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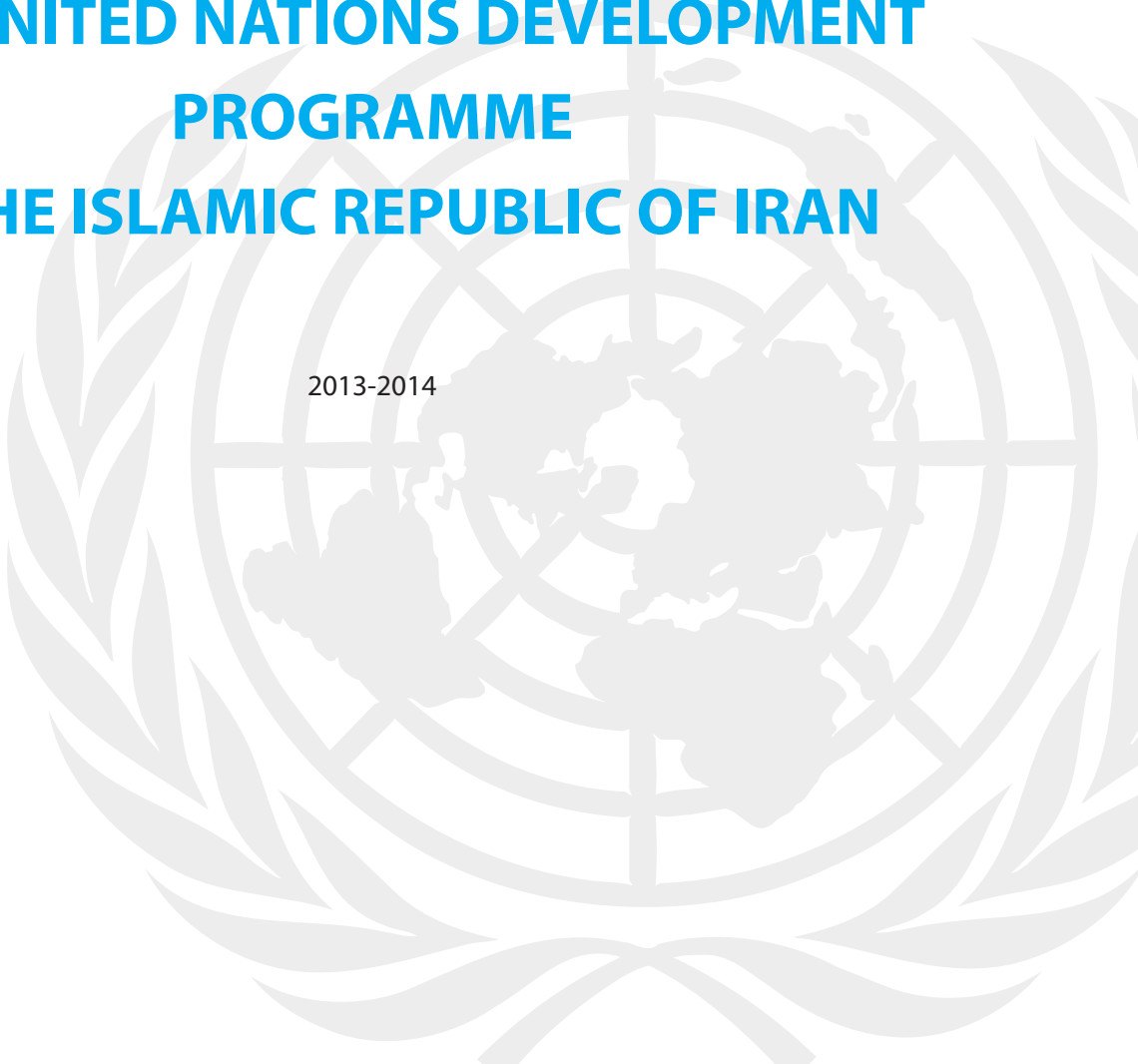
Together for Health:

The Islamic Republic of Iran *with* The Global Fund & UNDP

AN OVERVIEW OF THE IMPLEMENTATION OF PROJECTS SUPPORTED BY:

**THE GLOBAL FUND
AND
THE UNITED NATIONS DEVELOPMENT
PROGRAMME
IN THE ISLAMIC REPUBLIC OF IRAN**

2013-2014



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Foreword

Since its inception in 2002, the Global Fund to Fight AIDS, Tuberculosis and Malaria has emerged as a prime source of support in the global fight against the three diseases. The financial and technical support provided to developing country partners has brought increased capacity and rigor to the national planning and implementation of disease control strategies.

In the Islamic Republic of Iran, the partnership with the Global Fund, which started with an HIV grant in 2005, has – over the years – grown into a large portfolio of about \$100 million dollars to support specific areas in the implementation of Iran’s successive National Strategic Plans on controlling the “Three Diseases”.

During this period, UNDP, serving as the Principal Recipient of the Global Fund grants, has worked with a host of national and international partners to translate the grants into well-designed and result-oriented disease control projects. The record shows that it has implemented these projects effectively and efficiently.

Throughout, the Country Coordinating Mechanism (CCM), an assembly of national and international stakeholders, has overseen the planning and implementation of the projects.

This report provides an overview of the activities undertaken and results achieved through this partnership. While the focus of our report is the two-year period ending in December 2014, wherever deemed useful, the results are situated within a broader historical timeframe, going as far back as our start year: 2005. By doing this, we hope that our readers can develop a better appreciation of the continued challenges faced by Iran, and more significantly, how we have contributed to Iran’s effective, resolute and successful responses to counter these “Three Diseases”.

Additionally, our report aspires to lend a voice to the people and communities affected by the “Three Diseases” through the chronicling of their personal communal success stories as well as the challenges they continue to face. For, after all, the ultimate aim of this partnership is to positively impact the lives of people who are being served.

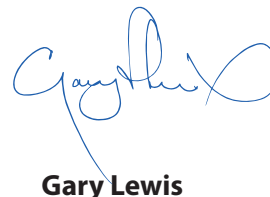
We take this opportunity to thank the Global Fund Secretariat and Fund Portfolio Management team looking after Iran’s grants, CCM members, grant Sub-recipients, contributing UN agencies and all other programme partners and stakeholders who have partaken in this endeavour.

We are also determined to ensure that the results of this partnership are duly built upon and sustainably integrated into the national disease control plans and practices.



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Vice-chair of Country Coordinating Mechanism



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Acronyms

5thFYDP	Iran's Fifth Five-Year Development Plan (2011-2015)
ARV	Antiretroviral
ASP	Additional Safeguard Policy
BBS	Bio-Behavioral Surveillance Survey
CCM	Country Coordinating Mechanism
CCDC	Center for Communicable Disease Control
CSOs	Civil Society Organizations
GDP	Gross Domestic Product
HVW	HIV Vulnerable Women
I.R. Iran	Islamic Republic of Iran
IDUs	Injecting Drug Users
ITNs	Insecticide-treated Bed Nets
LLINs	Long-Lasting Insecticidal Nets
MARPs	Most-At-Risk Populations
MDGs	Millennium Development Goals
MENA	Middle East and North Africa
MMT	Methadone Maintenance Treatment
MOE	Ministry of Education
MOHME	Ministry of Health and Medical Education
NAC	National AIDS Committee
NASA	National AIDS Spending Assessment
NSP4	Fourth National Strategic Plan for HIV/AIDS, 2015-2019
NTP	National Tuberculosis Programme
OSDV	On-Site Data Verification
PC	Positive Clubs
PEP	Peer Education Programmes
PLHIV	People living with HIV
PMTCT	Prevention of Mother-to-Child Transmission
PO	Prisons Organization
PR	Principle Recipient
SDI	Sexually Transmitted Infections
SR	Sub-Recipient
SSR	Sub-Sub-Recipient
STDs	Sexually Transmitted Diseases
TB	Tuberculosis
The Global Fund	The Global Fund to Fight AIDS, Tuberculosis and Malaria

UMS	University of Medical Sciences
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations International Children's Fund
UNODC	United Nations Office on Drugs and Crime
VCT	Voluntary Counseling and Testing
WHO	World Health Organization
WO	Welfare Organization

Islamic Republic of Iran's Overall Health Status

As stated in its Constitutional Law, Iran is fully committed to the fulfilment of every citizen's "right to enjoy the highest attainable level of health". The Ministry of Health and Medical Education (MOHME) is the primary mandate holder for the implementation and fulfilment of this goal. The MOHME has established a nation-wide health network system that provides substantive primary, secondary, as well as tertiary health care services.

At the sub-national level, these health policies are implemented by medical universities within the provinces/districts and are overseen by the university chancellors. This public healthcare network starts at primary care centres in villages and is linked to secondary and tertiary level hospitals in larger cities. Certain vital primary health care services such as prenatal care and vaccination are either free or made available at a considerably reduced cost. In recent years, non-governmental organizations have increasingly carved out a niche in specialized fields such as cancer, diabetes, and thalassemia. The national public health care system is currently undergoing certain reforms, wherein the primary point of reference will be a 'family physician system' that will provide both preventive care as well as medical guidance to the public. Policy makers believe that such an approach will further reduce unforeseen out-of-pocket costs. Lastly, this extensive network is augmented and complemented by a well-developed private sector. The "health system reform" campaign initiated in 2013 by the Ministry of Health and Medical Education, opts, among other things, for universal coverage of health insurance as well as major improvements in healthcare services.

The positive results of the steady increase in public health expenditures can be seen in the following broad, yet significant health indicators:¹

- Increase in average life expectancy: from 61 years for males and 65 years for females in 1999 to 70.9 years for males and 73.17 years for females in 2007,
- Near universal coverage for measles vaccination by 2009,
- Significant drop in Under-5 mortality rates per 1000 live births from 77.8 in 1990 to 18.9 in 2013,
- Reduction in maternal mortality rates from 91 cases per every 100,000 live births in 1989 to 24.6 in 2007, and
- Increase in the proportion of births attended by skilled health personnel from 70% to 97.3% between 1989 and 2007.

The Three Diseases

Globally, close to 5 million people die every year from these three infectious diseases² that disproportionately affect the poorest and most vulnerable populations – a staggering 99% of people who die from AIDS, tuberculosis, and malaria live in the developing world.³ People who live in extreme poverty tend to suffer from

1. Vosoogh Moghaddam et al., "Health in the 5th 5-Years Development Plan of Iran: Main Challenges, General Policies and Strategies"; Mehrdad, "Health System in Iran"; Heidari and Heidari, "Iran Millennium Development Goal's in a Glance"; "ECO Countries Health Profile Report - 2015" (Ministry of Health and Medical Education, I.R. Iran, 2015).

2. Marco Vitoria et al., "The Global Fight Against HIV/AIDS, Tuberculosis, and Malaria - Current Status and Future Perspectives," *American Society for Clinical Pathology* 131 (2009): 844, doi:10.1309/AJCP5XHDB1PNAEYT.

3. "Combat HIV/AIDS, Malaria, and Other Diseases by 2015," *World Bank*, n.d., <http://www.worldbank.org/mdgs/diseases.html>.

more than one of these diseases simultaneously, affecting their ability to work – effectively condemning them to a life trapped in a vicious cycle of poverty. Cumulatively, their detrimental impact creates a significant public health burden that hampers both the prospects of national and international development goals. An estimated 2.1 million people were newly infected with HIV in 2013, bringing the approximate total number of people living with HIV (PLHIV) to 35 million globally by the end of the same year. HIV/AIDS is the sixth leading cause of adult mortality and the largest killer among women aged 15-49. It has led to 39 million deaths so far, 1.5 million of which took place in 2013.⁴ HIV Vulnerable Women (HVW), Intravenous Drug User (IDUs), and youth are particularly at risk of HIV infection. Although there was a 33% decline in the number of new infections globally⁵, the Middle East and North Africa (MENA) region has experienced a rapid growth of new infections.⁶

As a single infectious agent, tuberculosis (TB) is the second greatest killer worldwide, killing 1.5 million people in 2013. It is among the top five causes of death for women aged 15 to 44, and is a leading killer of HIV-positive people, accounting for one-fourth of all HIV-related deaths. In 2013, 9 million people became ill with TB and an estimated 480,000 of these cases were multidrug resistant TB

4. <http://www.who.int/mediacentre/factsheets/fs360/en/>

5. "UNAIDS Report on the Global AIDS Epidemic 2013 - Global Report" (Joint United Nations Programme on HIV/AIDS, 2013), 4.

6. "UN and Iranian Experts Discuss HIV/AIDS Status in Post 2015 Development Agenda," *UNDP-Iran*, June 2013, <http://www.ir.undp.org/content/iran/en/home/presscenter/articles/2013/06/26/un-and-iranian-experts-discuss-hiv-aids-status-in-post-2015-development-agenda-.html>; Hamidreza Setayesh et al., "HIV and AIDS in the Middle East and North Africa" (Cairo: Population Reference Bureau (PRB), 2014).

(MDR-TB).⁷

Approximately half of the world's population is at risk of malaria. Geographically speaking, 97 countries, and territories are affected by the risk of ongoing malaria transmission. There were about 124 to 283 million cases of malaria in 2013, resulting in an estimated 367,000 to 755,000 deaths. Mosquitoes infected by a parasite called *Plasmodium* are the main vectors that transmit malaria. Young children, pregnant women, PLHIV, migrant workers and immigrants are the population groups that are particularly vulnerable to malaria.⁸

The Islamic Republic of Iran has a concentrated HIV epidemic with a prevalence rate less than 0.1% among the general population and a high prevalence rate among most at risk populations (MARPs), namely: 13.8% among injecting drug users (IDUs) and 4% among vulnerable women. As of December 2014, there are 28,921 identified HIV-infected people, of whom 88.3% are male.⁹

Approximately 23% of Iran's population live in high-risk areas of tuberculosis. TB prevalence shows an uneven geographical distribution across the country, it is mostly concentrated in the following seven provinces: *Hormozgan, Sistan & Balouchestan, South Khorasan, Khorasan Razavi, North Khorasan, Golestan and Khouzestan*. TB has a high prevalence rate among prisoners. HIV-TB co-infection is of great concern, and there has been an increase in the number of Multiple-Drug Resistant-TB cases (MDR-TB).¹⁰

7. <http://www.who.int/mediacentre/factsheets/fs104/en/>

8. <http://www.who.int/mediacentre/factsheets/fs094/en/>

9. "The Fourth National Strategic Plan (NSP4) for AIDS Control in the Islamic Republic of Iran," September 2014, Executive Summary.

