Expediency and coincidence in re-engineering a health system: an interpretive approach to formation of family medicine in Iran

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Background	Analysing the evidence generated over decades, the World Health Report 2008 recommended the expansion of primary health care (PHC) to achieve better population health, higher equity and lower costs. Over the last two decades, the Iranian model of PHC has resulted in population health indices that match the best in the region. Despite the extensive PHC networks in rural areas, there was an expansion of private outpatient care and hospital-based services. This model has been inadequate to meet the evolving health needs of the population and increasingly difficult to afford. In response, a family medicine (FM) programme has been implemented since August 2005, funded through Behbar, a model of social insurance. In this paper, we aim to identify facilitators of and barriers to implementation of FM in Iran.
Methods	Data were collected between November 2006 and May 2007 through semi-structured interviews at national (19 interviews), provincial (9) and local (43) levels, and through a purposive document analysis. The framework approach was used for analysing interviews. Document analysis followed a narrative contextual framework. We interpreted data using an interpretive framework consisting of multiple streams and network theories.
Results	The introduction of Behbar provided FM advocates with the opportunity to place FM on the policy agenda. They skilfully coupled the two policies and defined FM as the only solution to fulfill Behbar. However, the manner in which policy was formed was the main obstacle to desired FM implementation.
Conclusion	The interpretive framework links the concept of outreach to the poor and enhancing equity to rationing health services at a particularly opportune moment in Iran. However, using windows of opportunity to implement a major policy change, if it results in sacrifices in planning and preparedness, may harm the policy and the future success in achieving its objectives.
Keywords	Family medicine, rural health insurance, Behbar, implementation, multiple streams, policy networks

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KEY MESSAGES

- Major changes can happen in health systems because of coincidental phenomena.

- Policy entrepreneurs can couple different processes, or streams, at opportune moments to make policy happen and push it towards execution.

- The interpretive framework is useful for integrating policy community networks with broader events. It links the concept of enhancing equity to rationing health services at an opportune moment in Iran.

- Using windows of opportunity to implement a major policy change, if it results in sacrifices in planning and preparedness, may harm the policy and the future success in achieving its objectives.

Introduction

According to the *World Health Report 2008*, the five main features that generally identify a functioning primary health care (PHC) system are: effectiveness and safety; person-centredness; comprehensiveness and integration; continuity; and availability of a regular entry point (gate-keeping) for access to secondary and tertiary care (WHO 2008). Only in a limited number of countries does PHC match such characteristics. Evidence suggests that a functioning PHC sector offers crucial advantages within health systems in terms of the health status of the public, improving health-care-related outcomes (Davis *et al.* 2006; Campbell 2007), lower health disparities, more equitable access to care, better quality of care (Bindman and Majeed 2003; Bodenheimer 2003) and lower costs (Lovkyte and Padaiga 2001; Ferrer *et al.* 2005; Starfield *et al.* 2005). Health care spending in countries with such a system has been shown to be less than in settings with non-functioning or limited primary care (Anderson *et al.* 2000). Hence, it is now crucial, 'more than ever' that health systems should invest in primary health care (Starfield 1998; WHO Euro 2004; WHO 2008).

The PHC network in rural Iran has been described as an 'incredible masterpiece' (Tavassoli 2008). Mostly financed by the state budget, nationwide implementation of the PHC networks started in 1981 in Iran with the establishment of health houses in rural areas. Community health workers (Behvarz), who received basic training for the job and were employed by the government, were the main providers at this level and were supported by doctors based in health centres. PHC focused on community participation and inter-sectoral cooperation. It also actively and effectively implemented strategies such as child immunization, oral rehydration, family planning, prenatal care, respiratory infection management as well as environmental health (Shadpour 2000; Takian 2009). The system was based on a novel and unique method of data collection and registration (Taylor and Marandi 2008). PHC was designed for both rural and urban areas, but in practice remained comprehensive in villages (90% coverage) and loose in cities (HERIMP 2004). As a result, dramatic improvements were obtained in health indices over the following years (Table 1).

Following the introduction of PHC, health indices in Iran are now similar to the best in the region (WHO 2008; UNDP 2008). However, in recent years the system has lacked the level of flexibility to respond to emerging needs: increased life span of the population, rising burden of non-communicable diseases, migration to urban areas and growing expectations of the public for further access to qualified doctors (Statistical Centre of Iran 2007; Population Reference Bureau 2009). On the other hand, an expanding private sector and the incorporation of expensive medical technology into routine health care have created new challenges for the health system (HERIMP 2004). Health care provision is heavily reliant on out-of-pocket expenditure (55%) (WHO 2009). In large cities, there is no distinct role for GPs as gate-keepers. In particular, the current PHC system seems unfit for addressing the observed shifts in disease patterns towards chronic conditions and non-communicable diseases (National Unit for Health Services Reform 2005; Takian 2009). In response the government has instituted health sector reform through the introduction of two new policies: family medicine (FM) to improve the quality of services, and Behbar (rural insurance for all) to enhance affordability.

