12.04.2010	120.108	35	14	4
NİĞDE	10.05.2010	332.008	97	45	6
GİRESUN	14.06.2010	415.687	119	33	16
KIRKLARELİ	14.06.2010	331.540	94	42	8
KONYA	14.06.2010	1.995.263	550	189	31
BİNGÖL	05.07.2010	253.712	73	29	8
MERSİN	05.07.2010	1.627.819	441	117	13
YOZGAT	05.07.2010	449.482	125	41	14
ÇANAKKALE	12.07.2010	472.417	131	51	12
MALATYA	12.07.2010	735.809	203	73	14
AKSARAY	12.07.2010	375.297	103	51	7
ANKARA	15.07.2010	4.681.202	1257	317	25
TOKAT	09.08.2010	583.197	164	64	12
ARDAHAN	09.08.2010	99.622	30	13	6
BATMAN	09.08.2010	496.049	140	39	6
TEKİRDAĞ	09.08.2010	797.735	219	80	9
KARS	09.08.2010	271.529	84	32	8
ORDU	13.09.2010	678.666	187	62	19
BİTLİS	13.09.2010	313.069	87	31	7
ZONGULDAK	13.09.2010	606.894	173	63	6
MUŞ	13.09.2010	373.793	112	46	6
SİVAS	20.09.2010	598.462	170	53	17
AĞRI	11.10.2010	492.103	147	51	8
AFYONKARAHİSAR	11.10.2010	672.100	193	98	18
BALIKESİR	11.10.2010	1.111.127	313	110	19
VAN	18.10.2010	955.009	271	77	12
HAKKARİ	18.10.2010	221.502	63	19	4
İSTANBUL	30.10.2010	12.782.635	3540	883	39
SİİRT	09.11.2010	282.364	77	27	7
MARDİN	15.11.2010	691.449	190	61	10
DİYARBAKIR	15.11.2010	1.449.892	414	131	17
KOCAELİ	15.11.2010	1.528.665	420	137	12
ŞİRNAK	06.12.2010	394.866	112	49	7
ŞANLIURFA	13.12.2010	1.637.725	456	117	11
ANTALYA	13.12.2010	1.928.179	545	180	19
GAZİANTEP	13.12.2010	1.670.383	452	119	9
HATAY	13.12.2010	1.429.701	399	168	12
KAHRAMANMARAŞ	13.12.2010	1.009.117	290	102	10
MUĞLA	13.12.2010	801.072	228	105	12
AYDIN	13.12.2010	953.249	280	113	17
TOTAL		71.923.589	20.243	6.463	960

TABLE 2 *Admonition or warning points*

	WARNING POINTS
Failing to comply with plan of work hours	3
Absence without excuse (for every day not worked)	5
Not posting the posters and announcements duly	5
Guidance signboards inside FHC and guidance signboards outside FHC not being in suitable form	5
Using material containing drug advertisement during duty	5
Not keeping regular records relating to duty or not informing the directorate or the Ministry	10
Not transferring personal health records of registered persons	10
Not replacing missing medical equipment of the Family Health Center within 10 days (for each missing material)	10
Exceeding the designated duration of absence for the trainings given	10
Keeping drugs with expired dates	10
Not protecting the drugs subject to green and red prescriptions	10
Admitting drug company representatives inside family health center within working hours	10
Illumination being not sufficient in waiting and treatment areas	5
Not doing directly observed treatment of patients with tuberculosis or not having it done	5
Not doing the portion of duty for home care services	10
Retarding or not keeping with plan in ambulatory health services	10
Not doing other duties given by regulations	5
Not wearing uniform	5
Not providing security of personal health records wrongfully	20
Not providing security of personal health records intentionally	50
Not making the minimum physical conditions of Family Health Center suitable within 10 days	10
Not conforming with Regulation on control of medical wastes	20
Not cooperating in audits, not presenting the desired data, making nonfactual statements	20
Not declaring property as per regulation	20
Not doing the imposed duty in preventive medicine implementations, making nonfactual statements	20
Inoculation rates of each vaccination subject to performance below 90 % except cases of force majeure or in cases of denouncement	10
Follow up of pregnant women rates subject to performance below 90 % except cases of force majeure or in cases of denouncement	20
Follow up of baby-child rates one of the preventive medicine implementations, below 90 % except cases of force majeure or in cases of denouncement	20
Not abiding by cold chain rules	20
Not abiding by patient rights and patient confidentiality as per provisions of respective legislation	20
Not abiding by the Medical Deontology Code of practice or patient confidentiality	20
Insulting colleagues or those receiving service or threatening them	20
Coming drunk to work or taking alcoholic beverages at place of duty	50
Preparing nonfactual report or document	50