10. Dr. Sergio Spinaci and Dr. Alireza Shoghli, "Tuberculosis Prevention in High Burden Areas - Terminal Evaluation Report," Tehran, September

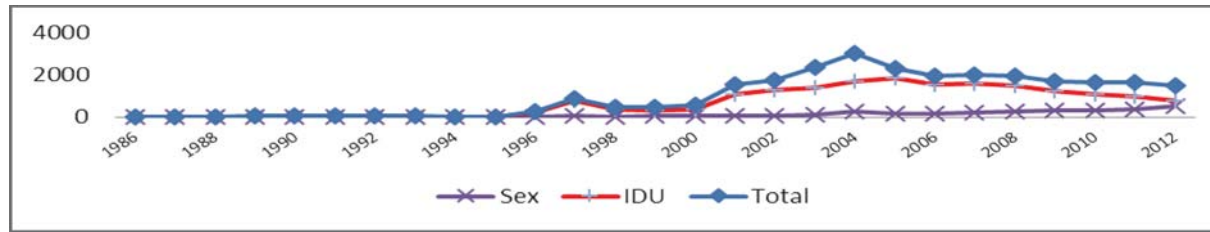


Figure 1: Trend of change in transmission routes of HIV in Iran.

Malaria is the most important vector-borne disease in Iran with a high burden in the southeastern parts of the country. According to the National Malaria Programme Review 2014, about 4% of Iran's population reside in malaria-prone areas. The National Strategic Plan for Malaria, calls for the elimination of *plasmodium falciparum* (the most deadly strain of malaria) by 2018.

Both the TB and malaria incidences in Iran have exogenous sources in the form of migrant and immigrant populations coming from some neighbouring countries. The Islamic Republic of Iran has consistently incorporated the health needs of these at-risk populations in its national strategic health plans and responses. Access to at-risk populations remains difficult as a result of their remote locations in the case of TB and malaria, or because of stigma and discrimination in the case of HIV/AIDS. While HIV/AIDS is still concentrated in key vulnerable populations, a gradual shift in the route of transmission from unsafe drug injection to unprotected sexual contact is noticeable as indicated in Figure 1 below.

So far, Iran has developed and implemented three consecutive National Strategic Plans to address HIV/AIDS. The 4th National Strategic Plan on HIV/AIDS 2015-2019 (NSP4) has recently been revised

to be aligned with the new global strategy, set by UNAIDS, aiming to eliminate the epidemic by 2030 through its "90-90-90 targets."

Partnership: Achievements in Health and Development

The Global Fund was established in January 2002 to help finance aggressive interventions against these three diseases. The Fund delegates most of the responsibility for programme design and implementation to country representatives and local groups. At country level, the Country Coordinating Mechanism (CCM) is the highest oversight body looking after the partnership with the Fund.

Worldwide, the Global Fund has become the leading international financier for the three diseases – accounting for 21 percent of international funding for HIV/AIDS, 82 percent for TB, and 50 percent for malaria.¹¹

I.R. Iran's Partnership with the Global Fund and the UN System

Iran began receiving its first Global Fund grant in the area of HIV/AIDS in 2005 under Round 2 of the Global Fund's financial cycle. The success of this

11. "Strategic Investment for Impact - Global Fund Results Report 2012" (The Global Fund, 2012).

initial grant carried into Round 7 in 2008, opening the door for the introduction and implementation of other Global Fund projects dealing with the prevention and treatment of TB and malaria. Subsequent grants were approved in Round 8 in 2009 for additional HIV/AIDS control programmes while under Round 10 the geographical scope of malaria control projects were extended to eight additional provinces. The TB project concluded in March 2014 and has been incorporated into the national health system in a pre-planned manner.

In Iran, as is the case in more than 20 other countries, the UNDP has been designated to serve as the Principle Recipient (PR) of Global Fund grants. As the PR, UNDP-Iran works in close partnership with the CCM, ensuring accountability and the proper implementation of the Global Fund grants in an inclusive and sustainable manner. This inclusive partnership has seen the active and meaningful engagement of various Sub-Recipients (SRs) and Sub-Sub-Recipients (SSRs) which are fundamental for the long-term sustainability of all these projects.

Under the leadership of the CCM, this partnership has so far mobilised close to 100 million USD in Global Fund grants and has achieved considerable results. The following sections highlight these vital achievements.

A Pragmatic Disposition to Controlling HIV/AIDS

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Women's DIC – Payam Avaran-e Hamyari NGO, Tehran © N. Panahi 2015

Key Statistics on HIV/AIDS in Iran

- **First discovered case in Iran:** 1986
- **Known number of HIV-positive individuals:** 28,291 as of December 2014
- **Female-Male ratio of HIV-positive people:** 88.3% male – 11.7% female
- **Main mode of transmission:** Intravenous Drug Use (67.1%); gradual shift towards sexual transmission (14.1%)
- **World AIDS Day:** December 1st

HIV/AIDS in Iran

Under the umbrella of the National Health Strategy, 2014 marked the last year of the Third National Strategic Plan for AIDS control (NSP3). With the provision of technical assistance by the Global Fund through its HIV/AIDS project, the Fourth NSP (NSP4), covering the period 2015-2019, was developed in 2014 using an inclusive process designed to build on the accomplishments of, and lessons learned of the previous NSPs, as well as to keep pace with the evolving global strategies and targets. The National AIDS Committee (NAC) is the key governmental organ that has overall responsibility for the coordination, management, and the monitoring and evaluation of the Fourth NSP. It reports to the Higher Council on Health, which in turn directly reports to the Office of the President – representing the highest level of political authority in the country where HIV/AIDS-related issues are discussed.

Table 1 summarizes the aggregated statistical data collected by the Universities of Medical Sciences (UMS) in regards to the HIV prevalence and the main modes of HIV transmission throughout Iran by the end of 2014.

The Government of Iran forged a strategic partnership with the Global Fund in 2005. In addition to enhancing the quality of cooperation among the different partners and communities that are engaged in the response to this disease, the partnership facilitates the sharing of best of practices as well as the procurement of highly specialized medical equipment at a time when international exchanges have become more challenging for I.R. Iran.

Iran received its first Global Fund grant in 2005 under the second grant-making round of the Fund. The subsequent success of this initial project paved the way for the attainment of additional funding under Round 8 in 2010. A reoccurring,

	Total	Male	Female	Modes of transmission (2014-1986 trend)
Registered HIV/AIDS Prevalence Rates (2014-1986)	28,921	88.3%	11.7%	<ul style="list-style-type: none"> ● Intravenous drug use is the main mode of HIV transmission: 67/1% - 45.6% ● Sexual contact: 14.1% - 36.8% in 2014)
New HIV Infection Cases in 2013	8,714	5,973	2,741	<ul style="list-style-type: none"> ● Blood transfusion from blood products: 0.9% – (Zero cases in 2014) ● Increased rates of infection through mother-to-child transmission: 1.4% (2.9% in 2014)
Mortality Number (-1986 2015)	6,095	6958	465	<ul style="list-style-type: none"> ● Unknown routes of transmission: 16.7% – (14.7% for 2014)

Table 1: Key statistical data on HIV

yet fundamental element of the two projects is their emphasis on the sustained and substantive inclusion of the Non-Governmental sector such as civil society organizations and the private sector into decision-making processes as well as

programme implementation. Table 2 provides an overview of the current HIV grant.

Objectives

The programme supported by this grant aims to scale up HIV prevention programmes toward universal access.

The main objectives of the Global Fund project under Round 8 Phase II are:

- At least 60% of 15-18 years at risk adolescents have universal knowledge about HIV transmission,
- At least 60% of prisoners (including their family members) have universal knowledge about HIV transmission,
- At least 80% of prisoners have been reached by Voluntary Counseling and Testing services,
- At least 85% of male IDUs adopt safe injecting practices and 42% of IDUs adopt to use a condom in the last time they had sexual intercourse,
- At least 55% HIV Vulnerable Women (HVW) adopt to use a condom in the last time they had sexual intercourse,
- At least 80% of expected HIV positive pregnant women are covered by ARV in selected districts,
- 100% of PLHIV resistant to first line ARVs has access to second line ARVs,
- At least 10% of known PLHIV actively involved in positive club activities,
- Capacity building for NGOs to deliver effective HIV services, and
- Capacity building to assure successful implementation of NSP.

Project Title	Scaling up HIV/AIDS Prevention Programmes Towards Universal Access with Increasing the Partnership of Non-Government Sector
Project Duration	April 2010 until March 2015
Project Budget	USD 28,894,309
Principle Recipient	United Nations Development Programme (UNDP)
Sub-Recipients	<ul style="list-style-type: none"> ● Ministry of Health, Center for Communicable Disease Control (CCDC) ● Prisons Organization (PO) ● Ministry of Education (MOE)
Sub-Sub-Recipients	<ul style="list-style-type: none"> ● Welfare Organization (WO) ● Universities of Medical Sciences (UMS)

Table 2: Overview of HIV/AIDS grant

Results

Prevention

Despite recent advances such as increased access to better quality antiretroviral therapy (ART), the single most effective tool against HIV/AIDS is *prevention*. The Islamic Republic of Iran has recognized this fact and through its partnership with UNDP-Global Fund has introduced and undertaken many targeted educational activities for specific groups of people who are particularly at risk of HIV infection. Being mindful of socio-cultural sensitivities, the pragmatic and practical designs of these educational programmes has reduced the levels of stigma and discrimination within the environments in which they are implemented. In turn, both the quality of their input and the quality of their output – in terms of universal knowledge about the modes of HIV transmission among at risk groups – is increased.

Training for School Students: 15-18 Years At-Risk Adolescents

Over the past two years, in collaboration with the Ministry of Education (MOE), the Global Fund has implemented numerous educational projects in strategically selected provinces.¹

The central aim of the project has been the proper and sustained integration of HIV/AIDS preventive education into the students' academic curricula. The MOE, in collaboration with two NGOs has provided systematic training to 784,758 students in 2013 and 2014 across the said provinces.

Accumulatively, about 300,000 teachers and

3 million school students have received HIV prevention education since 2005 when the Global Fund first began its HIV/AIDS-related activities in Iran.

The beneficial aspects of such educational and awareness raising activities is not limited to the school environment. Once informed about HIV/AIDS, both students and teachers become agents of change as they pass their knowledge about HIV prevention to the members of the wider community.

Preventive Care for Prisoners and their Families

As the Sub-Recipient of Global Fund grants, the Prisons Organization (PO) has conducted numerous Peer Education Programmes (PEP) in 28 carefully selected prisons whose total population exceeds 500 inmates in each prison. As the name implies, a Peer Education Programme is a method of information sharing that accords a central role to selected members of the concerned target-group as educators and facilitators (peer educators). PEPs are scientifically sound and evidence-based harm reduction and educational initiatives.

These PEPs have acted as a key vehicle for the distribution of high-quality educational pamphlets dealing with topics ranging from the co-infection of HIV/AIDS and TB, various Sexually Transmitted Infections (STIs), the relation between methamphetamines use and HIV/AIDS, as well as interlinks between unprotected sexual practices and HIV/AIDS. In the period under review, the PO's PEP initiatives have reached a total of 270,000 inmates as well as 85,560 of their immediate and extended family members from the start of the project in Round 2 until the end of December 2014. HIV prevalence rate among IDU prisoners has been reduced from 3.17% in 2000 to 1.4% in 2013.

1. The said provinces are Alborz, Bushehr, Fars, Qazvin, Kermanshah, Hormozgan, Khorasan Razavi, Khuzestan, Lorestan, Sistan & Balouchestan, and West Azarbaijan.

In partnership with UNDP-Global Fund, the national government has been at the helm of one of the most successful and widely cited harm reduction programmes in the Middle East and North Africa.²

Main Modes of HIV Transmission MOHME-CDC Fall 2014

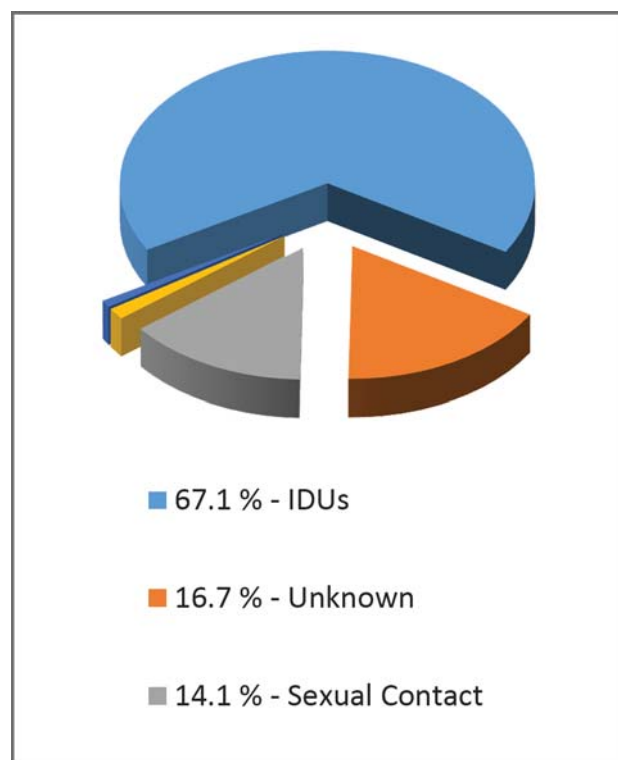


Figure 2: Statistical breakdown of the modes of HIV transmission.

Voluntary Counseling and Testing in Prison settings:

The Global Fund and UNDP, in partnership with the Prisons Organization (PO) have significantly improved the coverage and quality of Voluntary Counselling and Testing (VCT) services within

2. <http://www.who.int/hiv/pub/idu/kermanshah/en/>

the national prison system. As already noted, a particularly vulnerable group within the prison system are the IDUs.

