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# Learning from rivals: the role of science diplomats in transferring Iran's health house policy to the US

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**ABSTRACT**

So far, the mainstream policy transfer literature has concentrated on North-North and North–South policy transfer. Few studies investigate South–North transfer. Whenever they do, they focus on policies that travelled from South America to OECD countries. Africa and the Middle East remain blind spots in the policy transfer literature. This study addresses this research gap by asking how it was possible for a group of public health experts to transfer Iran's health house policy to the Mississippi Delta, USA. Taking the follow-the-policy approach as a starting point, the study uses expert interviews and a qualitative document analysis to reconstruct how an epistemic community of US-Iranian health specialists made use of Iran's Health House Network to address a health crisis in the Mississippi Delta. Applying the science diplomat concept to the policy literature, I argue that South–North policy transfer was facilitated by science diplomats who promoted transfer despite political and financial difficulties.

## 1. Introduction

During the 2000s, a group of US public health specialists joined forces to transfer Iran's health house policy, also known as the Health House Network (HHN), to the Mississippi Delta. Though arguably one of the most unlikely places for US experts to look for policy inspiration, Iran and the Mississippi Delta have experienced similar public health challenges, albeit at different moments in time. In Iran, rural residents were lacking access to primary health care until the HHN was implemented as part of a set of public health reforms in the early 1980s. In the Mississippi Delta, remote counties are in dire need of adequate primary health care to this day. Providing primary health care and preventative services, Iran's health houses have managed to drastically improve health indicators across the country's rural areas since the 1980s (Marandi, 2009; Martin, 2012; Mehryar, 2004; Sajadi & Majdzadeh, 2019). As a result, the HHN has won international praise, including from the World Health Organization (WHO) (Hansen, 2012).

Inspired by the Iranian success story, several US public health experts set out to integrate the HHN into the Delta's healthcare system. Throughout this policy transfer effort, they were supported by a group of Iranian public health professionals (Joulaei et al., 2012, p. 379). Due to financial and political obstacles, the group did not achieve their ultimate objective of installing health

houses throughout the entire state of Mississippi. Yet the 15 health houses that were eventually established in a pilot test persuasively demonstrated that they were an effective means to address some of the state's most pressing health challenges (Hansen, 2012).

From a policy transfer perspective, this – at least partially – successful transfer of an Iranian public health policy represents a rare case of South–North policy transfer. In the mainstream policy transfer literature, the predominant assumption is that policies are being transferred from North to North or from North to South (Stone et al., 2020). Especially early policy transfer studies focus on how US policies were adopted in the UK, what influence US policies have on Canada, and to what extent the Europeanization process facilitated policy transfer and diffusion among accession countries (Porto de Oliveira et al., 2019, p. 2). Generally, it is assumed that the Global South is more likely to adopt policies from the Global North because of colonial legacies, economic dependency or the circulation of elites (ibid.). North–South transfer is allegedly also more likely because policy trends set by influential international organizations like the World Bank or the Organisation for Economic Co-operation and Development (OECD), lend states in the Global South international legitimacy (Evans, 2019, p. 99).

Some policy transfer analysts deplore the focus on the Global North and argue that 'for confirming existing hypotheses or generating new ones about policy transfer processes' studying the Global South is of prime importance (Marsh & Sharman, 2009, p. 281). Yet studies examining South-South and South–North policy transfers are few and far between (Evans, 2019; Porto de Oliveira, 2020; Stone et al., 2020; for an example of South–North norm diffusion see: Steinhilper, 2015). In the rare cases analysts examine such transfer processes, they mainly concentrate on success stories from Latin America. Brazil and Colombia, in particular, are often identified as regional and international policy exporters (Milhorance, 2018; Porto de Oliveira, 2020; Porto de Oliveira et al., 2019, p. 2). By contrast, Africa and particularly the Middle East, remain blind spots in the literature (Marsh & Sharman, 2009, p. 280).

This article aims to address this pronounced geographical imbalance and research gap in the policy transfer literature by analyzing how Iran's HHN made it to the Mississippi. In doing so, this article contributes to the policy transfer literature in two distinct ways. First, it demonstrates that policy actors from a developing country can promote the successful transfer of a policy which originates in the Global South. The article hence challenges the dominant narrative of the Global South as a passive policy recipient (Acharya, 2004; Medina et al., 2014, p. 2). Second, focusing on policies from the Middle East, a world region which has thus far been largely neglected by policy transfer analysts, it contributes to a global study of policy transfer which reflects the voices and experiences of the Global South (Acharya, 2014).

The main argument I advance in this study is that Iran's HHN was able to travel to the US because a dedicated US-Iranian epistemic community promoted policy-transfer despite a lack of support in the US. I further contend that two members of the epistemic community were particularly crucial for policy transfer. They acted as science diplomats – non-profit-oriented science advocates who get involved in the policy-making process when their scientific expertise on a specific issue is required to adequately address a policy problem with a pronounced science dimension. With their help, policy transfer succeeded for two main reasons. First, through the brokerage of the science diplomats, the US and Iranian experts were able to build alliances with high-ranking (ex-)politicians who were in favour of US-Iranian collaboration. Second, owing to one of the science diplomat's intimate knowledge of the Iranian and US health systems, the epistemic community was able to skilfully adapt Iran's HHN to the American context. This ultimately improved policy fit.