TABLE 3 Vaccination Coverage Rates, 2003-2010

BCG Vaccination Coverage (%)						
	2006 FM	2007 FM	2008 FM	2009 FM	2010 FM	Turkey average
2003	76.8	76.9	74.2	80.5	69.1	72.0
2004	82.0	78.3	78.2	82.8	72.2	75.4
2005	85.5	85.7	84.1	88.3	83.9	84.6
2006	82.7	81.4	83.7	87.0	85.4	84.7
2007	90.3	90.9	93.5	91.8	91.3	91.8
2008	95.8	94.1	94.6	96.0	93.8	94.3
2009	92.0	93.0	91.5	93.8	94.2	93.4
2010	93.3	97.6	97.9	97.0	96.3	96.5

DPT3 Vaccination Coverage (%)						
	2006 FM	2007 FM	2008 FM	2009 FM	2010 FM	Turkey average
2003	71.8	66.6	72.5	74.8	65.2	67.9
2004	87.5	83.0	85.5	90.3	81.5	83.5
2005	89.8	88.7	90.7	89.8	88.0	88.9
2006	85.2	85.1	86.8	88.8	87.4	87.1
2007	95.2	93.7	95.6	94.8	94.7	94.9
2008	94.8	95.6	96.5	97.0	96.7	96.4
2009	93.5	95.9	95.3	96.3	94.9	95.1
2010	95.2	98.0	98.1	98.0	97.3	97.4

Measles (%)						
	2006 FM	2007 FM	2008 FM	2009 FM	2010 FM	Turkey average
2003	77.7	74.4	77.1	81.3	71.4	74.0
2004	81.0	76.6	82.2	84.3	77.5	79.1
2005	89.7	89.7	91.5	90.8	86.5	88.4
2006	89.3	90.6	90.6	93.8	92.2	91.7
2007	95.7	91.3	96.2	91.0	94.0	94.0
2008	93.5	96.9	95.5	98.0	95.9	95.8
2009	94.2	95.7	94.7	97.0	95.9	95.6
2010	96.0	98.9	97.8	97.8	96.0	96.8

HepB3 (%)						
	2006 FM	2007 FM	2008 FM	2009 FM	2010 FM	Turkey average
2003	74.5	72.4	74.7	79.3	63.8	68.7
2004	82.8	79.6	82.1	89.0	72.2	76.7
2005	85.7	89.6	87.7	87.0	81.4	84.2
2006	82.7	81.7	81.8	83.8	80.8	81.6
2007	95.3	96.6	97.7	91.3	95.5	95.8
2008	90.7	93.6	92.4	94.3	91.9	92.2
2009	92.8	94.9	94.4	95.3	92.4	93.3
2010	94.7	98.0	97.8	98.0	96.2	96.7

TABLE 4 Immunization Rates by Province, 2003 and 2010

	2003				2010			
	BCG	DPT3	Measles	HepB3	BCG	DPT3	Measles	HepB3
Adana	85	79	83	70	100	97	97	96
Adiyaman	74	72	76	71	95	96	96	95
Afyonkarahisar	75	72	76	69	98	100	98	100
Ağrı	31	31	35	25	100	100	96	94
Aksaray	77	66	74	70	100	100	91	100
Amasya	78	61	71	70	100	98	96	98
Ankara	96	72	88	81	98	93	96	94
Antalya	89	81	86	81	97	97	97	97
Ardahan	47	54	55	52	100	100	100	100
Artvin	74	75	79	66	93	100	100	100
Aydın	77	70	80	76	98	97	98	96
Balıkesir	76	66	74	72	98	98	98	98
Bartın	77	72	79	79	100	100	99	99
Batman	54	58	61	48	100	84	78	82
Bayburt	67	73	76	73	100	100	100	98
Bilecik	81	77	81	82	100	100	99	100
Bingöl	58	51	56	43	89	93	87	89
Bitlis	55	43	46	36	95	97	97	95
Bolu	75	72	79	77	100	99	99	99
Burdur	74	66	70	69	100	97	98	98
Bursa	90	81	83	82	95	97	97	97
Çanakkale	77	72	76	75	100	100	99	100
Çankırı	70	70	77	76	93	95	92	95
Çorum	72	67	75	70	95	99	97	99
Denizli	79	75	80	79	94	96	97	95
Diyarbakır	62	48	61	37	96	95	94	93
Düzce	76	76	85	84	95	97	97	97
Edirne	73	65	70	67	96	97	97	97
Elazığ	85	67	79	74	98	99	100	99
Erzincan	78	75	79	77	96	100	94	100
Erzurum	63	76	84	72	95	99	98	98
Eskişehir	77	73	76	75	92	93	95	93
Gaziantep	100	73	82	68	95	94	95	95
Giresun	97	64	69	63	91	100	100	96
Gümüşhane	83	74	85	78	83	90	92	89
Hakkari	33	50	51	25	83	95	93	97
Hatay	85	74	76	72	99	98	98	98
İçel	78	71	73	69	98	100	98	99
İğdır	54	62	57	52	96	100	96	99
İsparta	76	63	75	74	99	98	100	98
İstanbul	73	64	77	66	98	98	99	98