VCT centres are client-initiated HIV testing and counselling and other related services that help inform inmates about their HIV status in a managed and scientifically sound environment. HIV testing is a critical entry point for accessing life-sustaining care should the results of the test be positive. HIV testing also acts as a critical factor in the efficacy of preventive measures. Inmates, whose HIV tests are negative, continue to receive counselling on how to reduce exposure to HIV to remain negative.

The innovative aspects of these VCT services is that they provide comprehensive HIV/AIDS prevention and care services with a particular focus on harm reduction services. They also provide inmates with health and educational programmes dealing with the treatment of sexually transmitted infections (STIs), as well as the provision of treatment, care, and support for people living with HIV/AIDS (PLHIV).

Through the Global Fund's financial generosity, technically competent service providers such as physicians and counsellors staff these VCTs. By the end of the September 2014, a total of 44,228 inmates had received HIV counselling and testing services.

Substitution Maintenance Therapy – MMT:

The provision of these services to drug users, particularly IDUs, is not limited to the prison system. In order to sustain their gains in the realm of prevention as well as the well-being of released IDU prisoners, the PO has also established and integrated Methadone Maintenance Therapy (MMT) in the prisons' VCTs as well as in five



Testing at Shahriyar VCT Center, Tehran © N. Panahi 2015

'after-release' centers. "Methadone Maintenance Therapy" is one of the most effective types of pharmacological therapy for opioid dependence and is associated with substantial reductions in illicit opioid use, criminal activity, deaths due to overdose, and behaviours that stimulate a high risk of HIV transmission.

The extension of this integrated and holistic approach to after-release centers has become an important component of community-based approaches to HIV/AIDS prevention and harm reduction programmes, in that the treatment can be provided on an outpatient basis, which has in turn achieved higher rates of retention among released IDU prisoners. The Global Fund contributed to the government's financial assets

that were pre-allocated for the provision of equipment and the hiring of staff for the VCTs and the procurement of Methadone syrup. Since the start of the project in 2005, and until the end of September 2014, the prison's MMT programmes have provided treatment for 14,669 prisoners.

Most at-Risk Populations (MARPs)

Iran's pragmatic HIV/AIDS preventive measures are not limited to the easily accessible incarcerated at-risk groups as discussed above. The constructive collaboration of numerous NGOs with the UNDP, the Global Fund, the Welfare Organization (WO), University of Medical Sciences (UMSs), and the Center for Communicable Disease Control (CCDC) has led to the establishment of various HIV/AIDS preventive education and harm reduction centers

that provide user-friendly services on a voluntary basis: Outreach Teams, Drop-in Centers (DICs), and Sleep-in Centers (SICs).

IDUs:

These centers provide a wealth of services to IDUs ranging from education and harm reduction services to referrals for VCTs, first aid services, the provision of hygienic facilities and items (showers, sterile needles/syringes, alcohol pads, safety boxes, condoms), as well as a daily meal. Currently, through the Global Fund's generous financial support, 30 DICs, 74 outreach teams, and 12 SICs are providing essential services to an estimated 4,738 IDUs on a regular basis.

HVW:

Regarding the services for HIV Vulnerable Women (HVW), currently, through the Global Fund's sustained financial support, there are 6 DICs, 10 outreach teams, and 8 Welfare Organization SICs, and 14 UMSs Women Centers that are providing HIV/STI preventive care and harm reduction services to a total of 2,552 HVW on a regular basis.

Public Education

As evident from the above sections, HIV/AIDS preventive education is effective when targeted at specific groups who are particularly at risk of HIV infection. However, it is imperative that such a focus does not lead to the exclusion of groups that are considered to be at 'low' or 'no-risk' of HIV infection. After all, HIV/AIDS is a disease that



HIV/AIDS Counselor Ms. Atefeh Khazaii conducting a HIV/AIDS preventive educational class at a Women's DIC – Payam Avaran-e Hamyari NGO, Tehran © N. Panahi 2015

transcends all boundaries, whether they are social, economic, or cultural.

However, if constructed badly, HIV/AIDS educational programmes can increase stigma and discrimination towards PLHIV; if for example, the implicit or explicit message of a given educational campaign instills fear into its audience about the consequences of becoming infected with HIV, this leads to increased stigma and discrimination, and as already noted, will only serve to hinder the efficacy of preventive measures.

It is in such a context that the Global Fund and UNDP in partnership with the Universities of Medical Sciences (UMSs) established high quality yet anonymous telephone counselling services. The establishment of the Hotline Initiative dates back to Round 2 of the Global Fund funding cycle when it first started to operate in Iran in 2005, and has continued to be supported throughout Round 8. Staffed by trained counsellors and psychologists, callers from the public have the opportunity to access the full spectrum of counselling services in a timely and anonymous manner. A total of 18 hotlines are fully operational in the following provinces: *Yasooj, Lorestan, Zanjan, Kordestan, Tehran, Yazd, Zahedan, Hormozgan, Hamedan, and Booshehr.*

Treatment

PLHIV who have proper and sustained access to ARTs have significantly improved life expectancies that are measured by decades and not by months. Early initiation of ART can reduce the risk of HIV transmission to an uninfected partner. Taken together, this duality in benefits is called *treatment as prevention*. Thus, PLHIVs' ability to have consistent access to ARTs for the continuous suppression of

their HIV viral load can be reconceptualised as both having personal as well as public health benefits.

Second Line ARVs

Being mindful of Article 29 of the Constitution, the national government of the Islamic Republic of Iran has put great emphasis on the public health aspects of the timely and consistent treatment of PLHIV with first line ARVs.³ Going further, the Government, in partnership with the Global Fund and UNDP has ensured that PLHIV who are in need of second line ARVs⁴ have sustained and equitable access to these medications. While 861 patients received second line ARVs (alternate and failure regimens) in 2013, this number rose to 1,106 patients in 2014. For 2014, the total number of people receiving both first and second line ARVs was 5,585 against a set target of 6,281 (89% coverage rate).

PMTCT

"Treatment as prevention" has also been used for the Prevention of Mother-to-Child Transmission of HIV (PMTCT). The routine testing of pregnant women and treating infected mothers with ARTs during pregnancy, delivery, and breastfeeding, can reduce the risk of transmission to the child by 90%.⁵ Nevertheless, the number of women living with HIV has increased in recent years and has led to a corresponding increase in both the number of pregnant women living with HIV and the number of children being born with HIV.

3. First line ARV refers to the combination of medication(s) that a patient begins to take at the beginning of his or her treatment.

4. If a patient's HIV viral load becomes resistant to the first line of ARV therapy (or if the side effects are particularly bad), then a change to second line therapy is initiated and is composed of a different set of ARV medication(s).

5. http://www.cdc.gov/hiv/pdf/prevention_tap_benefits_of_HIV_treatment.pdf

To counter this trend, Objective number 6 was incorporated into Phase II of Round 8 of the Global Fund's HIV/AIDS project, designed to complement the efforts of national authorities in the provision of ARV treatment for identified pregnant women and their children. According to statistics provided by the CCDC, 78 HIV-positive pregnant women received ARV medication in 2013, while in 2014 a total of 98 HIV-positive pregnant women received ARV treatment.

The national government⁶, in collaboration with various UN agencies⁷, the UNDP, and the Global Fund, has developed a National Protocol on PMTCT and has been operationalized in 16 medical universities in various provinces.⁸ It is hoped that through these substantive steps, the coverage rate for the detection of infants born to HIV-positive women is greatly increased.

Supportive Environment

Without the existence of a supportive environment, the full potential of the aforementioned strategic interventions in the programmatic areas of HIV prevention, treatment, and care continuum will never be fully realized. Supportive environments – or lack thereof – are inextricably linked with the spread and impact of HIV on individuals and communities. This link is most tangible in the disproportionate incidence and spread of the disease among certain groups that, in addition to their marginalization in the social and cultural realms of life, are trapped in the throes of poverty.

6. (CCDC; Population, Family and School Health Department of MOH; HIV and Family Health focal points of 15 selected UMSs)

7. (UNAIDS, UNICEF, UNFPA, UNODC, WHO)

8. The said PMTCT piloted in the following UMSs training facilities: *Isfahan, Tehran, Hormozgan, Mazandaran, Fars, Bushehr, Lorestan, Zahedan, Khorasan Razavi, West Azarbaijan, Shahid Beheshti, Kerman, Ahvaz, Kordestan, Iran, and Kermanshah.*

It is well documented that AIDS and poverty are mutually reinforcing negative forces in many developing countries. Marginalized groups often face greater obstacles in accessing information and preventive education on HIV/AIDS as well as HIV care and treatment services such as ARVs and other medications for opportunistic infections. Already facing stigma and discrimination as marginalized groups, their vulnerability is further accentuated as the HIV-related stigma and discrimination discourages them from contacting relevant health and social services. Such a dynamics, in turn, drive these vulnerable groups and communities underground, inhibiting the ability to reach them with prevention efforts. The result is that those that need this information most will not benefit even if such services are available. This, in turn, contributes to the vulnerability of others to infection and has a negative impact on public health in general.

Simply put, any impediment to any one of the essential components of an effective response to HIV/AIDS – access to education and information about HIV, treatment, and care and support services – will only serve to fuel the AIDS epidemic.

Positive Clubs

It is in such a context that under the aegis of the national government, the CCDC, UNAIDS, UMSs, have established, with the help of UNDP, a network of Positive Clubs (PC) throughout the country. The PC initiative is in line with the “Positive Prevention Strategy” of the National AIDS Programme, which aims to “achieve more meaningful and active participation of people living with HIV in controlling the HIV epidemic”. The Positive Prevention Strategy signifies a necessary recognition by top policy makers of the critical role that a supportive environment has for the success

of any HIV response programme. Many Positive Clubs have been established under Round 2 and Round 8 of the Global Fund Projects. Whereas in 2013 there were 16 operational positive clubs in Iran, that number had increased to 19 by the end of 2014.⁹

These Positive Clubs provide a wealth of services to PLHIV ranging from the organization of HIV-related sessions and workshops, entrepreneurship training courses, leisure and sport activities, mental health counselling services, group therapy sessions, PMTCT education sessions, peer and public education activities, and the design of constructive engagements with the media. The psychosocial support provided by these PCs is essential for PLHIV to lead healthier, happier, and more fulfilling lives. They provide for an open and supportive environment where PLHIV are protected from discrimination, HIV/AIDS is de-stigmatized; they are treated with dignity and respect, and can access quality care services.

This Positive Prevention Strategy leads to increased voluntary testing and higher rates of retention in and adherence to treatment regimens and care services. The net effect is that both PLHIV as well as the general population will deal with their HIV status more effectively through taking measures to prevent the onward transmission of HIV, thus reducing the disease burden of HIV on themselves and on society as a whole. A total of 1,446 PLHIV were actively involved in these positive clubs throughout 2013. This number had increased to 1,527 by the end September 2014.

9. The said Positive Clubs operate in the following cities: Tehran (2 clubs), Qom, BandarAbass, Varamin, Kerman, Isfahan, Yazd, Kermanshah, Shiraz, Mashhad, Ahvaz, Khoramabad, Bushehr, Sanandaj, Shariar, Hamedan, Karaj, and Sari. The last three cities are host to the three new PCs that were established in 2014.

Capacity Building

For the long-term sustainment of the achievements attained by civil society organizations working in the field of HIV, it is essential to provide them with continuous training and support, updating them with the latest information and service-delivery techniques, and exposing them to the experiences and expertise of other actors working in the said field. This has been tackled through many workshops conducted for different NGOs working with the project and providing different services to the target population.

Civil Society :

In this line and in close collaboration between UNAIDS, CCDC, NGOs running various positive clubs, UMSs, the UNDP, and the Global Fund, annual general gatherings are held in different cities¹⁰ for the Positive Club members, their managers, and AIDS officers from UMSs. A bulletin reflective of the activities undertaken by PLHIVs has been designed and is published on an annual basis. The aforementioned steps will provide increased positive visibility to these actors while simultaneously enhancing their cohesion as they take a unified stance in their response to the national AIDS epidemic.

National Institutional Capacity:

If the aforementioned gains against the national AIDS epidemic are to be sustained in the long-term, it is imperative that the actors and organizations that provide these services have access to scientifically sound and objective data that can be easily translated into tangible gains through the utilization of high-end, yet practical medical equipment and epidemiological data

10. So far these annual gathering have been held in the following cities: Isfahan, Kerman, Tehran and Kish.

management techniques.

Bio-Behavioral Surveillance Surveys (BSS):

In order to design additional high quality strategic interventions (preventive, educational, treatment and care) for the most at-risk populations, four Bio-Behavioral Surveillance Surveys (BSS) were conducted in Round 2 and two BSSs in 2014 under Round 8 of the project. Being mindful of the characteristics of Iran's HIV/AIDS epidemic, the last two BSSs focused on the IDU and prisoners populations. Their design and implementation drew from the lessons learnt from the previous four trailblazing BSSs that were carried out between May 2009 and December 2010. The strategic information gathered by these latest BSSs will ensure that future programmes are proactive and in direct response to the practical realities and challenges presented by the national AIDS epidemic.

On-Site Data Verification (OSDV) and National AIDS Spending Assessment (NASA):

In order to strengthen project-monitoring capacities, a third party monitoring firm has been engaged and has been tasked to provide systemic and continuous monitoring of the performance of the project activities. The Terms of Reference (TOR) for this task were completed by the end of 2013, enabling the contracted firm to conduct five OSDV-visits (On-Site Data Verification) throughout 2014 in the following cities: *Karaj, Tehran, Arak, Sari, and Kerman*. These critical OSDV activities are designed and implemented within the framework of the collaborative partnership forged between the CCM, UNDP, and the Global Fund. The data derived from these inspections will feed into the (re)design of current and future programmes, ensuring that they are on-target and relevant to

the issues at hand.