Aim—why this study matters

The process of implementation represents a neglected phase of policy making, which despite its importance, is sometimes seen as divorced from agenda setting and policy formulation (Sabatier and Jenkins-Smith 1993; Buse *et al.* 2005). It is useful therefore, both retrospectively and prospectively, to study policy formation, to understand policy failures and successes, in order to improve the processes and hopefully the consequences of future policies (Walt *et al.* 2008). This article investigates the composition of, and interactions between, factors that led to the implementation of FM in Iran. We were most interested in understanding the facilitators and barriers to FM implementation. We used an interpretive framework consisting of 'multiple streams' (Kingdon 2003) and network theories (Marsh and

Table 1 Selected health indices in Iran at the beginning of PHC (1981) and present (2007)

Health index	1981	2007
General life expectancy, years	46.7	72
Infant mortality rate (IMR), deaths/1000 live births	94	29
Population growth rate, %	3.9	1.2
Under-5 death rate due to diarrhoea per 1000 rural children	5	0.8
Under-5 death rate due to respiratory infection per 1000 rural children	7.8	2.9
Overall vaccination coverage, %	40	98

Sources: WHO (2008), WHO (2009), MOH (2009).

Rhodes 1992). Others have shown how useful the framework is in explaining how policies are established, mostly in the context of high-income countries (Harrison 2004; Walt *et al.* 2008). FM is a strategic policy that has been branded the second biggest reform in the Iranian health system after the introduction of PHC in 1981 (Takian 2009). The unfolding of the story of this policy's formation may provide evidence to improve its implementation and prevent the recurrence of problems experienced. It also expands the applicability of the interpretive framework in the context of a lower-middle-income country.

Methods

Data collection and analysis

We used semi-structured interviews with purposefully identified individuals as the main means of data collection, plus narrative analysis of selected documents. The interviews followed a generic guide that incorporated the objectives of the study (Appendix I), and were undertaken from November 2006 to May 2007 in two planned sequential phases. They were digitally recorded and were fully transcribed.

We conducted a narrative analysis of policy documents—both published and unpublished—produced by the Ministry of Health & Medical Education (MOH), the Ministry of Welfare & Social Security (MWSS), the Management & Planning Organization and their affiliate institutions. These presented a variety of aspects of the policy based on a defined categorization table (Appendix II). The analysis of these documents provided us with the means to identify key themes on which to base the interview guide. We used the content analysis approach illustrated by Ericson *et al.* (1991) to read, conceptualize and interpret the text according to specific themes, and picked out pieces of information relevant to the process of implementation of FM in different stages. As documents are social products, we selected and analysed them cautiously, taking into account not only their content but also features such as their production and the context in which they were produced and functioned (Prior 2003). To do so, we took into account four key considerations: authenticity (being original and genuine), credibility (accuracy), representativeness (being representative of the totality of the documents in their class) and meaning (what they say) (Jupp 1996).

Interviews were conducted with different stakeholders including policy makers at the national level (19 interviews), managers and officials at provincial level (9), and practitioners, managers and public representatives at local level (43). The study was a concurrent analysis of a policy process in order to understand and inform the implementation. In this study, theory has informed, and been informed by, the data analysis. The analysis followed a framework approach (Ritchie and Spencer 1994; Pope *et al.* 1999; Rashidian *et al.* 2008), but also accommodated new concepts and themes as they emerged (Patton 1990; Green 1998).

Ethical considerations

The study was approved by the ethics committee of the London School of Hygiene & Tropical Medicine (LSHTM), and was also accepted by local authorities in Iran. Nonetheless, the field study was categorized as service evaluation, which did not require specific ethics approval.

Findings

Development of FM

In 2002, a small team of civil servants from the MOH, the Medical Insurance Organization (MIO), which provides medical insurance for almost 35% of the population (Statistical Centre of Iran 2007), the Social Security Organization (SSO), which is the biggest state insurance and pension organization, the former Management & Planning Organization, which measured and proposed the annual budgets, and the commission on health in Parliament, was formed to study and benchmark primary care in different settings (National Unit for Health Services Reform 2005). This team aimed to re-engineer the health system and fit it to the new challenges it now faced. The team represented a policy community network (Marsh and Rhodes 1992), led by the former Minister of Health (2001–05). In order to obtain a parliamentary vote of confidence, he promised to make FM a reality in Iran. Prior to this, he had implemented a family doctor model in parts of the province where he had been the Chancellor of the University of Medical Science, which was also in charge of health care in the province (1997–2001). Even though he had specialized as a surgeon, and so would not have been initiated into the practices of primary care, he transformed the policy subsystems and gave greater prominence to the national unit for health sector reform within the MOH. An executive team for health sector reform was also established to train actors and prepare the environment for change:

> "... if the responsibility and enthusiasm of Dr. X was not there, the one who spent his entire period in office to establish the reform and personally attended and firmly defended FM in all occasions, the implementation [of FM] would not have been started at all ...." (A national health expert)

In 2004, the FM policy was successfully incorporated into the fourth 5-year development programme of Iran (2004–09) (MOHME 2005), which emphasized the role of the government to:

(1) Expand primary care to the entire population;
(2) Promote public health and reduce the risk of diseases and other public challenges;
(3) Create logical and equitable public accessibility to health services through rationing;
(4) Reduce out-of-pocket health care expenditure from 55% to 30% and catastrophic expenditure from 3% to 1%;
(5) Implement basic health insurance on the basis of family medicine and referral.