	2003				2010			
	BCG	DPT3	Measles	HepB3	BCG	DPT3	Measles	HepB3
İzmir	79	68	75	74	96	97	98	97
Kahramanmaraş	91	74	87	77	97	97	96	95
Karabük	83	76	70	78	100	100	100	100
Karaman	73	66	74	74	98	97	100	97
Kars	42	63	74	55	99	100	100	98
Kastamonu	76	74	76	77	99	100	99	100
Kayseri	83	76	82	80	100	100	100	100
Kilis	62	67	82	74	99	100	97	100
Kırıkkale	81	74	82	78	97	97	98	96
Kırklareli	77	74	85	76	97	99	98	98
Kırşehir	65	69	72	73	100	100	100	100
Kocaeli	89	74	87	82	96	96	97	95
Konya	81	78	82	80	97	98	93	98
Kütahya	80	72	77	75	99	99	97	99
Malatya	77	78	81	79	100	99	99	99
Manisa	75	69	74	74	91	92	88	93
Mardin	60	59	71	49	95	94	94	92
Muğla	84	71	81	80	98	100	97	99
Muş	37	54	60	41	100	100	98	100
Nevşehir	73	66	74	74	100	100	100	100
Niğde	67	70	73	74	100	100	100	100
Ordu	73	72	78	73	95	97	98	96
Osmaniye	75	75	79	77	97	96	97	96
Rize	82	72	85	84	100	100	100	100
Sakarya	84	80	87	86	97	98	98	97
Samsun	71	67	72	69	97	98	100	98
Şanlıurfa	56	53	54	42	93	90	88	89
Siirt	61	68	69	60	97	100	96	95
Sinop	72	68	70	67	93	96	99	97
Sivas	68	68	72	71	95	97	98	97
Şırnak	29	38	31	26	91	95	95	85
Tekirdağ	100	75	88	86	95	95	97	95
Tokat	59	64	71	68	90	97	95	96
Trabzon	81	78	82	79	97	98	99	98
Tunceli	59	70	71	68	100	100	100	100
Uşak	69	68	75	72	96	97	95	97
Van	42	48	63	41	91	93	95	89
Yalova	80	75	84	79	100	98	100	97
Yozgat	60	68	67	69	92	94	92	94
Zonguldak	79	71	80	76	98	98	98	98

TABLE 5 Average Number of Antenatal Care Visits by Province, 2003 and 2010

	Average Number of Antenatal Care Visits	
	2003	2010
Adana	3.6	3.8
Adıyaman	3.6	3.6
Afyonkarahisar	2.9	5.5
Ağrı	2.7	3.8
Aksaray	2.9	4.1
Amasya	4	4.3
Ankara	3.5	4.1
Antalya	4	5.4
Ardahan	2.4	4.4
Artvin	3.7	3.9
Aydın	4.7	7.5
Balıkesir	4.7	6.0
Bartın	2.6	5.2
Batman	2.1	5.2
Bayburt	3.5	3.7
Bilecik	5.1	4.3
Bingöl	2	3.8
Bitlis	3.7	4.8
Bolu	4.2	4.8
Burdur	4.7	5.1
Bursa	2.9	4.0
Çanakkale	4.7	6.2
Çankırı	4.5	4.9
Çorum	2.9	4.2
Denizli	6	5.7
Diyarbakır	4.8	3.9
Düzce	3.7	4.8
Edirne	4.5	4.1
Elazığ	3.8	4.1
Erzincan	3.3	2.5
Erzurum	2.7	4.2
Eskişehir	5	4.8
Gaziantep	2.1	4.4
Giresun	3.4	3.0
Gümüşhane	4	4.2
Hakkari	2.5	3.4
Hatay	3.4	3.6
Iğdır	2.3	3.8
Isparta	4.6	5.0
İstanbul	-	1.9
İzmir	5.4	5.3