The remainder of the article is structured as follows: First, in section two, I outline the general framework of analysis. Next, in section three, I detail the methods used for my analysis. In section four, I illustrate the US-Iranian collaboration on the health house model in an empirical in-depth case study. Finally, in section five, I discuss the findings from the case study and point out its implications for the study of policy transfer.

## 2. Theoretical framework: policy transfer processes and actors

Though different in name, policy transfer, diffusion and convergence all try to explain how 'knowledge about policies, institutions and ideas in one political setting (past or present) is used in the development of policies, institutions and ideas in another political setting' (Dolowitz & Marsh, 2000, p. 5). Policy transfer differs from diffusion and convergence in that it is a 'rather restricted process involving few units and their interactions' (Porto de Oliveira & Pimenta de Faria, 2017, p. 16) and takes place intentionally (Evans, 2019). As I am interested in explaining an instance where a policy was deliberately being transferred from one country to another, I use the term policy transfer throughout this article.

Policy transfer analysts typically identify three different processes of policy transfer: voluntary, negotiated and direct coercive transfer (Evans, 2019, p. 98). While negotiated and coercive transfer describe processes in which actors are compelled by others to introduce policy change, voluntary transfer is understood to be a deliberate, rational, action-oriented and process-centered approach to policy change (Rose, 1991, p. 7). Voluntary policy transfer is usually the result of policy learning. The process of policy learning begins when actors have identified a policy problem, i.e. they are dissatisfied with existing policy because of poor performance (Evans, 2019, p. 98). To address this problem, they will start searching for effective policies in place elsewhere and evaluate if these would also prove successful in their context (Dolowitz & Marsh, 2000, p. 12). In doing so, actors are rarely perfectly rational, but will have limited information at hand and thus take decisions under bounded rationality (Dolowitz & Marsh, 2000; Rose, 1991; Weyland, 2006). However, once a policy from abroad has been identified as a potential redress for a policy problem at home, it can either be:

- copied, meaning that a policy is adopted directly and (almost) in its entirety;
- emulated, which implies that only core ideas of a specific policy is transferred (Rose, 1991, p. 21);
- hybridized, a process which involves a combination of policy elements from two different places;
- or used as inspiration, resulting in a new model whose development was stimulated by elements from different policy programmes (Porto de Oliveira & Pimenta de Faria, 2017, p. 17).

In the past, policy analysts assumed that political elites, such as elected officials, were the main actors involved in policy learning (Dolowitz & Marsh, 2000). In the more recent literature on policy transfer, however, the actor category has been substantially broadened, the focus shifting from state to non-state actors as well as from unitary actors to networks (De Jong & Edelenbos, 2007; Dunlop, 2009; Porto de Oliveira, 2020; Silva Ardila, 2020; Stone, 2001; Stone et al., 2020). Epistemic communities, for instance, are thought to play an increasingly important role as channels through which policies can be transferred (Stone, 1999, p. 54). These communities are 'networks of professionals with recognized expertise and competence in a particular domain and an authoritative claim to policy-relevant expertise within that domain' (Haas, 1992, p. 2). Their members have a similar set of normative and causal beliefs, share notions of validity and a common policy

enterprise (ibid., p. 3). They can come from various sectors, such as government, industry, or academia (Stone et al., 2020, p. 10).

Individuals who initiate collaborative efforts to promote policy innovations (Mintrom, 2019) like the two members of the epistemic community under investigation in this study, are referred to as either policy entrepreneurs (Kingdon, 2014), flexians (Stubbs & Wedel, 2015) or ambassadors (Porto de Oliveira, 2020) in the policy transfer literature. John Kingdon introduced the concept of the policy entrepreneur to policy analysis in the 1980s. He defined policy entrepreneurs as actors 'willing to invest resources of various kinds in hopes of a future return' (Kingdon, 2014, p. 143). Typically, policy entrepreneurs display significant levels of political energy and dexterity and are not issue-bound (Mintrom & Luetjens, 2019, pp. 113–116). In contrast to the policy entrepreneur concept, the notion of policy flexians has only recently entered the policy literature. Flexians are 'ultra-nimble players moving among several roles (…) to advance their own [policy] agendas' (Stubbs & Wedel, 2015, p. 216). Similar to policy entrepreneurs, they often directly benefit from the policies they promote (ibid.). Policy ambassadors, in turn, are altruistic 'elite individuals who hold different forms of power' due to 'political authority, technical knowledge and/or practical experience' (Stone et al., 2020, p. 14). Generally, these ambassadors circulate between domestic and international governmental or non-governmental institutions (Porto de Oliveira, 2020, p. 55).

All of the above policy actors help us understand how a broad range of policies are being transferred from one place to another. Yet they have one major weakness: Their characteristics are defined in very broad terms and in part overlap which makes it hard to distinguish one from the other. I propose to add an additional, more clearly-delineated actor category – namely that of the science diplomat – to the existing ones in the policy literature. This new category sheds light on transfer processes that have a pronounced scientific dimension. It could, for instance, prove useful when examining the transfer of energy, nutritional or environmental policies. This way, the science diplomat concept will broaden policy analysts perspective on transfer processes as it draws their attention to the role of science and scientists in policy making. Contrary to existing categories, the science diplomat concept is both broad and narrow enough. On the one hand, it is possible to clearly differentiate it from the established policy agents on the basis of the characteristics presented in Table 1. On the other, it is not too narrow as it can be applied to a range of different types of scientists, such as physicists, epidemiologists or public health experts.