Based on the constitution, the development programme was approved by the parliament and no other bill or plan should contradict it. The endorsement of FM in it was a fundamental enterprise to secure the policy through political changes.

The team had consistently agreed on piloting FM in urban areas (~65% of the population)—where PHC was fragile (Statistical Centre of Iran 2007)—in four provinces. However,

pilot deployments were never fully implemented due to the separation of the MIO from the MOH in early 2004. Along with other state insurers, the MIO was restructured under the newly established MWSS (National Unit for Health Services Reform 2005). The MOH lost its control over financing of desired pilots and abandoned the plan eventually.

Windows of opportunity

Monetary windows

In March 2005, the parliamentary commission on health and the Management & Planning Organization revised the 2005 annual budget bill in order to fund rural insurance for all (Behbar). The bill increased the annual budget for 'treatment' in rural areas nearly five-fold, from 900 billion Rial to 4150 billion, and allocated the fund to the MIO (US$1.00 = 8800 Rial in March 2005). The budget increase continued in the following years: 5000, 4850 and 5100 billion Rial in 2006, 2007 and 2008, respectively. Such rises were not based on any calculation, nor explicitly accounted for primary care:

> ''Parliament approved the budget to narrow the differences between rural and urban inhabitants. It bypassed us [with emphasis] and allocated money for villagers not because of FM or referral, but equalization of services for the poor ... there was no calculation and rationale behind that money. We always get worried once big money comes in, because big money is always spent unrighteous ....'' (A national health official)

The amount had been demanded by neither the MIO nor the MOH. Some funds were diverted from the annual budget proposed by the Cabinet for Parliamentary Ratification of the Behbar. The recently elected seventh Parliament of the Islamic Republic of Iran, with a majority of revolutionary principalists, revised the budget bill at their own discretion. This was not anticipated by the MOH and MIO. Because of the emphasis on FM, the fourth development programme was amended to accommodate Behbar along with FM. The bill considered the MOH as policy maker and service provider and the MIO as purchaser of services (National Unit for Health Services Reform 2005). The MOH, which had failed to initiate FM in urban areas due to lack of funds, saw Behbar as a financial opportunity to execute FM:

> '' ... during the last 5 years, we were looking for money to implement FM. The government had abandoned the pilot implementation of FM in four cities due to lack of funding. Parliament shifted money towards Behbar for assisting villagers. It was far greater than our expectations and helped us so much ....'' (A senior MOH official)

To keep FM alive, the MOH changed its strategy overnight and agreed with the MIO on implementing FM in rural areas and small towns of fewer than 20 000 inhabitants, hosted by rural health centres alongside health houses (Figure 1). This was a clear diversion from the original plans of the MOH for FM in urban areas:

> ''The implementation was done slightly precipitately, although the infrastructure was not prepared. We must have piloted it in some provinces beforehand, however it was a good flick overall. If we had waited to do it perfectly, there was no guarantee to start the implementation ever ....'' (A senior provincial manager)

The bill instructed the MIO to issue insurance log-books universally to all residents of villages, nomadic communities and small towns within 6 months (ending September 2005). The aims were to reduce unnecessary costs, provide basic services to all, make out-of-pocket cost equitable, re-engineer payment methods, raise responsibility, improve audit performance and raise public satisfaction:

> '' ... we built up pillars of FM whose base is still underground. 5000 billion Rial was spent for people who were deprived of 'any services'. Even if nothing happened, accessibility has increased which itself reduces deaths. Nevertheless, the current status is neither FM nor rural insurance ....'' (A senior national health official)

Coincidences

Almost at the same time that parliament approved Behbar, the World Bank approved a loan to the government of Iran to equip its infrastructure, including health centres. The MOH used the loan to renovate the PHC infrastructure in rural areas, purchase new equipment and reconstruct its transport system, which empowered the rural health centres in accommodating FM:

> '' ... in terms of equipment, we had an agreement with the World Bank, which incidentally became effective upon the implementation of FM. This helped us to purchase most of the needed equipment ....'' (A member of national unit for reform)

> ''We used the World Bank loan mainly to equip health centres, particularly in deprived areas. Most of the money was spent on renovating buildings, purchasing equipment and vehicles, and building new health centres ....'' (A national policy maker)

The conditions set by the Bank for utilizing the loan resulted in poor maintenance and wastage of parts of this loan (Takian 2009). Still, given the MIO's refusal to pay for the infrastructure and equipment out of Behbar resources, such an opportunity was vital to bring about the implementation. Moreover, the MOH acted as advocate for FM and was granted governmental permission to implement a GP-based gate-keeping model in mid-2004 in Bam—the southern city that was massively destroyed by an earthquake in late 2003 with 45 000 casualties, and was enjoying nationally and internationally provided funds for reconstruction.