	Average Number of Antenatal Care Visits	
	2003	2010
Kahramanmaraş	4.7	6.3
Karabük	3.1	4.5
Karaman	4.5	4.6
Kars	3.5	4.9
Kastamonu	3.5	4.5
Kayseri	4.8	4.9
Kilis	4.2	5.3
Kırkkale	3.9	4.4
Kırklareli	3.9	5.5
Kırşehir	1.4	3.9
Kocaeli	3.9	6.5
Konya	2.9	4.7
Kütahya	3.6	5.0
Malatya	6.7	5.0
Manisa	4.5	4.6
Mardin	5.1	3.6
Mersin	4.5	5.7
Muğla	4.7	6.9
Muş	4.8	3.4
Nevşehir	3	5.2
Niğde	2.8	4.9
Ordu	3.6	5.8
Osmaniye	3.9	4.2
Rize	4.1	4.1
Sakarya	4.5	3.7
Samsun	3.9	3.5
Şanlıurfa	2.8	3.6
Siirt	5.1	4.6
Sinop	3.9	4.7
Şırnak	2.7	3.8
Sivas	7.7	6.0
Tekirdağ	3.7	5.2
Tokat	4	5.1
Trabzon	4.1	4.1
Tunceli	3.4	4.1
Uşak	4.5	5.3
Van	2.3	3.8
Yalova	3	3.9
Yozgat	4	6.8
Zonguldak	3.3	4.3

TABLE 6 *Top 3 Most Common Reasons for the Issuance of Warning Points in the First Year of Implementation of Family Medicine in the Province*

Rank 1	% of provinces
Reduction of follow up of baby-child rates one of the preventive medicine implementations, below 90 % except cases of force majeure or in cases of denouncement	17.4
Reduction of follow up of pregnant women rates subject to performance below 90 % except cases of force majeure or in cases of denouncement	17.4
Failing to comply with plan of work hours	13.0
Reduction of inoculation rates of each vaccination subject to performance below 90 % except cases of force majeure or in cases of denouncement	13.0
Not doing other duties given by regulations	8.7
Not doing the imposed duty in preventive medicine implementations, making nonfactual statements	8.7
Absence without excuse (for every day not worked)	4.4
Not abiding by cold chain rules	4.4
Not abiding by the Medical Deontology Code of practice or patient confidentiality	4.4
Not making the minimum physical conditions of Family Health Center suitable within 10 days	4.4
Not replacing missing medical equipments of the Family Health Center within 10 days (for each missing material)	4.4
Rank 2	
Not doing other duties given by regulations	36.4
Not doing the imposed duty in preventive medicine implementations, making nonfactual statements	18.2
Absence without excuse (for every day not worked)	9.1
Not abiding by the Medical Deontology Code of practice or patient confidentiality	9.1
Not replacing missing medical equipments of the Family Health Center within 10 days (for each missing material)	9.1
Reduction of follow up of pregnant women rates subject to performance below 90 % except cases of force majeure or in cases of denouncement	9.1
Reduction of inoculation rates of each vaccination subject to performance below 90 % except cases of force majeure or in cases of denouncement	9.1
Rank 3	
Absence without excuse (for every day not worked)	22.2
Failing to comply with plan of work hours	11.1
Keeping drugs with expired dates	11.1
Not abiding by the Medical Deontology Code of practice or patient confidentiality	11.1
Not cooperating in audits, not presenting the desired data, making nonfactual statements	11.1
Retarding or not keeping with plan in ambulatory health services	11.1
Reduction of inoculation rates of each vaccination subject to performance below 90 % except cases of force majeure or in cases of denouncement	11.1
Using material containing drug advertisement during duty	11.1