Originally, the concept of the science diplomat stems from the science diplomacy literature, where this type of diplomat is commonly defined as all 'those engaged in action at the interface

**Table 1.** Overview of policy transfer actors.

| Characteristics | Actor category | | | |
| --- | --- | --- | --- | --- |
| | Policy entrepreneur | Policy flexian | Policy ambassador | Science diplomat (bottom-up perspective) |
| Self-interested | Yes | Yes | No | No |
| Issue-bound | No | No | Yes | Yes |
| Close links to policy makers | Yes | Yes | Yes | No |
| Circulation between national and international level | Yes | Yes | Yes | Not necessarily |
| Policy domain | Any | Any | Any | With distinct science dimension |
| Resource of power | Political, technical, charismatic | Informal relationships, economic, interpersonal connections | Political, technical, epistemic, charismatic | Scientific-technical, epistemic |

of science and diplomacy' (Ruffini, 2020, p. 2). The proto-type science diplomat is believed to be an individual who had a career in academia before taking on a position in government or diplomacy (ibid., p. 7). This perception of science diplomats as scientists-turned-policy-makers goes hand in hand with a top-down understanding of science diplomacy, where science is used to achieve specific foreign policy ends. It is suggested in this study that this prevailing view of science diplomats in the science diplomacy literature needs to be complemented by a bottom-up perspective. From this perspective, scientists with loose connections to government or diplomacy can also act as science diplomats. Such scientist diplomats are likely to oppose the instrumentalization of science for foreign policy ends (Proud, 2018; Rüland, forthcoming), particularly in a context marked by high political tensions as is the case in US-Iranian relations. This does not mean, however, that they will refrain from using their scientific expertise to address a local, national or transnational policy problem. In fact, this type of science diplomat is likely to put a science-informed policy solution on the agenda of decision-makers when a policy-problem has a distinct scientific dimension. In doing so, they will generally not promote a policy that benefits them personally, but one that they deem an effective means from a scientific point of view to address a public problem. In this respect, science diplomats diverge from policy entrepreneurs as well as flexians who more often than not promote policies they will ultimately profit from. Science diplomats further differ from policy ambassadors as the former are often well connected through epistemic networks and therefore do not have to circulate between different national and international institutions to promote a specific policy (see Table 1 for a comparison of the different policy transfer agents). The bottom-up ideal-type of a science diplomat can be defined as a non-profit-oriented science advocate who gets involved in the policy-making process when their scientific expertise on a specific issue is required to adequately address a policy-problem with a pronounced science dimension.

## 3. Methods

This study makes use of Peck and Theodore's (2012) follow-the-policy (FtP) approach to trace the transfer of Iran's HHN to the Mississippi Delta. This approach assumes that policies 'reveal their character as relational constructions: they do not simply travel, intact, from site of invention to sites of emulation' (ibid., p. 23). Instead, by moving from one context to another, policies create connections between sites and, in so doing, evolve in form and effect. The FtP approach aims to uncover these changes in form and effect by tracing the processes and actors that shape the policy as it moves from one location to another (Silva Ardila, 2020, p. 76). It permits both an in-depth analysis of the relations between the actors involved in the transfer and the exploration of the broader cultural-political circumstances which influence the process (ibid.). While FtP proponents do not operate with a 'fixed methodological repertoire', they prioritize interpretivist and qualitative methods (Peck & Theodore, 2012, pp. 24–25).

    In this paper, an in-depth case study, three semi-structured expert interviews and a qualitative document analysis were used to identify the actors and processes that were decisive for the transfer of Iran's HHN. The US-Iranian public health collaboration on the health houses was chosen on two main grounds. First, it was selected on the basis of the deviant-case method (Gerring, 2007). Here, a case is picked because 'by reference to some general understanding of a topic, it demonstrates a surprising value' (ibid.: 105). This applies to the transfer of Iran's HHN to the US: given the pronounced political tensions and cultural differences between the US and Iran, we would either think that transfer does not happen at all or expect policies to travel from the US to Iran, but not the other way around. Second, the case was chosen because it was assumed that analyzing an instance of

policy transfer from Iran to the US would provide an opportunity to examine to what extent South–North policy transfer differs from North–South policy transfer.

A considerable advantage of examining a single deviant case is the great depth of analysis it offers (Gerring, 2004, p. 345). Thick description is used to uncover what complex and multi-layered actions and events eventually culminated in a partial policy transfer (Dawson, 2010, p. 2). To trace these often multilayered actions and events in a comprehensive and systematic manner, the case study is structured along the different phases of the policy cycle. Though often criticized as an over-simplification, the policy cycle has proven to be a useful heuristic tool to structure empirical material (Jann & Wegrich, 2017, pp. 44–45). To this day, its different phases – agenda-setting, policy formulation, decision making, implementation, and evaluation – remain 'the conventional way to describe the chronology of a policy process' (ibid., p. 43).

The semi-structured interviews employed in this study were originally conducted in June and July of 2019 for another research project on science diplomacy (for an overview of the interviewee profiles see Table 2), but were re-analyzed in light of the research question at hand here.