Family medicine

Prior to FM, the focal point for services and gate-keeping was the behvarz, a local community health worker, who is trained for 2 years to enable him or her to deliver basic health services (Shadpour 2000; Taylor and Marandi 2008). The presence of doctors in rural health centres was not universal and there was no functioning pathway for referring patients to secondary care. FM introduced doctors as gate-keepers (referral) and enhanced
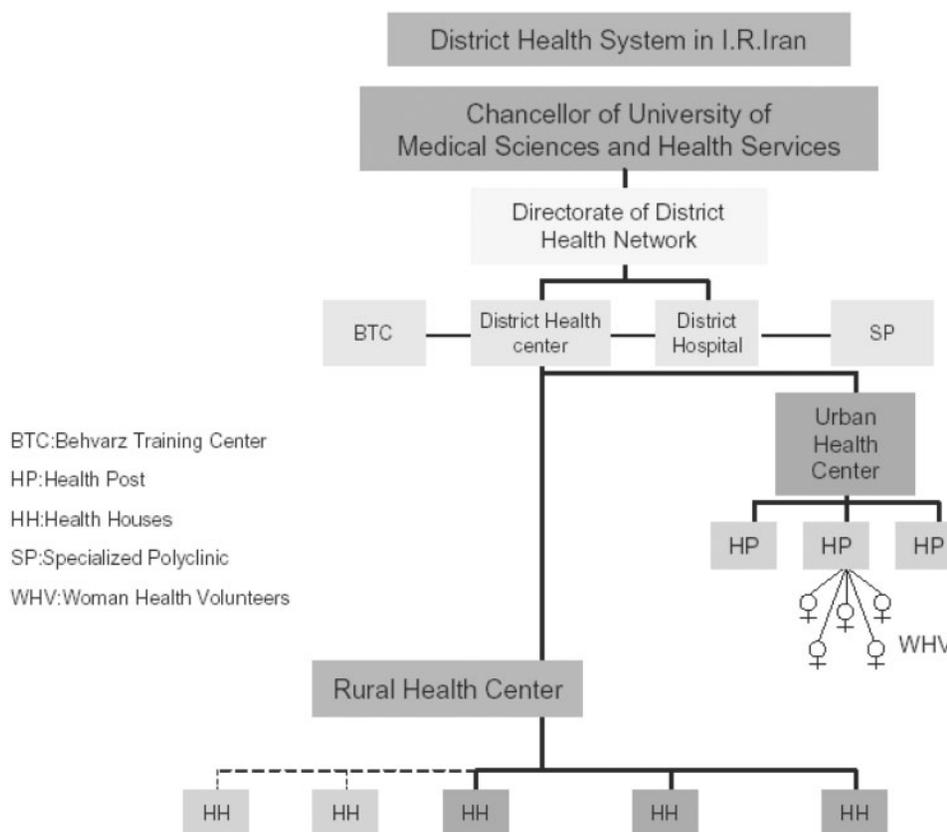
Figure 1 Organizational structure of the local health system in Iran.   *Source*: Malekafzali (2002)

their accessibility for villagers, with the aim of promoting family doctors as responsible guardians of the wellbeing of their assigned community (National Unit for PHC Expansion & Health Promotion 2007).

Experience of implementation

The universal implementation of FM that started in August 2005 has provided 25 million of the 72 million people of Iran with Behbar log-books. Existing staff in rural health centres have been augmented by 6000 GPs and 4000 midwives, and these health centres have been better equipped by FM resources:

> "...enjoying Behbar, we settled doctors in 2500 rural health centres, activated health centres and enhanced the public's trust. Utilization of services has dramatically gone up by 10 times now ...." (A national policy maker)

However, the reform policies did not achieve the desired outcomes because of the flaws in the content of the policy, the context of its implementation and the way it was executed in practice.

First, although the concept of FM was supported by many, the policy was not tailored to respond to various peripheral requirements. There was little oversight of policy to ensure there was consistency between the two ministries (MOH and MWSS). The policy was formulated by a small group of people and imposed on others:

> "...our health system is like a messy soup. A few national policy-makers with close ties with the private sector, who mostly think of maximizing their profit regardless of how and at what cost, make the main decisions ...." (A senior national policy maker)

FM policy was an attempt to respond to several longstanding shortcomings in the health system and was eventually implemented together with another policy, Behbar. However, the merger failed as the two policies followed divergent goals:

> "...the main goal of Behbar was not health; rather it was social insurance for villagers as the responsibility of the MWSS. Health and treatment were considered as a shop window ...By approving the Behbar budget over night, parliament changed many plans ...." (A senior insurance policy maker)

This statement should be interpreted in the context of the health system in Iran, in which most primary care services are provided by the MOH. Insurance organizations provide support for access to hospital care and physician's office-based care. These latter groups are known literally in Iran as 'treatment' services, and not 'health'.