Likewise, UNAIDS has introduced a tool that is designed to help countries conduct a National AIDS Spending Assessment (NASA) exercise. It is designed for low- and middle-income countries who wish to track the flow of resources they have allocated for the fight against HIV/AIDS. Based on a comprehensive and systematic assessment and tracking methodology, it describes the allocation of funds, from their origin down to the end-point of service delivery. NASA produces standardized reporting models and indicators for the monitoring of progress towards the targets set out by the Declaration of Commitments adopted by the United Nations General Assembly Special Sessions on HIV (UNGASS). In collaboration with different governmental organizations, UNDP, the Global Fund, and UNAIDS, produced the first NASA report in 2014. The information derived from this exercise provided inputs for the development of the Fourth NSP (2015-2019) as well as the development subsequent Global Fund Concept Notes as required by the New Funding Model (NFM). The ultimate goal of the NASA exercise is to ensure that resources are allocated to cost-effective strategic interventions that are pertinent to the epidemic profile of a given country. In light of the fact that international, as well national aid flows are consistently outstripped by the demands and needs of prevention and treatment programmes, the attainment of the aforementioned goal becomes even more imperative.

Hi-Tech Laboratory Capacity and Enhanced Testing:

To further strengthening the infrastructure for detecting HIV more rapidly and more accurately , the Global Fund has financed the procurement

of several CD4 counter machine and kits and 11 hi-tech laboratory equipment designed for the Molecular Diagnosis of HIV. The said equipment were delivered to the CCDC in 2013 and were made operational by the end of June 2014. Eleven reference labs of the MOHME and designated health facilities within a certain number of UMSs were the recipients of the said equipment.

Lastly, by the end of 2014, the UNDP and the Global Fund, in partnership with the CCDC and UMSs, had procured 350,000 Rapid Diagnostic Tests (RDT Kits). The CCDC has confirmed that the RDT programmes have been implemented and are operational within 1,006 different centers such as VCTs, Women centers, DICs, SICs, Private clinics, MMT centers, and prisons that are associated with 54 UMSs nationwide. As already noted, the equitable and timely access to objective testing and counselling services is a fundamental element of any well-designed and implemented national AIDS programme. Proper testing and counselling services are considered as a gateway to HIV/AIDS prevention, care, and treatment and support interventions. Providing reliable and onsite results in as little time as 30 minutes, it is hoped that the introduction of these RDT Kits will greatly enhance national prevention and treatment activities, thereby leading to a substantial reduction in the national disease burden of the AIDS epidemic.

Sustaining the Gains against TB

25



Zabol TB Laboratory staff at work (left to right): Mr. Mohammad-Taghi Hekmati, Ms. OmolbaninToofani, Ms. Raha Mir
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Key Statistics on Tuberculosis in Iran

- **Approximately 14,000 people are infected by TB annually**
- **Annual Mortality Rate: 2,000**
- **Female-Male ratio:** Among the 11,065 TB cases reported in 2011, 51% were female and 13.5% were non-Iranian (mostly Afghan nationals)
- **Provinces with highest incidence rate:** *South Khorasan, North Khorasan, Khorasan Razavi, Khuzestan, Hormozgan, Sistan and Balouchestan.* These provinces are home to 23% of Iran's population but harbour 50% of its TB cases.
- **World Tuberculosis Day:** March 24th

Tuberculosis in Iran

Tuberculosis (TB) is contagious and airborne. As a fatal infectious disease, TB has accompanied humanity since time immemorial. Various historical texts, from ancient Egypt¹ and ancient Greece² to Mesopotamia³, both describe its symptoms and make explicit references to its scourges. Iranian physicians such as *Ali ibn Sahl-e Rebban Tabari* (838-870 CE) and *Ismail Jorjani* (1040-1136 CE) have provided documentary evidence of their struggles with TB in their respective medical texts. The history of TB becomes much more informative after the mid to late 19th century as modern medicine begins to take root in Iran. The first European medical teacher in Iran, Dr. Jacob Eduard Polak (1818 – 1891), recounts his encounters with TB cases while teaching at the *Dar-al-Fonun School*. There is evidence that by the end of the *Qajar* period (1796 – 1925), TB was widespread throughout Iran's major cities and recognized as one of the major causes of death in the first decades of the 20th century.⁴

It was during the same period that *Mozzafar-al-Din Shah* (1853 – 1907) was diagnosed as a TB patient and began the construction of a small palace in northern Tehran where he could spend his recovery period in a place with fresh mountain air. Over the decades, this place evolved into '*Dr. Masih Daneshvari* Educational, Therapeutic and Research Center for Tuberculosis and Lung Disease', serving both as an educational collaboration center of WHO Eastern Mediterranean Region and as

1. Edwin-Smith: 'Papyrus' (3000-2500 BCE)

2. Hippocrates 460-377 BCE)

3. Code of Hammurabi (prior to 2000 BCE)

4. Dr. Mohammad Hossein Azizi and Dr. Moslem Bahadori, "A Brief History of Tuberculosis in Iran During the 19th and 20th Centuries," *Archives of Iranian Medicine* 14, no. 3 (May 2011): 215–219.

a reference medical center for TB educational and research programmes in Iran.⁵ By 1964, the reported incidence rate had soared to 143 cases per 100,000 people. Nevertheless, a gradual and steady improvement of the general socio-economic and health indices has led to a drastic reduction in TB incidence rates such that by 2014 this ratio had dropped to 12.9 per 100,000.

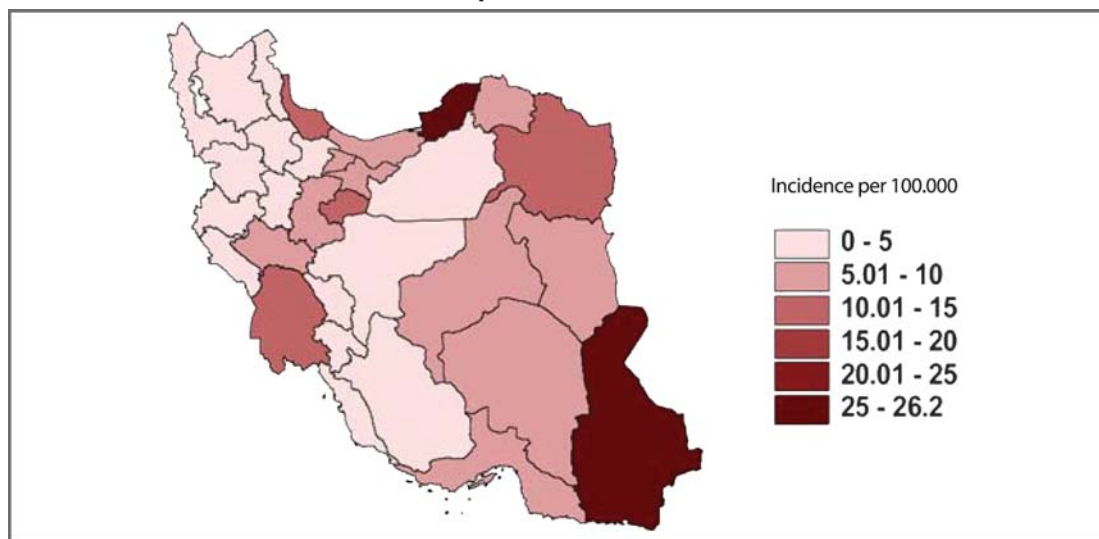
The I.R. Iran's National Tuberculosis Programme (NTP) has achieved significant results through the application of the WHO's recommended DOTS (Directly Observed Treatment Short Course) strategy, the usage of short course chemotherapy, the integration of the TB Control Programme in the primary healthcare system, an internationally standardized M&E recording and reporting system, as well as an appropriate procurement and supply management (PSM) system. Some of the most significant achievements of the national TB control programme are as follows:

- A drastic decrease in reported TB notification rates: 142 to 12.9 per 100,000 people (50 year period),
- 35% decrease in TB incidence rates during a 23-year period (32 per 100,000 in 1990 to 21 per 100,000 in 2013), and
- 36% decrease in TB mortality rate during a 23-year period (5 per 100,000 in 1990 to 3.2 per 100,000 in 2013).

Despite these achievements, certain provinces continue to suffer from relatively high notification rates. While TB prevalence shows an uneven geographical distribution across the country, it is mostly concentrated in the following seven provinces: *Hormozgan, Sistan and Balouchestan,*

5. Ibid.

Incidence of smear positive tuberculosis in Iran-2011



South Khorasan, Khorasan Razavi, North Khorasan, Golestan and Khouzestan. The said provinces are home to 23% of Iran's population (16.6 million) but harbour 50% of its TB cases. The highest prevalence and incidence rates of TB are in *Golestan and Sistan and Balouchestan* provinces.

With an estimated incidence rate of 21 per 100,000 people in 2012, Iran is situated within a low to medium category of incidence level. While the overall TB burden is not extraordinarily high, the prevalence of the *risk factors* associated with the disease are quite substantial. Poverty, weakness of education and access to quality information, stigma, delayed detection, weakness, and inability to access affordable services of sufficient quality all contribute to, and maintain the cycle of infection and disease within the most-at-risk populations (MARPs).

The geographic location of I.R. Iran has also complicated the TB status in the country. Two of

the twenty-two highest TB burdened countries in the world, Afghanistan and Pakistan, border Iran. To the west, northwest, and northeast, Iran is bordered by Iraq, Armenia, Azerbaijan, and Turkmenistan – all of which have a high prevalence of Multiple Drug Resistant TB (MDR-TB). Because of the geographic proximity and low-cost and relatively high quality of health care in Iran, there has been a growth in regional demand for the provision of diagnostic and treatment services by immigrants and cross-border patients from these neighbouring countries.

Other high-risk groups are prisoners, PLHIVs, and IDUs. Around 4.8% of new TB cases in 2013 were reported to be among prisoners. At the same time, the incidence rate within Iran's prison system is approximately five times greater than the national average. HIV-TB Co-Infection is an important problem among PLHIV and IDUs. In 2012, TB cases with known HIV status accounted for 14% of all TB-positive cases.

Country	Prevalence Rate	Mortality Rate	Expected Incidence Rate	Notification Rate
I.R.IRAN	31	2.9	21	14.6
Afghanistan (X)	351	39	189	86
Pakistan (X), (Y)	350	33	231	148
Azarbaijan (Y)	177	3.6	113	70
Iraq	74	3.2	45	27
Armenia (Y)	78	8.8	55	41
Turkmenistan	96	9.9	74	64

X: High TB burden countries in the world
Y: High MDR-TB burden countries in the world

Table 3: Overview of TB in Iran's neighbouring countries

Patient Category		All notified TB cases	All notified Non-Iranian TB cases	Percentage of Non-Iranian TB cases
All New Cases		11003	1507	13.7
Drug Resistant TB	MDR-TB	52	17	32.7
	Rif Mono Resistant	83	12	14.5
	INH Mono Resistant	111	31	27.9

Table 4: Non-Iranian TB cases Notified in I.R. Iran in 2011⁶

6. Country Surveillance System

Project Title	Tuberculosis Prevention in High Burden Areas – Islamic Republic of Iran
Grant/Project Period	October 2008 – March 2014
Project Budget	USD 18,957,412
Principal Recipient	UNDP
Sub Recipient	CCDC – MOHME – PO – WHO
Sub-Sub-Recipient	14 UMSs of seven targeted provinces
Location(s)	<i>Sistan and Balouchestan, Golestan, Hormozgan, North Khorasan, South Khorasan, Khorasan Razavi, and Khuzestan, as well as prisons in all 31 provinces.</i>

Table 5: Overview of TB grant

The government of the Islamic Republic of Iran, in partnership with UNDP, mobilized financial support from the Global Fund to address strategic and programmatic gaps within the National Tuberculosis Programme (NTP). Accordingly, under Round 7 of the Global Fund funding cycle, a Global Fund grant for USD 18.95M was approved in 2008.

Objectives

The overall aim of the TB project was to “dramatically reduce the burden of TB in poor and vulnerable populations by 2015 in line with the MDGs and the Stop TB Partnership targets”. Within this thematically broad goal, the project outlined four specific objectives:

- Pursue high quality DOTS expansion and enhancement,
- Address TB/HIV, MDR-TB and other challenges,
- Empower people with TB, and communities, and
- Strengthen programme management capacity.

Results

Pursue High Quality DOTS Expansion and Enhancement

One of the most effective treatment strategies for TB is the well-established WHO-recommended Directly Observed Treatment Short course (DOTS) method. Under the DOTS protocol, patients’ adherence to their drug regimens is ensured through the direct supervision of a community healthcare staff that will actually deliver the daily doses of medication for the first two to three months of treatment. Delay in treatment can increase the odds in which the patient develops multiple-drug resistant tuberculosis (MDR-TB). The treatment of MDR-TB⁷ is much more complicated

7. A TB case is considered a MDR-TB case when it shows resistance to the two principle first-line drugs used in combating the TB epidemic: Isoniazid and Rifampicin. Christopher Dye and Katherine Floyd, “Tuberculosis,” in *Disease Control Priorities in Developing Countries*, 2nd ed. (Washington D.C.: World Bank, 2006), 294, <http://www.ncbi.nlm.nih.gov/books/NBK11724/>.

and has lower treatment success rates.

The Global Fund TB project has undertaken a series of interrelated activities that have enhanced the quality of the DOTS protocols and implementation procedures in Iran.

Case Detection through Quality-assured Bacteriology and Management of the Established TB Laboratories

At the provincial level, the grant has strengthened

the lab infrastructure through the provision of 40 Culture Laboratories, 66 Direct Smear Microscopy (DSM) laboratories, as well as 8 Drug Susceptibility Test (DST) laboratories.

Taken together, the established laboratory networks have improved the TB case detection and notification rate with a significant contribution to the diagnosis of HIV/TB and MDR-TB cases in Iran. In 2013, case notification rate for all forms of TB demonstrated an achievement rate of 14.51%

2008 (Oct – Dec)		2009		2010		2011		2012		2013		2014 (Jan – Mar)	
Target	Achived	Target	Achived	Target	Achived	Target	Achived	Target	Achived	Target	Achived	Target	Achived
Indicator: Number of new smear positive cases detected in target provinces													
675	535	2725	2402	2724	2375	2507	2377	2553	2413	2592	2496	648	604
Indicator: Number of new and retreatment TB cases receiving diagnostic DST for MDR-TB													
150	0	1370	1670	2182	2303	1031	1798	1043	1680	1289	2524	500	565

Table 6: Global Fund TB Project Round 7 Output Indicators Progress During Phase I and II: 2009-2014

Indicator: Number (and %) of new SS+ TB cases registered under DOTS that were successfully treated among new smear positive TB cases registered for treatment in target provinces													
2008 (Oct – Dec)		2009		2010		2011		2012		2013		2014 (Jan – Mar)	
Target	Achived	Target	Achived	Target	Achived	Target	Achived	Target	Achived	Target	Achived	Target	Achived
0.00%	0.00%	83.00%	79.60%	88.00%	77.00%	89.00%	87.00%	90.00%	86.00%	90.00%	86.00%	90.00%	86.30%

Table 7: TB Treatment Success Rate

against the set target of 14.80%.