The interviews are essential for the 'adequate understanding of the inescapably social nature' of policy transfer processes (Peck & Theodore, 2012, p. 24). They also provide a researcher with the opportunity to reveal the political and social environment in which these processes are embedded (ibid., 2012, pp. 24–26). In a context, such as the US-Iranian one, where political tensions are running high and (non)participant observation is impracticable, interviews are a key means to 'capture a range of opinions and perspectives' (ibid., p. 26). Though it was attempted to interview a large number of both central and peripheral actors involved in the policy transfer process under investigation in this paper, the tense US-Iranian political relations made it very challenging to find interview partners. It was particularly difficult to convince Iranian public health professionals to participate in interviews.

Given this difficult field access, it was necessary to triangulate data from additional, non-reactive sources, such as US, US-Iranian and Iranian media reports, scientific commentaries and journal articles on the health houses. Using MAXQDA, the documents as well as the transcribed interviews were analyzed on the basis of Gläser and Laudel's (2009) qualitative content analysis (for an overview of analyzed documents, see Appendix A). To ensure the 'intersubjective reproducibility' required in qualitative research, the analysis was guided by a coding scheme (Gläser & Laudel, 2009, p. 206, own translation). This coding scheme was constructed in a partly inductive, partly deductive procedure. The first codes of the scheme were deduced from the framework presented in section two. At the centre of this framework are two dimensions of analysis, *actors* and *processes*, which were translated into two codes. They guided a first round of analysis. Later on, further codes were added inductively when information appeared that seemed relevant, but did not match the deductive codes. For instance, codes on the public health situation in the US and Iran, the different steps of the policy adaptation process and the political context in which transfer took place were included. Guided by the coding scheme, each document was checked for relevant information. Whenever a meaningful passage was identified, it was assigned to a code, extracted and

**Table 2.** Profiles of interviewees (anonymized).

| Interviewee code | Type of organization | Area of speciality | Nationality |
| --- | --- | --- | --- |
| INT1 | University | Public Health | Iranian |
| INT2 | International Development Agency | Public Health Humanitarian Aid | US |
| INT3 | University | Public Health | US-Iranian |

summarized. Eventually, this procedure resulted in a structured data basis with which the case under investigation was reconstructed.

## 4. Transferring Iran's HHN to the Mississippi Delta

### 4.1. Agenda setting: problem definition

In 2007, a financially struggling hospital in the Mississippi Delta hired INT2, a consultant with extensive public health expertise, to conduct an assessment of its operations (INT2). During this assessment, INT2 quickly realized that the unreimbursed emergency room (ER) care was the primary reason why the hospital was experiencing financial problems (INT2). Individuals from Mississippi's rural and low-income counties were showing up in hospitals because they did not have access to primary health care in their immediate environment (INT2). Many of these patients were underprivileged, often from the African-American community, lacking health insurance and, as a result, unable to pay for treatment costs. Other patients who had health insurance avoided primary health care services because the deductibles for the insurance were often so high that they refrained from seeking medical assistance until their deteriorating health condition forced them to go to the ER (Martin, 2012, p. 23). INT2's assessment also revealed that many other hospitals in the Mississippi Delta were struggling with similar problems. This made the consultant realize that the underlying cause for these problems was a dysfunctional and inequitable healthcare system (INT2). Deeply dissatisfied with this system, INT2 initiated policy-learning by searching for international healthcare models which had successfully overcome public health challenges similar to those of the Mississippi Delta (INT2). During his search, INT2 remembered the Iranian primary health care (PHC) model which he had first encountered in 2004 (INT2). That year, INT2 had 'a very open conversation' with a delegation of the Iranian Ministry of Health while he was on a research trip to Europe (INT2). In this conversation, the Iranians referred to their PHC system, which was introduced after the Islamic Revolution in 1979. Back then, Iran was struggling to provide its rural population with adequate access to PHC and to close urban-rural health disparities, just like the Mississippi Delta during the early 2000s.

### 4.2. Policy formulation: 'the Iranian healthcare system has something to offer to the world' (INT2)

In an effort to realize the WHO's aim of 'Health for All', Iranian public health experts had developed a three-tiered healthcare system in the 1980s (see Figure 1). On the first level and at the core of this system, are health houses, facilities that provide a variety of integrated primary and preventive healthcare services, such as public health education, maternal care as well as family planning and disease control, for up to 1,500 rural residents and several 'satellite' villages (Aghajanian et al., 2007, p. 1468). Each health house is staffed with at least two community health workers, which are known as *behvarz* (Shadpour, 2000, p. 823). The *behvarz* are trained to perform basic healthcare services and are allocated to communities they match ethnically and linguistically (Tavassoli, 2008, p. 585). This facilitates communication and helps to engender trust between them and the community they serve (Hosseini, 2016, p. 4). Trust, in turn, is important as the *behvarz* are expected to assemble and organize sensitive health information in a paper-based information system for every member of the community they are assigned to (Mehryar, 2004, p. 6). Generally, a health house has one male and one female *behvarz*, who have different responsibilities. The female *behvarz* carries out duties inside
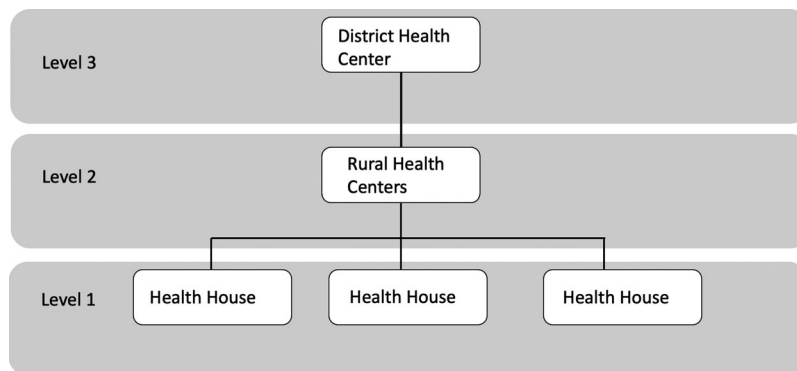
**Figure 1.** Iran's three-tiered healthcare system with the HHN on the first level; adapted from Martin (2012).