Secondly, the health system was not prepared to accommodate the reform. It lacked a defined macro-level philosophy of governance, which made it difficult to steer FM towards a clear destination and left it vulnerable to individuals' discretion:

> "There is no theory behind the (health) system in this country. We have handed over this bus to 100 drivers. Once reaching the crossing, we ask passengers for their favourable direction: right or left? Some passengers say: left. The next traffic light, some passengers shout louder: right. We turn right then. At the end of the day, we will reach nowhere . . . ." (A senior health official)

FM was not integrated with the financing system, and the insight, knowledge and resources of current implementers, particularly at the national level, were branded insufficient to run the reform.

Thirdly, the policy was badly put into practice. The two main implementers—the MOH and the MIO—pursued contradictory goals. The former's aim was to promote health via expanding primary care services in rural and urban areas, whereas the latter aimed at bridging the gap in service provision and accessibility for the poor in rural areas (i.e. 'treatment services'):

> " . . . the programme was executed by an insurer (MIO) which was principally against FM from the beginning, while principal designers of FM had been put aside . . . ." (A senior national finance official)

The MIO was branded a 'treatment' focused body, being reluctant by default to pay for primary care:

> " . . . there is always a danger that one day the MIO will ruin the reform. Having monetary control of the game and its mentality not in line with primary care, it is quite likely that they will act only as an insurer, and no more. They believe that whenever insured people get sick, they will be responding accordingly. This is the biggest disaster for FM ever . . . ." (A former senior health official)

Moreover, their organizational past (the MIO was under the MOH until 2004 and moved to another newly formed ministry, the MWSS, just prior to the implementation of FM) led to tension, as each attempted to prove its supremacy over the other. They looked to each other as rivals not partners in delivering a common goal.

As a result, the majority of actors were critical of FM. Health staff did not consider the reform seriously and as a permanent task. They were concerned that FM would stop shortly due to unsustainable funding and a lack of political support. Such a situation led to a lack of ownership, trust and cooperation among health care practitioners, which ended in dissatisfaction, frustration and waste of resources. Discretionary practice that aimed to counter the constraints and other unpleasant consequences of implementation of FM became a routine coping mechanism that adversely affected the quality of services (Lipsky 1980). Moreover, villagers, whose satisfaction and provision of more equitable service was the aim, were unhappy about rationing services, lack of freedom of choice and

differences from their urban counterparts. The current way of implementation ignored the main features of primary care including prevention and health promotion, and to some extent may have threatened the concept of FM.

Discussion

'Multiple streams' in formulating FM

The formation of FM was affected by institutional and situational factors including coincidence (merger with Behbar) and external events (financial opportunities), which were the main reasons for its existence and implementation and at the same time may have caused its problematic content, flawed implementation and problematic development. This resembles Kingdon's model (2003), according to which, policy changes result from the synthesis of three streams:

> "Separate streams come together at critical times. A problem is recognised, a solution is developed . . . a political change makes it the right time for policy change, and potential constraints are not severe . . . these policy windows, the opportunities for action . . . present themselves and stay open for only short periods."

He explains that the three streams occasionally flow together, whereby a 'policy window' opens. This presents a temporal opportunity for a 'policy entrepreneur' to promote a case and for choices to be made (Zahariadis 1999). The parliament opened the policy window by approving the Behbar funding and coupling the streams together in the final days of the Persian calendar (i.e. 12 March 2005; 20 March being the final day of the year). The majority voted for the budget with little challenge regarding diversion of funds. This was a crucial measure to revitalize FM, which had been put aside mainly because of fiscal restrictions. However, diversion of resources adversely affected the sustainability of funding and inevitably the execution of FM.

Policy networks can be a major source of inertia, unless policy equilibrium is punctuated resulting in a policy innovation (Baumgartner and Jones 1991). Radical policy change takes place only when there is positive feedback in the policy subsystem, for example the image or definition of a particular proposal (Baumgartner and Jones 1993). Because of the strong link that Behbar presented with the ideological purposes of the Islamic Republic, including outreach to the poor and social justice, it attracted parliamentary support and a sudden diversion of funds. It was interesting that the ideology of the conservative parliament helped the MOH from the reformist government (which was in its final year) to implement a major change in the health system. Thus, we ascribe the policy entrepreneurs a more instrumental role in opening the policy window than originally considered in the theory. As Kingdon notes, the success of policy entrepreneurs to promote spill-over in adjacent areas is enhanced by underlining a similar analogy in legitimizing their arguments. At that time, the policy network was never too closed to appreciate the opportunity and pursue FM. Otherwise, there was a high likelihood that the policy would fall on various government agendas, or the opportunity would be lost.

A 'momentum phenomenon'

Incorporation of the two policies (FM and Behbar) also resembled a 'momentum phenomenon'. Explaining policy formation at high levels in the United States, Walker (1971) argues that when there is a breakthrough in a policy domain which was previously neglected by the government, it is often followed by a surge of administrative or legislative policies in that domain that have persisted for a long time. The new policy of Behbar revitalized FM. This initial policy shift and deliberate association of Behbar with FM had spill-over effects. Such effects secured the position of FM by ideologically matching it with the slogan of the Islamic Revolution (equity and social justice), which prevented the MIO from openly contradicting FM. More importantly, given the governmental change that took place a few weeks after the start of the implementation, as the Minister of Health was certain to change in the new Cabinet, a lot of resources (including time and attention) were spent on FM so that the implementation was started in reality and on the ground before the Minister left office. This made it impossible for the new government to abandon the reform.