Standardized Treatment with Supervision and Patient Support

With improved diagnostic and detection capacities, the time lag between the onset of TB symptoms, diagnosis, and the initiation of appropriate treatment regimens has been greatly reduced. This has resulted in a gradual improvement of the NTP's treatment success rate within the targeted provinces as shown in Table 7.

Address MDR-TB and other Challenges

Prevent and Control Multi-Drug Resistant TB

While an estimated 3.5% of new cases and 20.5% of retreatment cases of global TB cases have MDR-TB, retreatment cases have a much higher risk of developing MDR-TB.

- In 2014, 15 years after the first ever nationwide Drug Resistance Survey (DRS), it showed that 0.84% of new cases and 12.40% of retreatment cases have MDR-TB.
- The rapid molecular testing machines provided under the Global Fund grant have brought considerable speed and accuracy to the detection of MDR cases.
- Eight Drug Susceptibility Test (DST) laboratories have been established and rendered operational. With enhanced screening capacity, the NTP can now ensure greater adherence to MDR-TB treatment regimens.

The significant strengthening of the management capacity of the national MDR-TB programme is most visible in the improved coordination and referral mechanisms of suspected and identified TB cases between the private health clinics-

hospitals and the NTP. This increased cooperation provides for greater case detection coverage and less disruptions in adherence to MDR-TB treatment protocols. Moreover, this partnership has been credited with the design and establishment of a model MDR-TB treatment center in Mashhad.

TB Care for Prisoners

Prisoners are another TB-vulnerable group as the TB incidence rates within the national prison system is much higher than that of the national average. The national Government, in partnership with the Global Fund and UNDP, has undertaken a series of substantive steps to stall the spread of TB in prisons that have an inmate population larger than 500. The Global Fund TB project has made financial contributions towards the construction of 65 isolation rooms and 65 quarantine wards within the prisons with more than 500 inmates across the country's 31 provinces. It has contributed to the employment of specialized human resources that implement the DOTS treatment protocols, as well as the improvement of the prison TB surveillance systems. The HIV/TB co-infection problem has also been a top priority for officials. The prisons' TB surveillance systems have established strong coordination links with an already well established HIV/AIDS counselling and treatment infrastructure. Moreover, cooperation in the realm of HIV/TB co-infection is extended to certain NGOs that track released IDU-prisoners who are receiving MMT treatment in after-care facilities to ensure complete and uninterrupted adherence to TB treatment protocols.

Table 8 provides an overview of the positive effects of the Global Fund's TB project in the Iranian prison system.

Indicators	2009		2010		2011		2012		2013		2014 (Jan-Mar)	
	Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved
Number/percentage of new SS+ TB cases that were successfully treated among those managed or treated in prisons	73%	76.6%	78%	88%	80%	84%	82%	77%	82%	89%	82%	89%
Number of large prisons with renovated quarantined section and standardized isolated rooms	35%	31%	55%	50%	65%	57%	65%	65%	65%	65%	65%	65%
Number of TB patient visits in prisons (new and retreatment)	32625	32625	34360	35343	29880	66069	31320	74428	41990	84540	17690	18661
Number of new smear positive cases among prisoners detected (Number of new SS+ TB patients managed or supervised in prisons)	245	234	236	158	166	258	174	278	207	337	72	83

Table 8: Global Fund TB Project Output Indicators Progress During Phase I & II: 2009-2014 – TB Case for Prisoners

Cross-border Regional Initiatives: Immigrants, Refugees, Cross-border Patients

A number of exogenous factors further complicate TB's disease burden in Iran. They include the following:

- Bordering several high TB/MDR-TB burdened nations (Afghanistan, Pakistan, Azerbaijan, Iraq, Armenia, Turkmenistan),
- Increased flow of cross-border population⁸ movements due to cultural, religious, medical, economic reasons, as well as critical and rapidly developing events such as natural disasters, wars and conflicts.

In recognition of the growing dangers of this transnational public health problem, the WHO's Regional Office for the Eastern Mediterranean (WHO-EMRO) in collaboration with the Islamic Republic of Iran hosted a three-day 'Inter-Regional Workshop for Cross-Border TB Control and Care' in Tehran.⁹ Co-financed by the Global Fund TB project, the workshop hosted representatives from neighbouring countries and relevant international organizations.

Accordingly, the workshop set out to establish a series of concrete steps for the delineation of the operative framework of a cross-border regional TB control and prevention mechanism. Broadly speaking, these steps include:

- Developing a legal framework that allows for the enforcement and implementation of the regional TB control programme,
- The adoption and implementation of all International Health Regulations (IHRs) since

8. Refugees, migrants, asylum seekers, and other mobile populations such as seasonal and migrant workers.

9. April 30th – May 2nd 2014.

2007 which will act as source of guidance for the development of the regional TB control programme,

- Concrete budgetary commitments by relevant local, national, and international authorities,
- The development of a communication protocol for inter-country correspondence,
- The development of context-specific Guidelines for TB Infection Control that cover the entire spectrum of TB-related healthcare treatment services,
- The creation of additional guidelines for catering to the specific needs of vulnerable populations such as women and children etc., and
- The establishment and/or modification of exiting surveillance systems to include a migrant-specific Monitoring and Evaluation (M&E) dimension.

Advocacy, Communication and Social Mobilization

There is a clear association between the improvements seen in Iran's broad development indicators and the drastic decrease in the national TB incidence trends. Accordingly, the Government, in partnership with the Global Fund and UNDP, devised and implemented a diverse array of awareness raising activities that targeted the MARPs, the general population, as well as healthcare providers. They include:

- The development of a comprehensive package of model TB control services for high risk groups, with a particular focus on MDR-TB,
- The provision of modified DOTS protocols through the establishment of an automated SMS service,
- Writing and publishing a Guideline (95,000

- booklets) on TB for health volunteers,
- Undertaking a nationwide TB infection survey among TB lab staff,
 - A nationwide survey on Knowledge, Attitude and Practices (KAP) among urban and rural populations above 15 years of age to determine awareness levels on the means of transmission, symptoms, and treatment and prevention methods for TB, and
 - Numerous public awareness raising campaigns such as TV series, SMS campaigns, as well as annual competitions in schools for the design of TB poster.

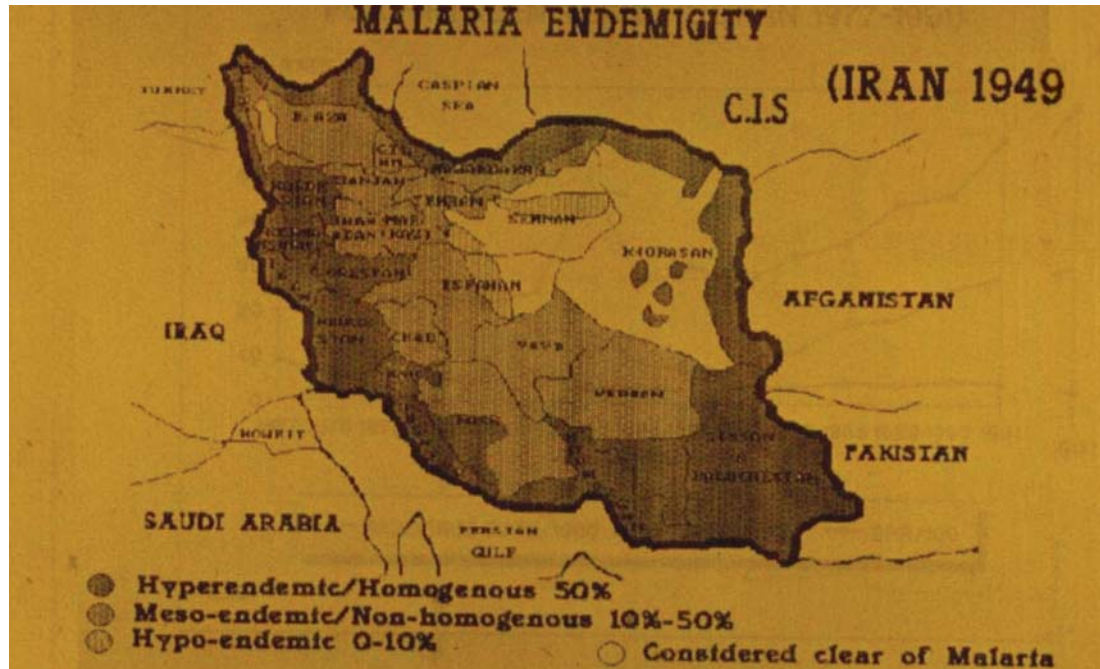
Strengthen Programme Management Capacity

The project, has contributed to, and strengthened the NTP's programme management capacity through the following key activities:

- Development of a National TB Online Registry,
- In-depth review of the M&E system, including a revision of the recording and reporting system,
- Continuous provision of technical assistance for the improvement of data gathering and reporting systems for TB indicators,
- Strong M&E of the Global Fund project sites and prisons – especially during DOTS visits,
- A study on Anti-TB drug bioavailability,
- Providing 2nd line anti TB drugs, and
- Provision of technical support on anti TB medication to address MDR-TB cases.

Maintaining Vigilance against Malaria: A Sixty Year Struggle

35



The distribution of malaria in Iran in 1949 by endemicity class in 1949.

Key Statistics on Tuberculosis in Iran

- Approximately 1175 (only 31% local cases) people were infected by malaria in 2014
- Number of malaria cases: 1175 in 2014
- Number of malaria cases under treatment: All
- Annual Mortality Rate (2014): 0 people
- Female-Male ratio: 1:4.8
- Most prevalent types of malaria: Vivax
- Provinces with highest incidence rate: Southeastern provinces including *Sistan and Baluchestan*, *Hormozgan*, and *Kerman* (southern part)
- These provinces are home to about 4% of Iran's population but harbor 83% of its total malaria cases.
- World Malaria Day: April 25th

Malaria in Iran

Much like TB, malaria has accompanied humanity since time immemorial, and in fact, it predates Modern Man. Descriptive evidence of the characteristics of malarial fever can be found in Chinese documents from 2700 B.C., clay tablets from Mesopotamia (2000 B.C.), and Egyptian papyri (1570 B.C.).

Well-known Iranian physicians such as *Ali ibn Sahl-e Rebban Tabari* (838-870 C.E.) and *Ibn-Sina* (980-1037 C.E.)¹ described the clinical manifestations of malaria in their medical manuscripts. The first official report on malaria in Iran was written in 1925 for the League of Nations. According to the report, malaria was responsible for 30-40% of all mortalities in Iran during that period.² In the ensuing decades, Iran implemented various Malaria Eradication Programmes (MEP) that were in line with prevailing international guidelines and programmes such as the WHO's Global Malaria Eradication Programme (GMEP) that was launched in 1955.³

Building on the success of the malaria control programmes, in March 2010 the MOHME, in consultation with the WHO, adopted a Malaria Elimination Programme (MEP) in Iran's National Malaria Strategic Plan (NSP).⁴

Nevertheless, malaria continues to affect certain peripheral provinces in the southeastern parts

1. The renowned Iranian physician is also known as Avicenna documented malaria (*Tab-e Nowbeh*) in his "Canon of Medicine".

2. Azizi and Bahadori, "Brief Historical Perspectives on Malaria in Iran."

3. Kamini Mendis et al., "From Malaria Control to Eradication: The WHO Perspective," *Tropical Medicine and International Health* 14, no. 7 (July 2009): 803, doi:10.1111/j.1365-3156.2009.02287.x.

4. Prof. Reza Majdzadeh et al., "Review of the National Malaria Elimination Program - Islamic Republic of Iran" (WHO Regional Office for the Eastern Mediterranean, 2013), 18, 28.

of the country. Ninety percent of infections are now concentrated in *Hormozgan*, *Kerman*, and *Sistan and Balouchestan* provinces.⁵ Several other provinces are susceptible to the importation of malaria due to large population movements (both internal and cross-border).

Annual number of malaria cases - Iran	
Year	Number of cases
1990	100,000
2000	19,716
2010	3,031
2012	1,667
2014	1,176

Table 9: Annual number of malaria cases in Iran

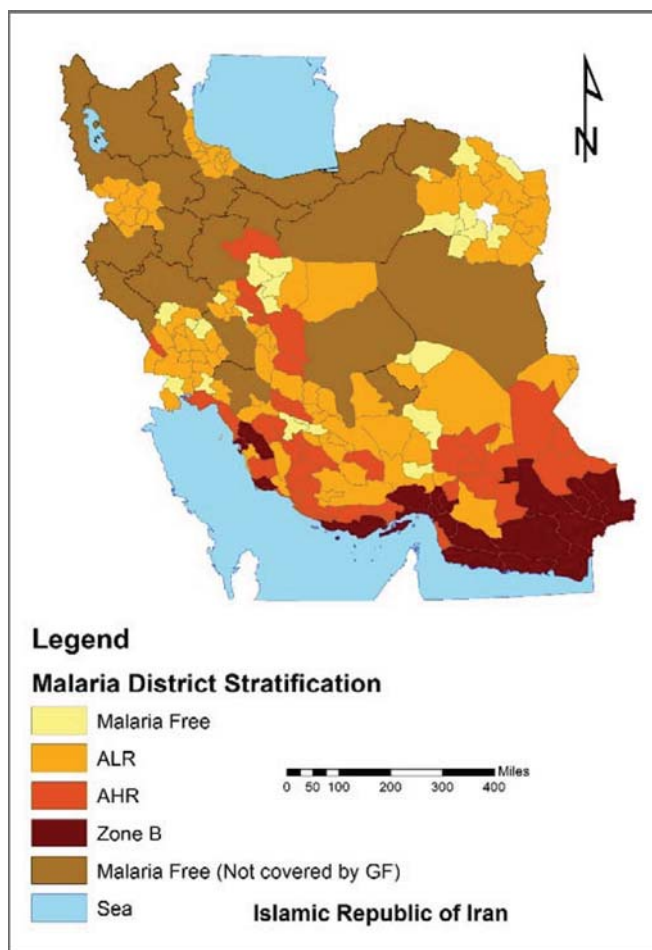
To strengthen its national anti-malaria response, the MOHME forged a strategic partnership with the Global Fund, UNDP, WHO, and other key stakeholders under the rubric of the CCM. The partnership resulted in the approval of two Global Fund grants that are aligned with the National Malaria Strategic Plan. In 2011, the two projects were merged under the Global Fund's Single Stream Funding (SSF) policy.