the health house, such as immunization, while the male *behvarz* performs those outside of it like routine care in satellite villages (Aghajanian et al., 2007, p. 1469). On the second level of the system, Rural Health Centers supervise the health houses. They serve up to 9,000 rural residents and are staffed with one physician, one or more nurses and technicians (Tabrizi et al., 2017, p. 1157). On the third level are District Health Centers which are connected to a district hospital and administer the activities of the Rural Health Centers (Hosseini, 2016, p. 4). The entire system is integrated by a referral system from health houses to hospitals (Asadi-Lari et al., 2004, p. 397; Martin, 2012, p. 8). Over the past decades, it has proven highly effective in improving the health of Iran's rural population (Marandi, 2009; Martin, 2012; Mehryar, 2004; Sajadi & Majdzadeh, 2019).

Recognizing the striking similarities between Iran's public health challenges prior to the establishment of its PHC system and those of the Mississippi, INT2 decided to tackle Mississippi's health problems with the help of the Iranian HHN (INT2). Given the extreme political tensions between the US and Iran dating back to the 1979 hostage crisis and persistent US sanctions on Tehran, this plan was anything but promising. Yet, due to the HHN's high efficiency, simple design, community-based service and cost effectiveness, he was confident that it would make an excellent model for public health reform in Mississippi (Drogin, 2010a).

In an effort to learn more about Iran's HHN, INT2 contacted academics in the US who were familiar with Iran's PHC system and could connect him with Iranian public health experts (INT2). At some point, he spoke to a public health professor in California. She suggested he call one of her former students, INT3, who was not only originally from Iran, but also a public health researcher based in Mississippi. He had come across the health houses while he was conducting field work in Iran for a project he supervised at an American university (INT3). INT3 suggested that he and INT2 get in touch with a pediatrician who was highly respected within the African-American community in Mississippi (INT3). Both he and INT3 were well acquainted with the disastrous health situation in the Delta and frustrated with the state-level attempts to redress it. Together with INT2, they decided to tackle the problem on their own account.

In order for the pediatrician and INT2 to get to know the Iranian PHC system first-hand, INT3 suggested a trip to Shiraz, Iran, where he was acquainted with several public health specialists (INT3). Some of those had been responsible for creating and administering Iran's health houses during the 1980s. As both INT2 and the pediatrician were keen to meet the architects of the Iranian system, INT3 contacted the National Institutes of Health and Iran's Ministry of Health to obtain visas for a trip to Iran (INT3).

At about the same time, INT2 got in touch with one of then-Senator Joe Biden's staff members, with whom he had already spoken two years after meeting the Iranian delegation in Europe (INT2). Back then, INT2 was already looking into ways to cooperate with Iran to 'bring humanity together to work for the common good' (INT2). Through his staff, Biden signalled that he 'seemed to be open about it' (INT2). In 2009, INT2 re-contacted Biden – who was by then Vice President under Obama – and talked about the potential US-Iranian health house collaboration with one of Biden's staff members. In doing so, he was careful to underline the scientific dimension of the project and the HHN's internationally recognized efficiency (INT2). For him and INT3, it was important to clarify that the collaboration was strictly humanitarian and 'that there was no politics involved' (INT2). After INT2's talk with one of Biden's staff members, a meeting between him and a State Department employee was arranged. Both this State Department employee and Biden were supportive of the collaboration, not least because they saw it as a means to have 'some kind of dialogue' with Iran (INT2). This less confrontational approach was in stark contrast with that of past US administrations like that of George W. Bush which had ratcheted up pressure on Tehran over its nuclear programme (Maloney, 2008, p. 25). The health house initiative appealed to Bush's successors as it fit in well their 'new beginning' strategy for the Middle East (The White House, 2009). For the US public health experts, in turn, Obama's conciliatory foreign policy approach toward the Middle East opened a rare window of opportunity for US-Iranian cooperation on public health (INT2).