The series of activities required to implement FM resembled a 'minimum winning coalition' (Riker 1980), in which the goal is to maximize net benefits at the margin, that is, in the short term. In fact, the MOH compromised by accepting the merger of the two policies. This was a deliberate and conscious attempt to use a window of opportunity that may not have arisen otherwise. The MIO also compromised to pay for primary care. However, both players continuously found conflicts between these compromises and their established routines.

Applicability of the interpretive framework in the context of Iran

This research justifies the applicability of multiple streams (problems, policies and politics) and network theories in explaining the conditions in which FM was brought to the fore in Iran, a lower-middle-income country. However, a few contextual differences are revealed.

Firstly, the nature of the problems differed from those found in high-income settings, where the interpretive frame was developed. For instance, ideological beliefs such as equality and social justice that are rooted in the revolutionary ideas of the Islamic Republic of Iran, pushed decision makers towards change. Also, expediency accelerated the process of policy ratification. The extent to which evidence-based policy making is practised varies between middle- and high-income countries. Historically, this has been less the case in middle-income countries, where individuals' power as well as coincidental events have steered policy more (Walt et al. 2008).

Secondly, political influences contributed to generating a manifestation of FM in a way that differs from that suggested by Kingdon. For instance, the role of individuals and their supremacy over others to push the policy was crucial. Dye (2001) argues that even in a democracy like the United States, public policy is made from the top down, not from the bottom up. In his view, public policy reflects the values, interests and preferences of the governing elite. Dye separates policy development from implementation, admitting that bureaucrats may affect policy in implementation, but suggesting that all decisions are monitored to ensure they are not altered

significantly. In addition, the adverse effects of ignoring issue networks and front-level staff on quality of services, as Lipsky (1980) points out, were justified in this study.

Thirdly, some additional components of Kingdon's streams such as opportunism and coincidence were revealed, without which the policy was unlikely to materialize. Kingdon considers contextual-based flexibility in strategies to fulfil goals. However, diversions such as the merger of two contradictory policies (FM with Behbar) are not addressed in the model.

Finally, a lack of pressure groups, non-governmental organizations and civil society organizations, because of the nature of the political structure, is among the main differences between Western democracies and the Iranian model of governance. Instead, intra-governmental advocates within the MOH pushed FM onto the agenda. Moreover, legislative influx changes were not attributed to shifting power from one party with a political majority to another in Iran. Rather, revolutionary mottos and ideological motivations were a main incentive. Despite fundamental diversities between the two political regimes at macro-level, the third stream of Kingdon (politics) applied to the context of Iran based on its unique structure of Islamic republic, amid contextual modifications.

Conclusion

The multiple streams showed their sensitivity to the different dynamics in problem definition, solution development and the political processes that brought these three streams together at a particularly opportune moment in Iran. This showed how the impact of ideas could be explored without necessarily denying the importance of self-interest. It emphasized actors' understandings, priorities and discourses, pointing to the possibility of delayed consequences of implementation such as changing actors' beliefs, norms, values or priorities. It showed that the pace and tight steering of the process left relatively little room for a broader public and political debate. The policy process that led to what was called the second revolution in health sector reform in Iran (Takian 2009) was actually determined by relatively few actors involved in decisive moments, who were pursuing goals with contradictory interpretations. Understanding such a policy network is helpful in appreciating the coupling of streams in real-life policy making and implementation.

Kingdon's multiple streams model was particularly helpful in explaining the formation of FM in Iran because it integrates policy community networks with broader events and addresses the idea-versus-interests dilemma. It connects the broad political event (the ideological stream and the revolutionary concept of outreaching the poor and enhancing equity) to a narrower within-sector development of health services (rationing and service delivery on the basis of FM) in specific ways. The model also indicates the importance of actors (a small circle of policy makers) in addressing the significance of ideas in two ways. First, solutions to respond to the problems were developed not simply on the basis of efficiency or power, but also ideology. Second, political ideology was a good heuristic in the ambiguous environment of health policy in Iran.

Limitations

This study has a number of limitations. First, policy evaluation requires a longer timeframe, 'a decade or more' (Sabatier 2007) as minimum, which was not met in this study.

Secondly, most data were obtained from semi-structured interviews. Although we used other methods to enhance credibility—collecting data over time, in different places and from people at different levels, and with contextual analysis—we cannot be certain of respondents' underlying rationalizations, given the socio-political considerations in the specific context of health care reforms in Iran. Despite adopting multiple methods to enhance rigour (Denzin 1989), we could not simply combine data in order to arrive at an overall truth (Armstrong et al. 1997; Silverman 1998). We chose simplicity, rather than an illusory search for the full picture, by adopting an interpretive approach based on selected theories, rather than a positivist approach. We acknowledge the findings might be interpreted differently by using other analytical frameworks.