The following map⁶ shows the stratification of

5. The said provinces are: *Fars*, *Isfahan*, *Boushehr*, *Khouzestan*, *Gilan*, *Khorasan-e Razavi*, *Kurdistan* and *Qom*.

6. **Zone definition: Zone A-HR (High Risk):** Cleared-up areas that are suffering from intensive population movement from/to malaria-affected areas, so the possibility of reintroduction of malaria transmission exists and assessed at high level. **Zone A-LR (Low Risk):** Cleared-up areas that are suffering from low level of population movement from/to malaria-affected areas, so the possibility of reintroduction of malaria transmission exists at a low level. **Zone B:** Endemic areas with local malaria transmission. **Free from malaria:** Cleared-up areas with no local transmission where risk of reintroduction of malaria is rare.

malaria in 2014 by district level:



The SSF project is implemented in 11 provinces under the coverage of 17 Universities of Medical Sciences (UMSs). There is a special emphasis on the most-at-risk populations that reside in areas with a high risk of reintroduction: children under five, pregnant women, populations living in remote rural areas without electricity, populations living more than 50 km away from healthcare facilities, and those who are affected by cross-border

population movements.

Project Title	Intensified Malaria Control in High Burden Provinces Towards <i>falciparum</i> Elimination	
Grant Number	IRN-M-UNDP	
Grant/Project Period	Start Date:	October 1st, 2011
Project Partners	Sub Recipient	CCDC, WHO
	Sub-Sub-Recipient	17 UMSs of eleven targeted provinces
Funding amount approved	20,538,984 USD	

Table 10: Overview of Malaria grant

Objectives

The project has three main goals:

- The elimination of *falciparum* malaria by 2016,
- Reduction of autochthonous *vivax* cases to less than 800 by 2016, and
- Prevention of malaria deaths in the target districts.

Within these three thematically broad goals, the project has outlined four specific objectives:

- Treatment of all malaria cases according to the National Malaria Treatment Guidelines,
- Protection of at least 90% of at-risk people in target districts through the application of Integrated Vector Management (IVM) approaches,
- Prevention of malaria epidemics and reintroduction of *falciparum* malaria



Proper LLIN usage in Balouchi-ye Bala village, Sistan and Balouchestan province © N. Panahi 2015

- transmission, and
- Provision of strengthened health system and supporting intra- and inter-sectoral committees in the target districts to enhance community partnership in the National Malaria Elimination Programme.

Results

Vector Control – Integrated Vector Management (IVM)

Both the coverage and proper use of LLINs by the at-risk population in the I.R. Iran has steadily improved since their introduction in 2004.⁷ Within the framework of the Global Fund malaria project,

7. Majdzadeh et al., "Review of the National Malaria Elimination Program - Islamic Republic of Iran," 47.

the CCDC, in collaboration with the UNDP, WHO and various UMSs, has undertaken numerous community education sessions in the target districts. These sessions are implemented in an inclusive and appealing manner through the use of colorful fabric albums. For example, in 2013, 50 PHC staff (*Behvarz*), rural teachers and community volunteers were trained to train their respective communities on personal protection measures and in particular on the proper usage of LLINs. By the end of 2014, 1,317,981 (target: 960,000) people had been reached by these community education sessions.

During the period of 2010-2013, the percentage of children under 5 and people sleeping under LLINs in high risk areas increased from 16% to 69% and

from 12% to 60% respectively.

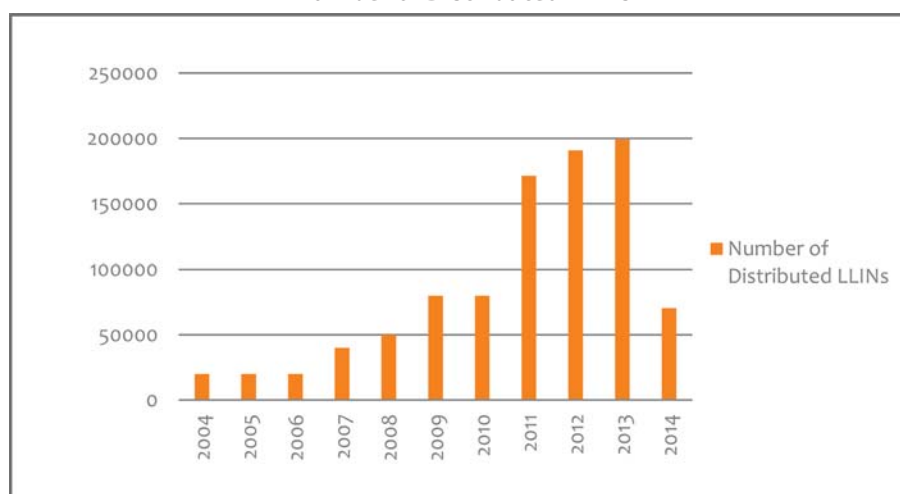
The WHO recommends that household coverage in IRS campaigns should be at least 80% - ideally 100%. Until 2010, about 90% of the target households were actually sprayed in the three target provinces. However, during the last five years there has been a general decline in IRS household coverage rates – an average of about 70%. Between October 2011

and September 2012, IRS coverage was at 59.79%. According to the IRS seasonal reports of 2013, and there was an 18.97% improvement in the coverage rate of at-risk households – 78.76% out of a >85% target. In 2014 it showed more satisfactory results which stood at 98% against the target of 85%.

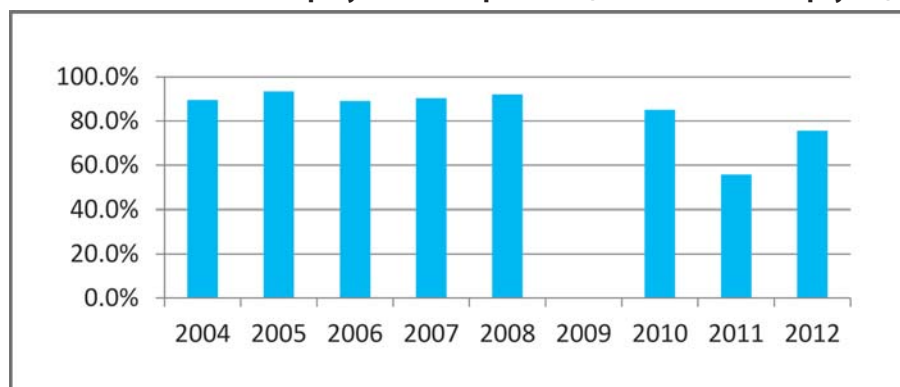
Larviciding

The Islamic Republic of Iran is one of thirty-eight

Number of Distributed LLINs



IRS Number of houses sprayed in % of planned (mean of 2 rounds p. year)



countries in the world that utilized larval control in their malaria control and elimination programmes in 2012. Since then, through the use of 6,000 kg of biological larvicide as well as 1,000 lit chemical (Temephos), larviciding coverage of identified and potential *falciparum* foci is at a 100% (36/36 – target: >90%).

Diagnosis

The proportion of suspected malaria cases receiving a diagnostic test has increased markedly since the 2010 introduction of WHO's recommendation to test all suspected malaria cases.⁸

The Diagnosis of Malaria: Policy Framework and Guidelines

- Publication of a book on diagnostic techniques to help support to the introduction of polyvalent RDTs
- Translation of WHO manuals on quality assurance for malaria diagnostic techniques
- Development of National Guidelines for diagnostic techniques

Renovation of Malaria Labs and Quality Diagnosis Service

The sustained provision and implementation of high quality diagnostic services is crucial in an elimination programme/phase. To further enhance the operational and technical capacity of the malaria labs in the three-targeted provinces, the Global Fund contributed resources for the purchasing of high-end lab supplies and equipment. In addition, Tehran University's School of Public Health, in collaboration with the target UMSs, conducted numerous refresher courses for 339 and 249 microscopists in 2013 and 2014

respectively.

Through the financial support of the Global Fund, the MOHME conducted an external evaluation of 130 malaria labs in 2014. The evaluation showed that 85 (65.4% out of a 90% target) of these labs demonstrated adequate performance. The Global Fund malaria project calls for, and proactively implements a biannual external evaluation (accreditation) of all malaria labs.

The Global Fund and the MOHME conduct eight on-the-job training workshops on an annual basis.

The Use of Rapid Diagnostic Kits (RDTs) and Malaria Case Management

The project, in collaboration with the UMSs of the three target provinces, provided training on proper case management to 3,486 (target: 3,040) services providers from both the public and the private sectors. These physicians, PHC staff, and rural community volunteers were trained in malaria case finding and case management with the usage of Rapid Diagnostic Test Kits (RDTs). The workshops were also extended to 325 technicians serving in maternal clinics (public and private) as well as 273 students from seminaries.

The Global Fund allowed for the purchasing and distribution of (764,430) of RDTs since 2008, when the malaria project first began its in-country operations, until 2014.

Prompt Effective Anti-malarial Treatment

In 2014, the CCDC reported that 55.2% (649/1,176) of all detected and microscopically confirmed malaria cases have received appropriate treatment within 48 hours in accordance with National Malaria Treatment Guidelines.

8. "World Malaria Report 2014" (World Health Organization, 2014), 20.

Indicator	Baseline (2010)	Target (2014)	Result (2014)
% of all detected malaria cases by RDT confirmed by microscopy	100%	100%	100%
# and % of laboratories showing adequate performance among all laboratories that received external quality assurance (Zone A + Zone B)	0	90% (126/140)	65.4% (85/130)
% of reported malaria cases that are laboratory confirmed (by RDTs or blood smear examination)	99%	100%	100%

Table 11: Results of Global Fund monitoring on laboratory performance and quality assurance in 2014

Type	Indicator	Baseline (2010)	Target (Oct 2012 – Sep 2013)	Result (Oct 2012 – Sept 2013)
Output	Number of retrained diagnosis and treatment service providers of public and private sectors (Physicians, PHC Staff) and rural community volunteers on malaria case finding, case management and using RDT	890	3,040	3,436

Table 12: Results of Global Fund retraining and refreshment courses

The percentage of imported cases from abroad within recent years has increased from 30% in 2009 to 68.8% (808/1,176) in 2014.

The effective provision of anti-malarial drugs requires an efficient supply management mechanism as well as the regular monitoring of drug-resistance trends that can be supplemented

with periodic drug efficacy studies.

As part of its work plan, the Global Fund malaria project undertakes routine monitoring activities on stock-outs of anti-malarial medicines in the targeted districts. The result of the most recent stock-out monitoring activity is presented in table 13 below.

Indicator	Baseline (2010)	Target (Oct -2014Mar 2015)	Result (Oct -2014Mar 2015)
% of health facilities with no reported stock outs of nationally recommended antimalarial drugs lasting more than 1 week at any time during the past 3 months (Zone A+ B)	85%	100% (672/672)	99.9% (1361/1362)

Table 13: Result of GFATM monitoring on stock-outs of ant malarial medicines, 2012

Health System Strengthening - HSS

As already noted, malaria tends to exact a heavy burden on the poorest and most vulnerable communities. This is particularly true during an elimination phase in which the general epidemic subsides, and becomes increasingly concentrated within geographically isolated and marginalized populations that tend to have the least access to effective health system services.⁹

The SSF malaria project's contributions to health system strengthening efforts are as follows:

Service Delivery: Through the implementation of various training courses and quality assurance procedures, the project has sharpened the focus of vector control measures as well as the coverage and qualitative capacity of diagnostic and treatment services.

Health Workforce: The Global Fund has supported the establishment and recruitment of mobile teams and health volunteers (mainly female) in thinly populated areas that do not have Health Houses. This highly motivated workforce ensures that there are sufficient levels of support for active case detection as well as for vector control efforts. A notable example is the recruitment of 10 female health staff that caters to the particular needs of Setri women in *Sistan and Balouchestan* province. With an estimated population of 100,000, this vulnerable population adheres to a set of religious beliefs that prohibits them from receiving services from male healthcare staff and are not allowed to leave the confines of the house to receive other elective health services. These 10 female healthcare staff educate the Setri women on malaria detection and prevention, LLIN use, and

provide malaria diagnostic and treatment services.

Information Systems: On-Site Data Verification (OSDV) is routinely practiced at different levels within the health system. The Global Fund project has conducted four OSDV workshops at the national level for the PR, SR, and SSR's Monitoring and Evaluation (M&E) staff and surveillance officers. The project has developed protocols and relevant reporting templates for forty-one programme indicators that have significantly improved the quality of gathered data. The project has increased the coverage capacity of the malaria surveillance system through the establishment of 76 Rapid Response Teams (RRT), 13 Emergency Sites (ES), and 462 Rapid Diagnostic Test (RDT) passive posts including 6 mobile posts at zero-point borders that are scattered throughout remote and strategically chosen border-crossing locations within the three-targeted provinces. In addition, the Global Fund, in partnership with the WHO and a third party external consultant, commissioned a comprehensive Malaria Programme Review (MPR). Finalized in 2013, the MPR is the first report of its kind in the history of anti-malaria efforts in Iran. The report has provided a comprehensive and critically constructive analysis of the MEP and it is expected that its recommendations are included, and proactively implemented in the next National Strategic Plan (NSP) for Malaria Elimination.

Medical Products, Vaccines and Technologies: The Global Fund has enhanced both the qualitative and quantitative capacity of the MEP's drug supply chain management system through purchasing of required anti-malaria drugs in accordance with the WHO's Standard Treatment Guidelines and Essential Medicines List; the testing of the said medications according to the Global Fund's Quality Assurance Policy for Pharmaceutical Products;

9. There is also a continued threat of malaria importation from abroad. This is discussed in the 'Prevention of Reintroduction' section.

routine stock-out monitoring activities; and the provision of technical support for the revision of the National Malaria Treatment Guidelines.