TABLE 7 Top 3 Most Common Reasons for the Issuance of Warning Points in 2011

Rank 1	% of provinces
Failing to comply with plan of work hours	20.8
Reduction of follow up of pregnant women rates subject to performance below 90 % except cases of force majeure or in cases of denouncement	10.4
Reduction of inoculation rates of each vaccination subject to performance below 90 % except cases of force majeure or in cases of denouncement	10.4
Reduction of follow up of baby-child rates one of the preventive medicine implementations, below 90 % except cases of force majeure or in cases of denouncement	8.3
Not abiding by cold chain rules	6.3
Not doing other duties given by regulations	6.3
Not doing the imposed duty in preventive medicine implementations, making nonfactual statements	6.3
Keeping drugs with expired dates	4.2
Not keeping regular records relating to duty or not informing the directorate or the Ministry	4.2
Not replacing missing medical equipments of the Family Health Center within 10 days (for each missing material)	4.2
Absence without excuse (for every day not worked)	2.1
Admitting drug company representatives inside family health center within working hours	2.1
Guidance signboards inside FHC and guidance signboards outside FHC not being in suitable form	2.1
Insulting colleagues or those receiving service or threatening them	2.1
Not abiding by the Medical Deontology Code of practice or patient confidentiality	2.1
Not doing the portion of duty for home care services	2.1
Not making the minimum physical conditions of Family Health Center suitable within 10 days	2.1
Not posting the posters and announcements duly	2.1
Not wearing uniform	2.1
Rank 2	
Not doing other duties given by regulations	11.6
Retarding or not keeping with plan in ambulatory health services	11.6
Failing to comply with plan of work hours	9.3
Not doing the imposed duty in preventive medicine implementations, making nonfactual statements	7.0
Not keeping regular records relating to duty or not informing the directorate or the Ministry	7.0
Reduction of follow up of pregnant women rates subject to performance below 90 % except cases of force majeure or in cases of denouncement	7.0
Reduction of inoculation rates of each vaccination subject to performance below 90 % except cases of force majeure or in cases of denouncement	7.0
Insulting colleagues or those receiving service or threatening them	4.7
Keeping drugs with expired dates	4.7
Not abiding by cold chain rules	4.7
Not doing the portion of duty for home care services	4.7
Not wearing uniform	4.7
Reduction of follow up of baby-child rates one of the preventive medicine implementations, below 90 % except cases of force majeure or in cases of denouncement	4.7
Absence without excuse (for every day not worked)	2.3
Not abiding by the Medical Deontology Code of practice or patient confidentiality	2.3
Not conforming with Regulation on control of medical wastes	2.3
Not posting the posters and announcements duly	2.3
Preparing nonfactual report or document	2.3

Rank 3	
Reduction of inoculation rates of each vaccination subject to performance below 90 % except cases of force majeure or in cases of denouncement	13.8
Failing to comply with plan of work hours	10.3
Absence without excuse (for every day not worked)	6.9
Not abiding by the Medical Deontology Code of practice or patient confidentiality	6.9
Not cooperating in audits, not presenting the desired data, making nonfactual statements	6.9
Not doing the imposed duty in preventive medicine implementations, making nonfactual statements	6.9
Not replacing missing medical equipments of the Family Health Center within 10 days (for each missing material)	6.9
Preparing nonfactual report or document	6.9
Exceeding the designated duration of absence for the trainings given	3.5
Guidance signboards inside FHC and guidance signboards outside FHC not being in suitable form	3.5
Insulting colleagues or those receiving service or threatening them	3.5
Keeping drugs with expired dates	3.5
Not conforming with Regulation on control of medical wastes	3.5
Not protecting the drugs subject to green and red prescriptions	3.5
Not providing security of personal health records wrongfully	3.5
Retarding or not keeping with plan in ambulatory health services	3.5
Reduction of follow up of pregnant women rates subject to performance below 90 % except cases of force majeure or in cases of denouncement	3.5
Using material containing drug advertisement during duty	3.5

TABLE 8 Remuneration of Specialists in Hospitals by MoH Service Regions, 2000-2010