Thirdly, the interpretive framework can be criticized for not providing tools for a meso- or micro-level analysis of events in the three streams or closer examination of the coupling process. The key message is that these factors influenced the direction of the policy but did not determine or facilitate its implementation on their own. Further, the role of policy entrepreneurs is vaguely defined, but it does introduce the notion of interested actors attempting to navigate the turbulent and disconnected streams. Exactly how these agents operate and the impact of their values and norms on their function are not specified.

Fourthly, epistemological subjectivity is inevitable in a study such as this, which investigates sensitive issues of 'high politics' (Walt et al. 2008) and requires engaging with policy elites (Shiffman 2007). We admit that our position might have influenced not only access to data but also knowledge construction (Parkhurst 2002). However, the first author's position in this research was both insider and outsider, which widened avenues for cooperation at various levels. In addition, he was neutral to the implementation of FM and was not committed to the government, which made him substantially objective in gathering and interpreting the data.

Finally, the reliance on idiosyncratic reasons that led to policy change threatens the generalizability of the findings. However, variations by policy sector over time are a permanent feature of policy analysis and this variation affects the value of different models of policy change (Cairney 2007). Given the limited number of studies on formation of public policies in Iran, the findings might be helpful for other settings and scenarios.

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Appendix I

Interview guides for three levels

1. National level

'Implementing Family Medicine in Iran: Identification of Facilitators & Obstacles'

Amirhossein Takian

Interview guide to be used at national level

Date & venue:

Name & position of interviewee:

General questions and material that must be covered during interviews with officials at national level, which are subject to change; deletion; expansion and refinement according to the position and compliance of individuals (will be employed reflexively). Selected theories of implementation, results of reviewing empirical articles on facilitators of and obstacles to the implementation in health care and insights from exploratory visits to Iran have been considered to define these guide questions.

(1) First of all, please explain your broad perception of family medicine (FM) in Iran.

(2) To what extent do you think the current PHC (primary health care) organization, in which FM is being implemented, has the capacity for proper implementation of FM? What aspects need change/improvement, etc.?

(3) What is your opinion concerning the policy of FM itself? Please discuss and explain your understanding with evidence.

(4) Regarding the policy, to what extent do you think it is easily interpreted and clear in content?

(5) To what extent do you think that FM has been accepted/ rejected by providers and stakeholders (not public)? Please discuss with evidence.

(6) How well has the policy been explained to you?

(7) So far, have you received any feedback from other policy makers and stakeholders from either the centre or periphery regarding the implementation of FM? Please discuss.

(8) What is your perception of the role of insurance bodies in this implementation?

(9) If you had an absolute power to make the policy and conduct the change, what would you do to maximize the insurance companies' efficiency in implementing FM?

(10) As far as you are aware, how is FM interpreted by different layers at centre and periphery?

(11) How do you interpret the political context and its role in the implementation? Please give reasons and evidence and discuss.

(12) As a national official and well-informed person, do you think that the implementation of FM has been properly and adequately armed with adequate logistics preparation (financial, human resources, and equipment)?

(13) Do you have any evidence that shows how far the policy of FM and its current process of implementation have been accepted by people? Please address the aspects that need change (either in the policy or implementation) and give your reasons and substitutes.

(14) What is your opinion about merging FM into Behbar (rural insurance for all)? Please discuss in detail.

(15) (At the end of the interview) Is there any specific issue you would like to discuss further, add to what you have said, or any particular factor which you think influences the implementation (facilitates or obstructs) and which we did not discuss in our interview? Please feel free to talk about it while summarizing your talk.

With special thanks for your time and invaluable contribution.

2. Provincial officials and service providers at local level

'Implementing Family Medicine in Iran: Identification of Facilitators & Obstacles'

Amirhossein Takian

Interview guide to be used at provincial and local levels

Date & venue:

Name & position of interviewee:

General questions and material that must be covered during interviews with officials and providers at local level. They are subject to change; deletion; expansion and refinement according to the position and compliance of individuals (will be employed reflexively). Selected theories of implementation, results of reviewing empirical articles on facilitators of and obstacles to the implementation in health care and insights from exploratory visits to Iran have been considered to define these guide questions.

(1) First of all, please explain your broad perception of family medicine (FM) in Iran with a focus on your province (for providers, with more focus on their relevant health centres and target population).

(2) To what extent do you think the current PHC (primary health care) organization, in which FM is being implemented, has the capacity for proper implementation of FM? If it is flawed, what aspects need change/improvement, etc.?

(3) What is your opinion concerning the policy of FM itself? Please discuss and explain your understanding with evidence.

(4) Regarding the policy, to what extent do you think it is easily interpreted and clear in content? Please discuss according to evidence and your actual experience of the implementation so far.

(5) How well has the policy been explained to you?

(6) Please discuss how communication has affected the process of implementation (in your province or your centre according to the position of the respondent) of FM from your point of view. Please particularly stress the role of mass media and local media in your discussion.

(7) So far, have you received any feedback from other policy makers and stakeholders from either the centre or within Golestan regarding the implementation of FM?

(8) How do you deal with this feedback?