### 4.3. Policy design and customizing

With INT2 having obtained State Department approval for the potential health house collaboration, the pediatrician, INT3 and he eventually travelled to Shiraz. In Iran, they got to know Iran's PHC system and met several high-ranking personalities from the Iranian Ministry of Health and some of the public health experts that had originally designed the Iranian HHN (INT3). During the visit, the Iranian and US health experts quickly realized that despite all cultural, political and linguistic differences they shared a very similar set of normative values. Due to their homogeneous professional background in public health, they all strongly believed that health care should be accessible to every person, irrespective of their socio-economic background. In addition, they held the common causal belief that only an inclusive and egalitarian PHC could guarantee equal access to health care. Along with this causal belief, the group relied on common validity tests based on the scientific method which they had internalized throughout their academic careers. Moreover, they also shared a policy preference for international cooperation on public health issues for the benefit of the underprivileged. This common policy preference manifested itself in the form of a memorandum of understanding (MoU), which was eventually signed between Shiraz University and the establishment that INT3 worked for. It was one of the first ever to be signed between an American and Iranian institution after 1979 (Drogin, 2010b) and formed the foundation for the US-Iranian collaboration on the health houses. It also facilitated the coalescence of an US-Iran public health epistemic community.

Shortly after their visit to Iran, the US group invited their Iranian peers to the Mississippi Delta. There, the latter had the opportunity to familiarize themselves with the region's public health system and challenges (N/A, 2013). After these initial visits, the community of Iranian and US healthcare experts began to tackle the technical aspects of the policy transfer. First, it was necessary to conduct a scientific review of the Mississippi's health indicators and demographic data (Joulaei et al., 2012, p. 379). As part of this review, the team conducted focus group discussions with regional health professionals and members of the affected rural and urban communities. During

these discussions, health professionals and community members signalled strong support for the HHN (Martin, 2012, p. 26). In addition, the experts visited Mississippi's remote regions, analyzed PHC accessibility and coverage while taking into account rules and regulations of the US health system (Joulaei et al., 2012, p. 379). Second, after this phase of data collection, the group of US-Iranian health experts designed a service package tailored to the needs of the Mississippi Delta (ibid., p. 380). With this service package, they determined the appropriate frequency of service and the number of patients to be covered by each health house. The experts planned the US health houses as a type of primary care clinic which would offer regular screenings and immunization to patients free of cost (Bourne, 2010). Providing free health care as in Iran, they reasoned, would save the public healthcare system in the Mississippi money in the long run and allow underprivileged and uninsured patients to access primary health care before their ailments would require tertiary care. Third, based on the results of the data collection phase and the needs assessment, the US and Iranian public health professionals estimated the staff, equipment and space necessary for the health houses (Joulaei et al., 2012, p. 380).

Once the team had agreed on these technical parameters, it began to design a training curriculum for health workers (INT3). INT3 suggested to call those individuals who would eventually staff the health houses in the Mississippi Delta health workers instead of community health workers (INT3). He was well acquainted with both the Iranian and US context and knew that in Iran rural communities trusted the *behvarz* because of their shared ethnolinguistic background. In the Mississippi, where particularly the African-American population mistrusted the predominantly white public health system, engendering trust was equally crucial (Miller et al., 2014). Given that a majority of the prospective US health house staff did not come from this community, the team decided to follow INT3's suggestion to avoid raising false expectations. It further agreed to work towards getting these health workers recognized as qualified healthcare professionals which would allow them to receive payment for their education and services (Martin, 2012, p. 28).

Because of his intimate knowledge of the Iranian PHC system INT3 also acted as a broker between the US and Iranian teams. Together with INT1, a public health researcher based in Iran, he coordinated the work of both teams. On the Iranian side, INT3 and INT1 were supported by a number of Iranian ex-officials who had good connections to Iran's political elite. They used these to shield the project from potential political interference and functioned as a type of buffer between the US team and Iranian policy makers (INT3). The ex-officials were supportive of the collaboration for two main reasons. Firstly, almost all of them had a professional background in public health and therefore shared many of the US-Iranian groups' values (INT3). Secondly, they perceived the initiative as an opportunity to project a more positive image of Iran and a way to make up for the 'many negative things' that were reported about the country (INT3). An encounter between INT3 and an Iranian in Teheran showed that the ex-officials were not the only ones who were positively surprised to learn that the US was trying to learn from Iran. Hearing from INT3 about the purpose of the Americans' trip to Iran, this Iranian commented:

> Usually it's vice versa, it's the other way around. Usually people are learning from US [*sic*] and now the US is trying to learn from us. (recounted by INT3)

## 4.4. Policy emulation and implementation

Through their data collection and needs assessment, the US-Iranian experts had learned that the Iranian model had to be adapted to the more urban setting of the Mississippi Delta (INT2).

Thus, instead of transferring the Iranian model in whole, they embedded the health houses into the existing regional public health system (Martin, 2012, p. 20; see Figure 2). Initially, the US-Iranian team had planned to pilot test 15 health houses distributed across the Mississippi Delta. Yet despite the US partners' persistent lobbying on a local and national level – they even enlisted a Mississippi congressman to write a letter to the federal government – it was hard to secure large-scale funding (Hansen, 2012). To make matters worse, the US group of public health professionals experienced push-back from several sides. On a regional level, some members of Congress from Mississippi looked upon the initiative with suspicion, fearing that if they supported it, they might endanger their re-election (Drogin, 2010a). On the local level, policy makers were interfering with the transfer process and trying to take control of it to advance their own agenda (Martin, 2012, p. 27). Notwithstanding these obstacles, and owing to the financial contribution of an insurance company that saw the health houses as a way to save money, the team was able to establish eleven of them in public schools in Jackson, Mississippi (Shafrin, 2012).