Year	Region 1		Region 2		Region 3		Region 4		Region 5		Region 6		Turkey		Total Monthly (Salary + Additional)	Total Annually (Salary + Additional)
	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment		
2000	413	297	578	374	383	749	480	562	431	655	469	184	459	470	929	11151
2001	624	470	727	407	666	836	697	621	682	728	684	327	680	565	1245	14938
2002	870	616	816	554	843	1758	830	1156	836	1457	959	646	859	1031	1890	22680
2003	984	647	939	1052	874	1892	907	1472	890	1682	1118	745	952	1248	2200	26405
2004	1067	2650	1001	2234	980	1639	990	1937	985	1788	1193	2467	1036	2119	3155	37864
2005	1112	4500	1114	2740	1089	2003	1102	2372	1095	2187	1332	3357	1141	2860	4001	48008
2006	1297	4750	1211	3838	1183	2170	1197	3004	1190	2587	1484	4086	1260	3406	4666	55995
2007	1294	5039	1346	3400	1220	1614	1283	2507	1252	2060	1603	4889	1333	3252	4585	55015
2008	1636	4851	1455	3761	1507	4497	1595	4271	1661	4661	1657	4954	1585	4499	6084	73011
2009	1625	4091	1585	4600	1552	4299	1544	4322	1602	4215	1985	5200	1649	4455	6103	73239
2010	1738	3347	1598	4439	1759	3609	2186	2868	1976	3459	2804	4181	2010	3651	5661	67928

TABLE 9 Remuneration of General Practitioners in Hospitals by MoH Service Regions, 2000-2010

Year	Region 1		Region 2		Region 3		Region 4		Region 5		Region 6		Turkey		Total Monthly (Salary + Additional)	Total Annually (Salary + Additional)
	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment		
2000	344	222	440	292	309	612	298	277	326	370	373	169	348	324	672	8061
2001	541	364	575	322	544	647	438	345	481	692	527	324	517	449	966	11596
2002	777	505	661	478	723	1053	657	441	759	960	751	444	721	647	1368	16413
2003	883	502	822	809	834	1211	832	482	912	1106	878	602	860	785	1645	19741
2004	960	580	905	1295	953	1540	851	1083	982	1354	957	1319	935	1195	2130	25558
2005	1067	2258	1030	1653	1076	2523	1025	1660	1127	2090	1132	1822	1076	2001	3077	36925
2006	1198	2551	1109	2457	1192	2773	1200	2207	1224	2270	1207	1871	1188	2355	3543	42518
2007	1198	2800	1220	2093	1294	2732	1264	2784	1341	3045	1314	2625	1272	2680	3952	47422
2008	1474	2529	1346	2336	1335	2355	1389	1910	1438	2434	1451	2392	1406	2326	3732	44780
2009	1381	2286	1490	2650	1430	2330	1102	2372	1359	2358	1598	2500	1393	2416	3809	45707
2010	1539	1438	1559	2717	1493	1415	1790	3702	1638	1550	1643	1125	1610	1991	3601	43217

TABLE 10 Remuneration of Nurses in Hospitals by MoH Service Regions, 2000-2010

Year	Region 1		Region 2		Region 3		Region 4		Region 5		Region 6		Turkey		Total Monthly (Salary + Additional)	Total Annually (Salary + Additional)
	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment		
2000	220	128	300	181	253	84	199	186	218	89	253	84	240	125	365	4382
2001	322	168	383	220	341	122	340	234	303	245	341	122	338	185	523	6281
2002	512	275	461	332	513	232	497	286	492	370	513	232	498	288	786	9427
2003	572	265	538	360	665	255	583	322	647	439	665	255	611	316	927	11124
2004	685	676	571	482	716	443	628	457	711	476	716	443	671	496	1167	14005
2005	780	741	684	524	803	495	754	565	794	544	803	495	769	560	1330	15959
2006	812	780	751	575	890	520	843	625	857	589	890	520	840	601	1442	17300
2007	955	801	822	594	985	761	905	703	951	617	985	761	934	706	1640	19676
2008	1049	728	954	693	1037	764	1006	719	1038	760	1000	762	1014	738	1752	21023
2009	1110	689	1051	858	1085	750	1024	713	1039	729	1229	773	1090	752	1841	22098
2010	1233	697	1168	799	1202	834	1204	835	1234	681	1234	688	1213	756	1968	23621

TABLE 11 Remuneration of General Practitioners in Primary Care by MoH Service Regions, 2000-2010