(9) How do you conceive the implementation of FM as a policy? Please stress your understanding of the reality of the process of policy making regarding FM.

(10) What is your perception of the role of insurance bodies in this implementation?

(11) If you had an absolute power to make the policy and conduct the change, what would you do to maximize the insurance companies' efficiency in implementing FM, in Golestan and universally?

(12) For local officials: As far as you are aware, how is FM interpreted by different layers at centre and periphery? To what extent has it been accepted/rejected by relevant people (policy makers, providers, public) in Golestan? Please discuss.

(13) How do you interpret the political context and its role in the implementation? Please give reasons and evidence and discuss.

(14) To what extent do you think that your province or your health centre has been properly and adequately armed with adequate logistics preparation (financial, human resources, and equipment) for implementing FM so far?

(15) Do you have any evidence that shows how far the policy of FM and its current process of implementation have been accepted by the public? Please address the aspects that must change (either in policy or implementation) and give your reasons and substitutes.

(16) What is your opinion about merging FM into Behbar (rural insurance for all)? Please discuss in detail.

(17) (At the end of the interview) Is there any specific issue you would like to discuss further, add to what you have said, or any particular factor which you think influences the implementation (facilitates or obstructs) and which we did not discuss in our interview? Please feel free to talk about it while summarizing your talk.

With special thanks for your time and invaluable contribution.

3. Public representatives

'Implementing Family Medicine in Iran: Identification of Facilitators & Obstacles'

Amirhossein Takian

Interview guide to be used at local level for the public's representatives

Date & venue:

Name & position of interviewee:

General questions and materials that must be covered during interviews with representatives of the public at local level. They are subject to change; deletion; expansion and refinement according to the position and compliance of individuals as well as results of interviews at national level and other findings from the local level (will be employed reflexively). Selected theories of implementation, results of reviewing empirical articles on facilitators of and obstacles to the implementation in health care and insights from exploratory visits to Iran have been considered to define these guide questions.

(1) First of all, please explain your broad perception of family medicine (FM) in Iran with a focus on what you have observed in your area. Simply, what does FM mean to you?

(2) As a user of services, to what extent do you think the current PHC (primary health care) organization, in which FM is being implemented, has the capacity for proper implementation of FM? What aspects need change/improvement, etc.? Please give reasons, evidence and discuss.

(3) How well has the policy been explained to you? (NB Ask more questions to understand the role of the informing procedure on his/her perception of implementation.)

(4) What is your general opinion concerning FM itself?

(5) Do you use services under the auspices of FM (Behbar) in your village? Are there differences between those and the ones that were being delivered through PHC?

(6) In each case, please give reasons and discuss. Are you aware of other centres? Can you compare those with your centre?

(7) How is the behaviour of staff that are in charge of delivering care with them? Please indicate your evidence and discuss the impacts of these factors in detail.

(8) In case of need for health care, where is the first point you refer to seek care in your area? If interviewee says health centre, go deeper and ask why? If they say somewhere else, ask precisely why he/she does not go to the health centre, trying to understand his/her objections in order to find facilitators and obstacles.

(9) What services do you prefer to use from the health centre and why?

(10) Have you ever given any feedback regarding implementation of FM to providers and officials? If yes, how did you do that?

(11) Was it responded to or acted on? What was the result?

(12) Since it was started, have you seen any changes in FM and the way that is being implemented in your area?

(13) What is your perception of the role of insurance bodies in this implementation?

(14) If you had an absolute power to make the policy and conduct the change, what would you do to maximize the insurance companies' efficiency in implementing FM?

(15) Have you or your relatives been referred to a higher level for seeking care by a family doctor? How did you find that referral and your acceptance of it?

(16) As far as you are aware, how is FM interpreted by other people in your area? To what extent has it been accepted/rejected by them?

(17) How do you interpret the political context and its role in the implementation? Please give reasons and evidence and discuss.

(18) To what extent do you think that your health centre has been properly and adequately armed (financial, human resources and equipment) for implementing FM so far?

(19) (At the end of interview) Is there any specific issue you would like to discuss further, add to what you have said, or any particular factor which you think influences the implementation (facilitates or obstructs) and which we did not discuss in our interview? Please feel free to talk about it while summarizing your talk.

With special thanks for your time and invaluable contribution.

Appendix II
List of categories for selecting and analysing documents

We selected documents that:

- explained the history of development of the policy;
- described policy (FM) revolution and revisions, its content, political and social debates on that, and reasons that resulted in its merger with Behbar;
- reported the progress of implementation of FM and Behbar and challenges ahead, annually, quarterly or on an irregular basis;
- reported the results of auditing performance of practitioners and managers with regard to implementation of FM;
- described the policy, its benefits, prospective outcomes, etc., for various groups of stakeholders, either presentations or correspondence;
- explained the progress of implementation, stakeholders' attitude and expectations, and decisions made to address such concerns, mainly newspapers and magazines, as well as surveys and intra/inter-organizational correspondence, confidential or non-confidential;
- were prepared to educate various groups of practitioners and public regarding the policy and its revisions.