Financing: Iran has demonstrated consistent and gradually increased levels of financial commitment to its healthcare system, including malaria care and treatment services. The strategic and targeted infusion of substantial levels of financial capital by the Global Fund has enhanced the qualitative capacity of the national health network. It is expected that the absolute value of national financial commitments will increase over the implementation period of the grants, and maintained thereafter.

Prediction and Containment of Malaria Epidemics – Prevention of Reintroduction

The resurgence of malaria is a risk that will continue to pose a threat even after the successful implementation of a malaria elimination programme. The history of global anti-malaria efforts is replete with numerous examples of resurgence of malaria epidemics with devastating effect, and should serve as a stark reminder that vigilant surveillance systems need to be sustained “for as long as the mosquito vectors, a suitable climate and other conditions exist to sustain transmission”.¹⁰ The gains and achievements of Iran’s MEP are threatened by two main factors: the risk of resurgence of new and residual active autochthonous foci, and the serious threat of reintroduction from neighbouring countries (mainly Pakistan).

Malaria Outbreaks

Continued and overt emphasis on the different

policy, conceptual, and operational issues regarding the early detection and containment of malaria epidemics is redundant in light of the fact that Iran is in an elimination phase. Early detection and containment strategies are oriented towards the requirements of control programmes in which the emphasis is on the ‘coverage of population-based’ interventions: blanket IRS and LLIN campaigns (operational outputs and outcomes). In an elimination phase, the aforementioned interventions are superseded by strong surveillance systems, with rapid management of cases and foci and targeted efforts to prevent reintroduction. In a national context such as Iran’s, where every suspect and confirmed case is rapidly investigated and immediately reported to higher-level authorities, and where there are sufficient and readily available quantities of appropriate intervention supplies and equipment, it is impossible for a true epidemic to occur – unless the existing system breaks down.

Nevertheless, since the beginning of the Global Fund’s Malaria SSF Project, there has been an alarming increase in the number of new active foci within Iran. Cross-border population movements in the eastern parts of the country are the main driver of this trend.

To help predict and contain the growth and spread of these foci, the Global Fund malaria project has supported the equipping and establishment of 13 Emergency Sites (ES) and 76 Rapid Response Teams (RRTs) in Zones A-HR and B.

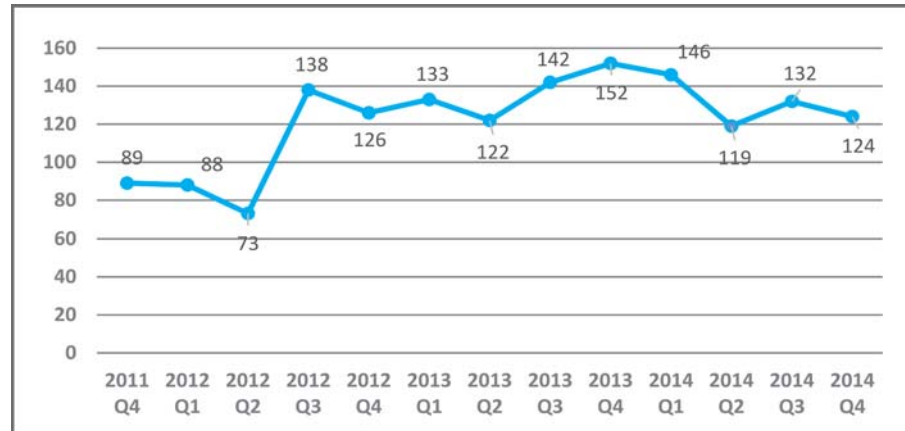
Well equipped and well trained, these ES and RRTs have proven to be highly successful in the prevention, control, and containment of malaria outbreaks. In addition to the dispensation of essential medications, they also distribute LLINs and undertake targeted IRS campaigns in

10. Mendis et al., “From Malaria Control to Eradication: The WHO Perspective,” 807.

vulnerable areas. A notable example of the success of these teams is their deployment to the remote and border areas that were affected by the 2012 *Saravan* earthquake in which all residual and new

foci were brought under control. Between July 2012 and the end of 2014, only one malaria epidemic has been reported which was duly attended to and contained within four weeks after its onset.

Number of Malaria New Active Foci since Malaria SSF Project Start



Malaria Emergency Site (ES) – Chahbahar Medical Center, Sistan and Balouchestan province © N. Panahi 2015

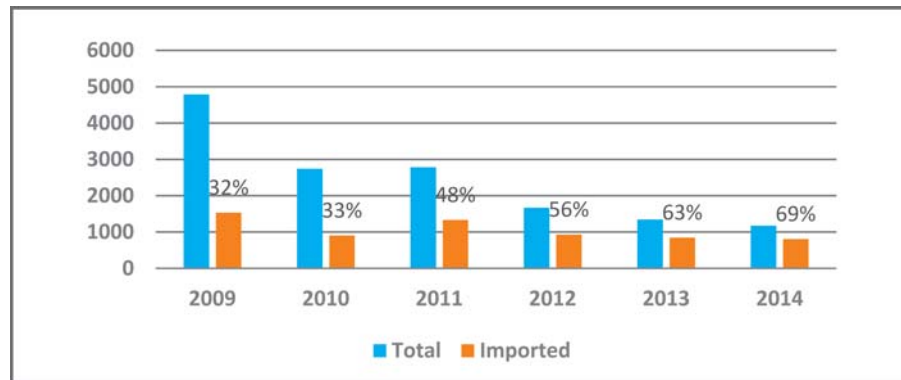
Risk of Reintroduction

The main long-term challenge to Iran's MEP is the importation of malaria from neighboring countries such as Afghanistan and Pakistan. There are significant levels of cross-border population movements into and through Iran by people who are in search of greater economic opportunities and better health care services. The proportion of Afghans and Pakistanis among the local population

understanding of the continued threat of malaria importation from Pakistan:

- The number of confirmed malaria cases reported in the region decreased from 2 million in 2000 to 1 million in 2013 – Pakistan accounts for 27% of these cases in 2013.
- The number of deaths due to malaria in the region fell from 2166 in 2000 to 1027 in 2013 – Pakistan accounts for 24% of these deaths in 2013.

Imported Malaria Cases



of certain bordering districts has reached 7%.¹¹

Afghanistan's recent anti-malaria efforts have yielded positive results. This has led to a notable reduction in the number of malaria cases that have been imported from Afghanistan – some of which were among Afghan immigrants that had contracted the disease in Pakistan.

In contrast, the epidemiological trends of the disease in Pakistan have shown no signs of improvement.¹² The following statistical data on the general trends of the epidemic in the WHO's EMR region¹³, will help provide a better contextual

Certain provinces such as *Hormozgan*¹⁴ act as key transit points for the onward journey of these economic migratory populations to other destinations such as countries in the Gulf Cooperation Council (GCC).¹⁵ Tellingly, *Hormozgan's* UMS report for 2013 indicated that 70% of all its confirmed cases are Pakistani nationals (76% for 2012).¹⁶ Overall, the numbers of imported malaria cases are increasingly dominating greater proportions of all confirmed malaria cases in

11. Majdzadeh et al., "Review of the National Malaria Elimination Program - Islamic Republic of Iran," 78.

12. Ibid.

13. "World Malaria Report 2014," 56.

14. *Bandar Abbas*, the provincial capital of *Hormozgan* is a strategic and well-established port city on the southern shores of Iran.

15. The GCC is composed of Bahrain, Kuwait, Oman, Saudi Arabia, and the UAE.

16. Majdzadeh et al., "Review of the National Malaria Elimination Program - Islamic Republic of Iran," 74.



Mr. Navaz Binoor administering an RDT-kit to a young Pakistani girl in a Global Fund-supported RDT Passive Post located at the Pishin border-crossing point, Sistan and Balouchestan province

© N. Panahi 2015

Iran. Additionally, there is a risk that certain sub-populations among these migratory populations will avoid official public health facilities and opt for self-treatment or treatment by quacks.

Despite the public health and financial impact of these population movements, the Islamic Republic of Iran has adopted a non-discriminatory approach in the provision of diagnostic, care, and

treatment services. Moreover, these services are provided free of charge to both Iranian and non-Iranians alike. The Global Fund's malaria project has increased the coverage of these services through the establishment of six RDT passive posts in strategically chosen locations in the border areas of the targeted provinces. These RDT passive posts are staffed with health volunteers who are trained in the use of RDTs, providing prompt diagnostic services, and if need be, help direct these populations to appropriate health facilities to receive treatment. In line with the requirements of the MEP, all RDT-confirmed cases are sent for microscopic confirmation to the closest laboratory in the area. In 2014 alone, 78% of all malaria cases were detected with RDTs (920 out of 1,176 microscopically confirmed malaria cases). Moreover, the staff of these RDT passive posts are available on a 24/7 basis, including during mandatory holidays. The Global Fund financed the purchasing of 764,430 RDT kits along with 16,000 extra buffers.

In recognition of the long-term threat posed by this reality, the Global Fund has prioritized the inclusion of the following strategic objectives in Phase two of its SSF malaria project:

- Continued expansion of RDT passive sites, RRT, and Emergency Sites,
- Development of a national protocol on the prevention of re-introduction,
- Establishment of three malaria labs in zero-point border crossings.

In addition, the core systemic components of the MEP's surveillance system have been designed, are in the implementation phase, and have reported

significant progress in 2014. The said components are a Case Notification System, the Malaria Early Warning System, and a National Epidemiological Database.

Advocacy

Through coordinated campaigns, advocacy can sustain commitment from both donor and endemic countries, strengthen national ownership and partnerships, and position elimination as a driver of development goals.¹⁷ The following sections highlight the activities that the Global Fund and UNDP, in partnership with the MOHME, CCDC, and malaria-affected communities, have taken to not only ensure that effective socio-political and financial support is sustained for Iran's MEP in the long-term, but also to assure proper programmatic implementation in a flexible manner in adaptation to changing local-regional circumstances.

Intra- and Inter-Sectoral Collaboration

The Global Fund SSF malaria project has contributed to the development and establishment of intra- and inter-sectoral malaria elimination committees known as Malaria Elimination Workgroups (MEWs) to enhance multisectoral cooperation among a diverse array of actors ranging from the public and private sectors, community leaders at the district levels, NGOs, urban and rural Islamic committees, as well as relevant UMSs. They are tasked with the development of action plans in support of malaria elimination activities. In 2014 alone, 173 committees were held within districts that are covered by the fourteen UMSs that are SSRs under the Global Fund SSF malaria project.

17. Maxine A Whittaker, Angela J Dean, and Arna Chancellor, "Advocating for Malaria Elimination - Learning from the Successes of Other Infectious Disease Elimination Programmes," *Malaria Journal* 13, no. 1 (2014): 2, doi:10.1186/1475-2875-13-221.

Despite progress, the Global Fund project hopes to improve the quality of their work through the provision of support for, and greater emphasis on practical-based initiatives and activities.

Community Awareness

The Global Fund SSF malaria project has provided technical and financial support to community outreach and public awareness raising activities undertaken by the national health authorities. They are:

- Two household surveys on the knowledge, attitude, and behavior of people in relation to vector control measures,
- Increased allocation of human and financial resources to provincial funds utilized by UMSs for community mobilization efforts,
- Education programmes for households on the use of, and cooperation with vector control tools (ITNs and LLINs) and activities (IRS campaigns), and
- Provincial media campaigns: the airing of informative video clips on provincial cable networks; the targeted distribution of posters in Farsi and English (proper ITN usage); pamphlets on biological larviciding; billboard campaigns; publication of a national quarterly journal titled "Elimination"; and the provision of information through seminars, mosques, and Friday Prayer sermons.

Stories to Tell



Left to right: Mr. Moghimi (Behvarz), Mr. Tavakoli-Nejad, and Mrs Zobeydeh Tavakoli-Neja (Mastan) – Beneficiaries of the TB Project, Deh-e Arbab, Sistan and Balouchestan province © N. Panahi 2015

By the people
For the people
With the people

Earthly Angels – Responding to Malaria in Sistan and Balouchestan Province



Arman Dorzadeh, recovering from malaria in Emam Ali Hospital, Chabahar City © N. Panahi 2015

Though incomprehensible to him now, Arman, the two-year old malaria patient, has been surrounded by angels who live amongst us.

It was in February 2015, when Arman was brought to the Public Health House No. 3 in *Chabahar* to have his fever treated. Although the results of the Rapid Diagnostic Test were negative, Mr. *Emam-Bakhsh Saberi*, the microscopist, noticed that the patient's white cell count was very high. With more than eleven years of experience under his belt, Mr. Saberi knew that this was a telltale sign that an infection of some sort was present. Investigating further, it became evident that not only did the family have a history of travelling to Pakistan, but

also that on their most recent trip Arman was given "Pakistani medication" for the very same symptoms he was exhibiting. Taking precautionary measures, the health practitioner employed the full spectrum of anti-malarial educational and awareness raising procedures, ensuring that Arman's parents were well versed in the matter. The patient was sent home with a prescription for the treatment of his fever.

Four months later, Arman was brought to the same clinic so that he could undergo routine vaccination procedures. Having a very good recollection of Arman's case, Mr. Saberi inquired about Arman's fever since the last time he was at the clinic. He

learned that Arman had had a mild, yet persistent fever during this time. Mr. Saberi decided to take another RDT before the vaccination was carried out. The result was positive – Arman had *vivax* malaria. A subsequent microscopic testing confirmed the result. The detailed test results were promptly communicated to the relevant focal point for registration and treatment.

Arman was immediately put on an appropriate anti-malaria treatment regimen and the parents were given due instructions on how to keep his recovery under a careful watch. Not leaving anything to chance, Mr. Saberi gave his own number, as well as the contact details of Mr. *Khodadad Gorgich* who is *Chabahar's* Malaria Specialist to Arman's parents. On the very next day Arman's grandmother made

a frantic call to Mr. Gorgich, informing him that he was vomiting, had a high fever, and was taking rapid yet shallow breaths! Wasting little time, Mr. Gorgich, using his own private car, headed to the Malaria Emergency Site (ES) and loaded up all the necessary equipment required for the containment of any malaria foci outbreaks. On route to Arman's house, he called Mr. Saberi, asked to meet him there, and told him to bring a sufficient number of RDT kits. Upon arrival, they quickly retook an RDT test, which reconfirmed that little Arman had *vivax*.