Finally endowed with the money to pilot test a few health houses, INT3 and his Iranian colleague, INT1, decided that it was best to train the health workers that were supposed to run the pilot health houses in Iran, where they would be able to experience the Iranian HHN first-hand (INT1). When it proved difficult to obtain visas for the prospective health workers, INT3 and INT1 chose to train them on Kish Island in the Persian Gulf where none were required (INT3). Following their training, the workers returned to Mississippi and began to work in the pilot health houses.

## 4.5. Policy evaluation and termination

Within only one year, the health workers were able to cut the rate of readmissions to the Central Mississippi Medical Center by 15 percent (Hansen, 2012). An evaluation of the pilot project further demonstrated that the patients who made use of the community-based healthcare services were very satisfied with them (INT3). Despite this initial success, the project ran into difficulties in 2013 when one of the Iranian partners ran for President of Iran as a hardline conservative. This deprived it of the fragile political support it had on the national level in the US (INT2) and shut the window of opportunity which had opened for the collaboration in 2009 once and for all. The candidacy also led INT2 to temporarily abandon the project (INT2).
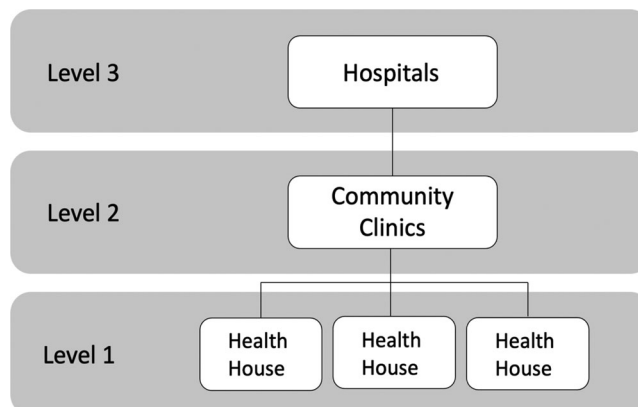


**Figure 2.** Iran's HHN adjusted to the Mississippi context; adapted from Martin (2012).

Despite this major setback, both INT2 and INT3 continued to push the initiative in subsequent years, but in doing so they worked separately. In 2019, when the interviews for the initial research project on science diplomacy were conducted, INT3 was still trying to convince local and regional decision makers to fund the implementation of the HHN in Mississippi (INT3). INT2 joined forces with partners in Europe to restart the collaboration, although in a slightly modified form (Miller et al., 2014).

## 5. Discussion and conclusion

Given the dominant assumption in the literature that policies are being transferred from North to North or North to South, the objective of this study was to explain a deviant case of South–North policy transfer. Specifically, this study set out to answer the research question of how it was possible for Iran's HHN to travel from Iran to the US. It employed the FtP approach to uncover what processes and actors were key for policy transfer to succeed in the case study under investigation.

The thick description of the US-Iranian case study revealed two processes that were decisive for policy transfer to succeed. First, transfer was facilitated by the US and Iranian experts lobbying activities among high- and medium-level policy makers in the US and Iran. At the beginning of the collaboration, during the agenda setting phase, political support was needed to obtain the necessary permits and visas to enter the US and Iran. Further into the collaboration, it was crucial for the Iranian ex-officials to lobby Iran's political elite on behalf of the US-Iranian public health professionals and convince them of the initiative's benefits for Iran. Second, the US-Iranian group was able to emulate part of Iran's PHC and transfer it to Mississippi because they adequately customized it to the region's specific context. To increase policy fit, the epistemic community integrated the health houses into the existing healthcare structures in the Mississippi Delta. In the process, they were sensitive to the cultural and socio-economic circumstances of the region and improved policy effectiveness and acceptance by consulting the affected communities and healthcare providers during the data collection and needs assessment phase.

However, even more crucial for policy transfer than these two processes were two specific actors: INT2 and INT3. They initiated and steered the collective effort of policy innovation and, in so doing, acted as science diplomats. Capitalizing on their public health expertise, they got involved in the policy-making process to advocate for Iran's HHN as an effective and science-informed policy solution for the health crisis in the Mississippi Delta. Without their commitment, policy transfer would very likely have failed. Especially during the agenda setting phase, INT2 was crucial. Having identified the health crisis in the Mississippi as an urgent policy problem, he initiated policy learning by looking for alternative healthcare models abroad. In this phase, the contacts that he and INT3 established with US policy makers and Iranian ex-officials were instrumental for policy learning. If this political support had been lacking, the US and Iranian experts would not have had the opportunity to familiarize themselves with their respective countries and public health systems. Later, during the policy customizing phase, INT3 and his good knowledge of both the Iranian and US context were essential for an adequate adaptation of the Iranian PHC policies to the more urban setting of the Mississippi Delta. He was furthermore the only expert with the necessary cultural and linguistic skills to effectively coordinate work between the US and Iranian team.

The case study of South–North policy transfer provides several important insights for the mainstream policy transfer literature. First, it helps us understand why and under what conditions scientists, who usually 'try to stay away from politics' (INT3), get involved in the policy making process. As the case study has shown, scientists take on the role of science diplomats in the policy making

process if they feel that their expertise is needed to address a policy problem with a pronounced scientific dimension. Contrary to the established policy actors in the policy transfer literature, however, they are neither motivated by self-interest nor do they necessarily have close relations to policy actors to successfully promote policy innovation.