Year	Region 1		Region 2		Region 3		Region 4		Region 5		Region 6		Turkey		Total Monthly (Salary + Additional)	Total Annually (Salary + Additional)
	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment		
2000	351		313		308		305		360		363		333	0	333	4000
2001	474		443		424		459		515		541		476	0	476	5712
2002	668	74	665	134	649	85	656	173	743	142	766	145	691	126	817	9803
2003	838	214	794	270	807	213	817	257	926	263	893	166	846	231	1077	12918
2004	922	339	916	370	885	353	940	370	1018	277	1044	214	954	321	1275	15299
2005	1006	716	1035	646	1020	896	1035	657	1118	829	1214	486	1071	705	1776	21316
2006	1104	1090	1103	988	1086	950	1114	988	1205	728	1318	741	1155	914	2069	24829
2007	1219	1287	1218	1117	1217	1070	1249	827	1348	772	1337	907	1265	997	2262	27139
2008	1316	1335	1292	1255	1309	976	1381	976	1428	1021	1757	1220	1414	1130	2544	30529
2009	1549	1314	1322	1322	1451	949	1460	718	1670	1091	1762	1120	1536	1086	2621	31457
2010	1617	1201	1406	1728	1529	1076	1462	1574	1635	2280	1627	1117	1546	1496	3042	36505

TABLE 12 Remuneration of Nurses, Midwives, and Health Officers in Primary Care by MoH Service Regions, 2000-2010

Year	Region 1		Region 2		Region 3		Region 4		Region 5		Region 6		Turkey		Total Monthly (Salary + Additional)	Total Annually (Salary + Additional)
	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment		
2000	212		183		208		208		238		221		212	0	212	2539
2001	287		267		290		300		335		328		301	0	301	3613
2002	399	32	432	64	430	41	451	59	488	83	485	64	448	57	504	6053
2003	584	80	530	104	565	82	572	85	631	98	566	71	575	87	661	7935
2004	651	129	614	181	646	140	614	181	726	106	687	99	656	139	796	9547
2005	715	306	681	284	721	294	770	261	829	208	770	204	748	260	1007	12087
2006	784	388	729	357	796	358	729	357	869	280	834	295	790	339	1130	13555
2007	890	487	823	401	860	384	907	346	956	302	897	330	889	375	1264	15168
2008	1020	481	932	495	1018	357	1050	351	1124	353	1328	436	1079	412	1490	17886
2009	1179	463	1157	454	1166	394	1139	328	1194	404	1298	560	1189	434	1623	19472
2010	1143	532	1129	500	1207	469	1253	405	1328	459	1320	485	1230	475	1705	20461

TABLE 13 Remuneration of Family Practitioners by MoH Service Regions, 2008-2010

Year	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Turkey
2008	4,906.84	4,906.84	4,906.84	4,906.84	4,906.84	4,906.84	4,906.84
2009	5,319.15	5,319.15	5,319.15	5,319.15	5,319.15	5,319.15	5,319.15
2010	5,678.79	5,678.79	5,678.79	5,678.79	5,678.79	5,678.79	5,678.79

TABLE 14 Remuneration of Family Health Officers* by MoH Service Regions, 2008-2010

	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Turkey
2008	1626	1608	1759	1721	1845	1826	1731
2009	1745	1804	1941		2050	2156	1939
2010	1789	1808	1861	1883	2167	2150	1943

*Includes nurses, midwives, health officers

TABLE 15 Remuneration of Community Health Center Practitioners by MoH Service Regions, 2008-2010

Year	Region 1		Region 2		Region 3		Region 4		Region 5		Region 6		Turkey		Total Monthly (Salary + Additional)
	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment	Basic Salary	Additional Payment	
2008	1377	1157	1365	741	1309	876	1516	1030	1505	875	1518	1225	1432	984	2416
2009	1467	743	1477	1008	1403	964			1625	930	1502	1335	1495	996	2491
2010	1508	1980	1506	1178	1533	1328	1569	1627	1676	1678	1716	1700	1585	1582	3167

