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## **A Lesson from Iran: Improving Rural Primary Health Care in The United States**

*Navid Shams*

Around the time of the Islamic Revolution (1979), 23 million of the total 60 million Iranians lived in extremely poor and underdeveloped rural areas.<sup>1</sup> Wide-spread poverty was the result of an imbalance of previous industrialization, modernization and economic development efforts that favored urban areas.<sup>2</sup> As a result, over 50% of the rural population had low health status. Recognizing this, the new Ministry of Health made rural health a priority in order to work toward the constitutionally-guaranteed right to health care for all citizens.<sup>3</sup>

### ***Before the Revolution***

Improving rural health posed a significant challenge due to the primitive infrastructure and lack of various types of resources. For instance, even though medical graduates were required to spend 2 years in the rural Health Corps, about 87% of the medical practitioners still worked in one of the 5 largest cities. This left very few physicians in the rural regions (physician:population ratio of 1:15,000).<sup>4</sup> Even the 400 Health Corps stations were only able to provide minimal care to 20,000 of the 55,000 villages.<sup>4</sup> Moreover, of the 700 doctors who graduated medical school every year, about half would leave to find work in other countries.<sup>3</sup> This led to importation of physicians from India, Pakistan and the Philippines, which was met with resistance by rural residents who preferred Iranian auxiliary health workers to non-Iranian physicians.<sup>5</sup> Also, the small health sector budget (about 3% of total government spending) was mostly used on expensive projects, such as building large city hospitals that the rural population didn't have access to.

These factors led to the poor health status in rural regions. Infant and child mortality rates were twice that of urban areas. Life expectancy was approximately 10 years lower in both the male and female rural population. Also, child malnutrition rates were high and important facilities such as sanitary drinking water were only present in 20% of rural homes.<sup>3</sup>

An imbalanced distribution of economic resources also contributed to the difficulties. In 1977, 48% of the population lived in isolated villages with less than 1,000 inhabitants each. The government had not given financial support to provide these areas with roads, utilities, hospitals, or schools,<sup>6</sup> never mind the supporting facilities that physicians (Iranian or imported) would need to actually use their specialized skills in these rural areas.

### ***Building On Past Experience***

With social and economic considerations in mind, the government set out to establish a new rural primary health care (PHC) program. Fortunately, studies had recently been carried out in Iran that involved training local young people with primary education to become front line health workers (FLHW).<sup>7</sup> In each location, a male worker (Behdashtyar) was in charge of community health (surveillance) and environmental sanitation, whereas the female worker

(Behvarz) was in charge of maternal and child health, family planning and general patient care. Because they were locals, the FLHW developed close relationships with community members, which allowed for accurate collection of health information that was recorded in individualized household log books. Implementation of the system led to significant declines in infant (IMR) and under 5 mortality rates (U5MR) before the revolution.<sup>7</sup> That success as well as the relatively inexpensive nature of the new primary care and prevention program led to the system's expansion throughout rural and eventually urban areas during the 80's and 90's.

The focal point of the new system is the "Health House" (khane behdasht). Each is staffed by the two FLHW, who serve about 1500 people. This number is large enough to give the Health House wall chart enough data to identify village level disparities and trends (in births/deaths, marriage/divorce, disease, etc.) and small enough to allow monitoring of immunizations with household-specific active follow up.<sup>1</sup> The population is drawn from one main village and several "satellite" villages with similar culture and social structure. Satellite villages had to be within one hour walking distance of the main village. In addition to the Health Houses, mobile teams consisting of a doctor, lab technician and a Behvarz, make monthly visits to remote villages to provide support and refer patients to Rural Health Centers (RHC). The RHC completes the network by supervising several Health Houses and mobile teams. Along with the doctor and technician, the RHC has a member from various specialties (i.e. environmental health, disease control, oral health, nurse, etc.).<sup>3</sup>

### *An Ideal(istic) Solution?*

The Iranian government has identified and implemented an effective strategy to reach its rural health goals. The ease of access to a friendly and agreeable FLHW allows for constant and continuous interaction between the health system and the community. This has led to the promotion of healthy attitudes and behaviors, such as the encouragement of breastfeeding and awareness about environmental hygiene and sanitation improvements.<sup>4</sup> It has also catalyzed the movement toward universal immunization of children and correct treatment of children suffering from diarrhea and acute respiratory infection.<sup>8</sup> These improvements were essential to the decrease in IMR and U5MR from 122 and 191 per 1,000 live births in 1970 to 28.6 and 35.6 per 1,000 live births in 2000.<sup>9</sup>

Considering this success it is not surprising that groups in the United States have looked to the Iranian system in hopes of improving rural health. Recently, a group from Mississippi signed an agreement with Iran's Shiraz University to form the Mississippi/Islamic Republic of Iran Rural Health Project. Despite having the 3<sup>rd</sup> highest medical expenditure per capita, Mississippi has the highest level of childhood obesity, hypertension, and teenage pregnancy in the United States.<sup>10</sup> Furthermore, IMR among non-whites in the Mississippi Delta region are comparable to that of third world countries. Ostensibly, a strong primary care network, which is sincerely lacking, can use the state's pre-existing resources to improve these figures. However, the stigma against bringing in experts from a less than popular country, coupled with the already present distrust between the communities and public health officials, due to previous scandals (i.e. the Tuskegee Syphilis experiment), pose significant challenges. Despite these challenges, the concept of improving health has a way of opening doors. In fact, the first Mississippi "Health House" is set to open in January 2010 and 15 other communities have already expressed interest in opening their own. The unique program has also caught the eye of Harvard's

School of Public Health, which will assist in monitoring the project. The involvement and cooperation among various groups is impressive and holds exciting potential for the project in the coming years.

### **Conclusion**

With political commitment to a needs-driven development of the PHC program, Iran has made great strides towards minimizing health disparities between the rural and urban population. Several key aspects (i.e. access to health services, collection of data, community participation and cooperation, unity and reach of the network, and a focus on prevention) cast a positive light on the system. Using these strengths, the implementation of similar programs can surely improve health statistics in various settings from Iran to Mississippi and beyond.

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