Second, the case study shows that the window of opportunity for policy transfer between rival states can shut quickly when high politics get in the way. It seems likely that the US-Iranian collaboration would have continued for at least a while longer if it had not been for the presidential candidacy as a hardliner of one of the Iranian collaborators. Once the US authorities learnt of the candidature, it was impossible for them to further back the collaboration as this would have created the impression that they support hardline conservatives in Iran.

Third, many of the conditions that the mainstream policy transfer literature previously identified as facilitating or constraining for policy transfer also hold in the case under investigation here. For example, as assumed by the policy transfer literature, in the case of the US-Iranian collaboration, transfer was facilitated through the process of policy customization (Stone et al., 2020, p. 14). A successful adaption of Iranian policies to the US context, in turn, was promoted by research trips to Iran and Mississippi. Jetschke and Murray (2012) have shown that such trips are also essential for policy customization in North–South policy diffusion and transfer. In addition, it was easier for the epistemic community to promote Iran's PHC policies as a suitable solution to Mississippi's health crisis because the WHO had endorsed them as effective. According to policy transfer analysts, positive evaluations of a policy's past performance lend it legitimacy and boost transferability (Porto de Oliveira & Pimenta de Faria, 2017; Rose, 1991). Furthermore, the transfer of Iranian PHC policies was facilitated through the support of policy elites in the US and Iran, another important factor for policy transfer according to the policy transfer literature (Evans, 2019, pp. 106–107). In the end, the transfer of Iranian policies was only partially successful because there was a lack of financial and political support for the health house model in the US. This is equally consistent with previous findings from the policy transfer literature. Here, a lack of political will on the part of the adopter is generally assumed to impede policy transfer (Benson & Jordan, 2011, p. 372; Evans, 2019, p. 101; Stone et al., 2020, p. 12).

The fact that many of these established transfer conditions also apply to a case of South–North policy transfer indicates that the latter do resemble 'classic' cases of North-North or North–South policy transfer. It could thus be argued that cases of South–North transfer are not less common because they require entirely different processes and actors than instances of North-North or North–South transfer. Instead, it is likely that particular filters lead Western countries to dismiss policy models from the Global South. This is in line with Weyland's (2006) observation that policy makers tend to favour policy experiences which are geographically proximate. Dolowitz and Medearis (2009) have likewise shown that due to institutional and cultural filters US policy makers are more likely to regard 'home grown' policy solutions as more effective and legitimate than those from abroad (Dolowitz & Medearis, 2009, p. 689). Further research should examine if certain filters indeed impede South–North policy transfer. If this is the case, science diplomats could turn out to be the right type of actor to call these filters into question and initiate collaborative efforts for policy innovation.

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## Disclosure statement

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## Notes on contributor

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# Appendix

**Table A1.** Overview of documents analyzed in the content analysis.

| Author name | Year | Title | Document type |
|---|---|---|---|
| | | **Analyzed documents** | |
| Aghajanian et al. | 2007 | Impact of Rural Health Development Programme in the Islamic Republic of Iran on Rural-Urban Disparities in Health Indicators | Academic Article |
| Asadi-Lari et al. | 2004 | Public Health Improvement in Iran – Lessons from the Last 20 Years | Academic Article |
| Bourne | 2010 | Iranian Cure for the Delta's Blues | Website Article |
| Drogin | 2010 | Illness Is Their Common Enemy | Newspaper Article |
| Drogin | 2010 | An Iranian Remedy for Mississippi? | Newspaper Article |
| Hansen | 2012 | What Can Mississippi Learn from Iran? | Newspaper Article |
| Hosseini | 2016 | Mississippi's Delta Region: Borrowing a Novel Rural-Based Health House System | Academic Article |
| Joulaei et al. | 2012 | Iranian and American Health Professionals Working Together to Address Health Disparities in Mississippi Delta Based on Iran's Health House Model | Academic Article |
| Marandi | 2009 | The Integration of Medical Education and Health Care Services in the Islamic Republic of Iran and Its Health Impacts | Academic Article |
| Martin | 2012 | Exploring the Health Houses Network: Iran and Mississippi. A Cross-Sectional Qualtative Study | MSc Thesis |
| Mehryar | 2004 | Primary Health Cae and the Rural Poor in the Islamic Republic of Iran | Conference Paper |
| Miller et al. | 2014 | Global Health Diplomacy in Practice | Policy Paper |
| N/A | 2013 | Mississippi May Get Health Aid from Iran | Newspaper Article |
| Puderbaugh | 2009 | Iran's Health Houses Provide Model for Mississippi Delta | Website Article |
| Sajadi & Majdzadeh | 2019 | From Primary Health Care to Universal Health Coverage in the Islamic Republic of Iran: A Journey of Four Decades | Academic Article |
| Shadpour | 2000 | Primary Health Care Networks in the Islamic Republic of Iran | Academic Article |
| Tabrizi et al | 2017 | Status of Iran's Primary Health Care System in Terms of Health Systems Control Knobs: A Review Article | Academic Article |
| Tavassoli | 2008 | Iranian Health Houses Open the Door to Primary Care | Report |
| World Health Organization | 2018 | Islamic Republic of Iran. Country Case Studies on Primary Health Care | Report |