Source: Ministry of Health, 2012

TABLE 16 *Contracts terminated and Warnings issued in 2011 and 2012*

Province	Family Medicine	Contracts terminated		Warning issued		Contract terminated by FM Providers themselves	
		2010	2011	2010	2011	2010	2011
ADANA	597	1	1	210	257	25	29
ADYAMAN	167	0	0	24	13	1	2
AFYONKARAHİSAR	198	0	1	0	0	3	1
AĞRI	147	4	7	0	0	4	8
AKSARAY	108	0	0	0	7	4	0
AMASYA	95	0	0	0	0	2	0
ANKARA	1268	3	3	35	71	62	29
ANTALYA	548	3	0	19	0	3	2
ARDAHAN	30	0	0	0	0	0	0
ARTVİN	47	0	0	4	0	14	1
AYDIN	282	0	0	0	0	0	4
BALIKESİR	321	0	1	22	51	10	25
BARTIN	60	0	0	2	0	0	2
BATMAN	135	0	0	0	1	11	15
BAYBURT	24	6	0	0	0	10	3
BİLECİK	59	0	0	11	0	0	0
BİNGÖL	68	0	0	9	20	1	0
BİTLİS	87	0	0	0	0	0	0
BOLU	82	3	0	2	0	0	0
BURDUR	78	0	0	0	0	8	5
BURSA	716	1	0	199	19	26	11
ÇANAKKALE	130	1	0	18	9	12	0
ÇANKIRI	48	0	0	1	1	12	2
ÇORUM	164	5	0	17	1	1	0
DENİZLİ	268	2	0	72	47	18	10
DİYARBAKIR	409	3	0	0	9	3	0
DÜZCE	94	0	0	10	8	0	1
EDİRNE	112	0	0	19	28	9	13
ELAZIĞ	166	0	3	1	2	11	10
ERZİNCAN	66	0	0	0	0	9	7
ERZURUM	235	2	0	104	5	0	0
ESKİŞEHİR	218	5	0	7	0	0	1
GAZİANTEP	451	0	0	2	6	0	3
GİRESUN	120	0	0	0	0	0	0
GÜMÜŞHANE	41	1	0	1	0	3	1
HAKKARİ	56	0	0	0	0	17	0
HATAY	398	0	0	26	59	2	5
İĞDIR	53	0	0	4	0	0	0
ISPARTA	123	0	0	2	0	3	1
İSTANBUL	3484	201	297	217	305	418	602
İZMİR	1133	6	0	79	13	33	5

Province	Family Medicine	Contracts terminated		Warning issued		Contract terminated by FM Providers themselves	
		2010	2011	2010	2011	2010	2011
KAHRAMANMARAŞ	290	0	0	0	2	10	0
KARABÜK	66	0	0	0	0	3	0
KARAMAN	73	0	0	0	0	7	2
KARS	79	0	0	5	0	8	5
KASTAMONU	102	1	0	9	0	23	7
KAYSERİ	361	3	0	24	22	1	4
KIRIKKALE	84	0	0	2	0	0	0
KIRKLARELİ	93	1	0	7	9	3	3
KIRŞEHİR	65	0	0	51	56	9	10
KİLİS	35	0	0	0	0	8	0
KOCAELİ	414	3	3	0	0	0	0
KONYA	559	2	1	103	140	16	14
KÜTAHYA	171	0	0	50	88	26	1
MALATYA	203	0	0	0	0	0	0
MANİSA	391	0	0	33	73	6	0
MARDİN	188	3	0	19	5	32	9
MERSİN	448	1	0	66	31	1	2
MUĞLA	229	0	3	0	11	4	2
MUŞ	107	2	3	41	55	49	72
NEVŞEHİR	83	0	0	0	0	4	0
NİĞDE	100	0	0	12	2	6	1
ORDU	186	0	0	9	13	14	18
OSMANIYE	140	2	0	5	5	8	0
RİZE	93	0	0	0	0	0	0
SAKARYA	241	0	0	5	6	43	51
SAMSUN	350	6	0	111	0	20	5
SIİRT	75	0	0	0	4	0	0
SİNOP	57	1	0	9	4	4	3
SİVAS	176	0	1	25	1	7	1
ŞANLIURFA	457	0	1	75	134	71	178
ŞIRNAK	108	3	0	52	43	38	17
TEKİRDAĞ	223	4	0	0	0	7	0
TOKAT	167	1	2	2	3	40	48
TRABZON	219	0	0	17	27	8	0
TUNCELİ	23	3	0	11	2	9	9
UŞAK	107	0	0	8	16	0	0
VAN	228	0	0	0	0	0	0
YALOVA	54	0	0	1	2	0	1
YOZGAT	128	0	0	29	0	27	6
ZONGULDAK	172	2	2	0	0	23	35
Total	20,231	285	329	1,898	1,686	127	1,302
As a percent of all contracts		1.4%	1.6%	9.4%	8.3%	0.6%	6.4%

Source: CRMS 2012.