At that point, the Malaria Unit initiated – based on the national protocols – a series of control procedures to prevent the onwards transmission of the infection. In the meantime, having acquired parental consent, Mr. Saberi gently wrapped Arman in an ITN, and using his Global Fund-



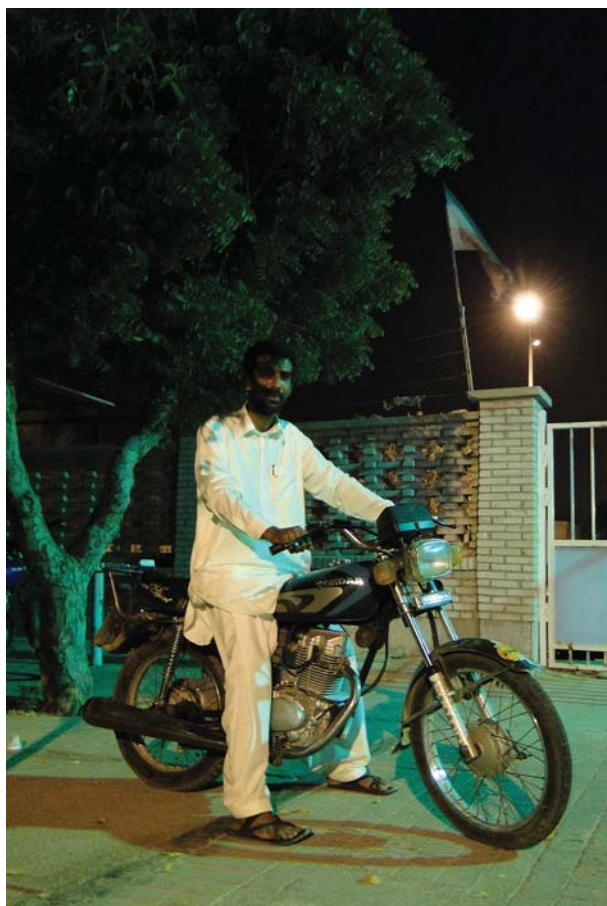
Mr. Gorgich (left) and Mr. Saberi (right) by Arman's bedside © N. Panahi 2015

supplied motor cycle took him to the hospital. The patient was quickly hospitalized and put under intensive care.

During the ensuing days, Mr. Saberi and Mr. Gorgich provided comprehensive care and follow up support to the patient and his mother at Arman's bedside in the hospital. All these services, ranging from transportation, medical services and extensive care to hospitalization were provided at

no cost to the patient's family.

At the time of writing, Arman is still in hospital to ensure that his adherence to treatment and recovery is complete and proper – he is carefully monitored every four hours. Although Arman has a bit of *jakit* ('cough' in Balouchi), his mother is happy with his recovery and is immensely grateful to the staff of the health system. Both mother and child are the direct beneficiaries of the partnership



Mr. Saberi on his Global Fund-supplied motor cycle
© N. Panahi 2015



Arman Dorzadeh, recovering from malaria in Emam Ali Hospital
© N. Panahi 2015

with the Global Fund as it positively affects the anti-malaria work in Arman's province – a province that is on the frontlines of Iran's struggle with, and response to malaria. Due to the geographic, topographical, and demographic realities of the province, any positive and effective result will act as a reliable barometer of the efficacy and relevance of the partnership.

Arman's mother expresses her hopes that Arman will grow up to be a healthy young man thanks to the timely support he has received from his two "*fereshte-ye degari*" ('earthly angels' in Balouchi).

Asked about the future of the Malaria Elimination Programme, both Mr. Gorgich and Mr. Saberi use a simple yet telling analogy: "you own a car and have some funds for its maintenance. If you do not have the funds, you do not repair it. The Global Fund has given us a car and funds. We hope that we can maintain it – with or without the Global Fund. *Malaria is like the hot ashes you find under the fire – if you are not careful, the fire will reignite*".

Outdoor Fogging in Balouchi-ye Bala Village



Gambusia fish have kept the water reservoir of Balouchi-ye Bala malaria-free © N. Panahi 2015

The village of *Balouchi-ye Bala* is located in the southeastern part of *Sistan and Baluchestan* province bordering Pakistan. It is a small village of roughly 470 inhabitants. Like many other villages in the area, *Balouchi-ye Bala* is not immune from the effects of the significant cross-border population movements that characterize this part of Iran.

Forty-four year old *Pati-Mohammad Balouchi*, the Behvarz (neighbourhood-level health worker) of Balouchi-ye Bala, has a good understanding of this reality. His career as a Behvarz spans 26 years.

Supported by two female ‘*rabet-e-salamt*’ staff, he

is responsible for the full spectrum of anti-malarial activities within the six villages that are under his coverage. Mr. Balouchi explains that each Behvarz is typically responsible for 750 people, whereas these six villages have an estimated population of 3000. Mr. Balouchi goes on to say that “although my workload is higher than the norm, I am quite capable in fulfilling my responsibilities as both the Government and the Global Fund have ensured that I am equipped with all the necessary tools”.

Mr. Balouchi is a well-known figure and his cell phone number is widely distributed among the residents of these six villages as he is obliged to



Mr. Balouchi undertaking fogging activities with a spraying machine procured by the Global Fund © N. Panahi 2015

respond to all calls at all times. He emphasizes that every single case of fever is rapidly examined and checked for malaria, particularly in areas that have a history of cross-border population movements. Drawing attention to the drastic drop in the number of local malaria cases, he credits the Global Fund's support in the provision of critical equipment that have increased the efficacy of his work – especially in the realm of prevention. "Before the Global Fund, we used hand-pumped fogging machines, but now we have reliable fogging machines that have been instrumental in interrupting the life-cycle of the parasite, and without the motor cycles and RDT kits furnished by the project I would not have been able to provide such timely and sustained levels of service to the people of this area", says Mr. Balouchi. He goes on to say that, the people of the area have

in fact verbally expressed their gratitude for the increased quality of the services they receive.

Mr. Balouchi is due to retire in four years and is a bit worried about the prospects of finding a suitable replacement to take over from him. He draws attention to the critical challenges within his area, including the need for further enhancement of cross-border cooperation with Pakistan. Nevertheless, he maintains that these problems are surmountable and is realistically optimistic that his area will be declared malaria-free in the near future.



Anti-malarial educational activities in Balouchi-ye Bala, Sistan and Balouchestan © N. Panahi 2015

Nuanced Capacity Building: Laboratory facilities in Dargas Village



The front entrance of Dargas Health Center © N. Panahi 2015

Mr. *Mehrab Baram* has been a malaria microscopist at *Dargas* Health Center for the past 20 years. He has a comprehensive view of the malaria situation in *Dargas* and believes that the Global Fund Malaria Project has been instrumental in the reduction of malaria cases in the village.

Dargas village is sparsely populated. The village is divided in half by the *Shir-gavaz* River, with sixty percent of the population residing on one side of the river, and the other forty on the other side. On average, the width of the river basin is between three to four kilometres, which can effectively disrupt transportation routes between the two

sides of the villages – especially during rainy seasons when flash or seasonal floods occur, or when water is let loose from the upstream *Pishin* Dam.

Given the geographic context of *Dargas* village, the Global Fund not only provided logistical support to the existing laboratory facility, but also established a new laboratory on the other side of the river in order to ensure that the local inhabitants of *Dargas*, living on both sides of the river, have access to essential and lifesaving services.

"I no longer have to risk crossing the river basin



Mr. Mola-dad Balcouh and Mr. Mehrab Baram, both microscopists at Dargas Health Center © N. Panahi 2015

during the rainy season as I know that my colleagues on the other side of the river banks are capable and well equipped to provide anti-malarial prevention and treatment services”, says Mr. Baram. “The river is quite unpredictable and I thank the Global Fund for providing such well-thought-out services to my people”, adds Mr. Baram.

Equipped with the most up-to-date tools, the two laboratories provide anti-malarial services to the twenty-one surrounding villages.

Microscopists Classes: Supporting the Key Pillar of the MEP

Twenty-nine year old *Younes Golami*, a Persian Literature graduate, has been working as a microscopist in *Nobandian* village for the past five years. He has travelled to *Konarak* City to attend a two week-long Microscopic Training Class that is provided through the Global Fund malaria project. "I always knew about malaria and have seen how



Mr. Golami (Center) and his colleague receiving training at the microscopic workshop, Konarak City, Sistan and Baluchestan province © N. Panahi 2015

it affects people's lives, and so I responded to a job-advertisement by the local MOHME to support their anti-malarial activities" says Mr. Golami.

Nobandian is a village of around 2,000 people. Its Global Fund-supported laboratory facilities provide essential anti-malarial services to an estimated 13,000 people. Mr. Golami believes that the work he does as a microscopist is essential to the long-term viability and success of Iran's MEP as all anti-malarial activities, whether preventive, vector control, treatment, follow up, etc. are based on the results of his, and his colleagues' work.

"Not only do we get updated information, but we also get a chance to develop our practical skills under the supervision of expert microscopists that have been working in the field for many years", adds Mr. Golami. These classes are conducted every 3-months, and on average, any given microscopist will attend these classes at least twice a year. Mr. Golami is very grateful that the government and Global Fund are supporting this programme, and hopes that this initiative is maintained beyond the life cycle of the Global Fund malaria project.



Ms. Nouzaii, Ms. Azarian, Ms. Keykhah, all microscopists, participate in the workshop © N. Panahi 2015

Containing Malaria at the Borders: *Rimdan* RDT Passive Post



The Global Fund-supported RDT Passive Post at the Rimdan border-crossing point, Sistan and Balouchestan province

© N. Panahi 2015

Geographic contiguity, socio-economic linkages, and strong ethnic kinship and familial bonds are responsible for the regular cross-border interactions between the Balouchi communities living in Iran and Pakistan. This steady cross-border population movement has a tremendous impact on Iran's malaria burden.

Situated in the southeastern part of *Sistan and Balouchestan* province, *Rimdan* is a well-traversed border-crossing point between Iran and Pakistan. Open from 7 AM to 2 PM, an average of seventy people cross through this point on a daily basis. The Global Fund Malaria Project has played an instrumental role in setting up six RDT passive

posts along Iran's border with Pakistan.

Twenty-six year old Mohammad Kalmati has been working at the *Rimdan* RDT passive post since February 2015. Using Global Fund-supplied RDT kits, he has managed to detect eleven cases of malaria in the first three months of operation. "I think we are doing critical preventive work here at the border; if it wasn't for this RDT passive post, these eleven cases would have entered Iran undetected, and potentially, undermined the fragile gains of our MEP", says Mr. Kalmati.

In addition to testing at the post, Mr. Kalmati undertakes educational activities for people that may have limited or no knowledge about the

dangers of malaria and its modes of transmission.

One of Mr. Kalmati's clients is fifty five year old *Batool Nasrodin* who has travelled from the Pakistani village of *Gabd*, which is not too far from the border. She travelled to the clinic after hearing by word of mouth that Iranian authorities are providing anti-malaria services. During the visit she expressed her sincere gratitude to Mr. Kalmati for the services that are provided free of charge. "It is such genuine expressions of gratitude that make our efforts worthwhile," adds Mr. Kalmati. Although he believes that Iran's MEP will be successful in the long-term, he maintains that these RDT passive posts should be expanded, as the exogenous sources of malaria will continue to pose a threat, especially in the absence of a regional anti-malaria framework.



Mr. Kalmati highlighting the results of the Global Fund-purchased RDT kits indicating *falciparum* malaria © N. Panahi 2015



Mrs. Batool Nasrodin, a Pakistani national, receiving anti-malaria services at Rimdan's RDT Passive Post © N. Panahi 2015

A Socio-culturally Sensitive MEP: Setri Women



Ms. Saba Afraz conducting an anti-malarial educational session © N. Panahi 2015

For the past year and a half, 25 year-old *Saba Afraz* has been a “*Health Focal Point*” in *Saeed Abad*, a village of roughly 500 people, located in *Konarak District* in *Sistan and Balouchestan* province. Prior to her current work, Ms. Afraz had completed and earned her BA degree in English Literature from the University of *Payam-e Noor* in *Chabahar City*. She is responsible for the provision of healthcare services, ranging from diagnosis and treatment services to the dissemination of preventive information.

Her anti-malarial responsibilities are of particular significance as she caters to the needs of a specific vulnerable population-group known as *Setri* women. Estimated to be around 90-95,000, these women adhere to a set of socio-religious

principles that prohibit them from interaction with male healthcare staff or from leaving the confines of the household for accessing readily available elective healthcare services. The Global Fund Malaria Project has devised a special modality of healthcare service that trains and employs qualified female healthcare staff who will then provide these services by visiting each and every household of this group of women.

“Most of the women in this area are *Setri*”, says Ms. Afraz. “As a trained healthcare professional, and as a local female resident, I am well-known and accepted by the *Setri* women”, she continues. It is through this acceptance that Ms. Afraz has gained critical access to this vulnerable population group,



Mrs. Bergis Moridi (Left) and Ms. Saba Afraz (Right) © N. Panahi 2015

providing them with the full spectrum of anti-malarial activities.

Mrs. *Bergis Moridi* is one of the 'elders' of her village and acts as a decision-maker and intermediary for the implementation of all anti-malarial activities. She is responsible for eight to ten households ("*Khaneh Vars*"), and throughout the past year and a half, has developed a good rapport with Ms. Afraz. She is very knowledgeable when it comes to controlling malaria, and considers '*Sontii*' (the word for mosquito in the local dialect) to be the main enemy.

Ms. Afraz believes that the Global Fund support for this initiative has been critical in increasing general knowledge among the Setri women population when it comes to preventing and containing

malaria. "I hope that the programme is sustained in the long run as the particular needs of the Setri population are bound to a cultural outlook that is deeply rooted in this area of the country", says Ms. Afraz in fluent English.

The Healing Power of Group Therapy

The most fundamental element of the Positive Clubs (PCs) is the safe and stigma-free space that they create for their members. All activities and services are based upon, and provided, through this safe environment. Many of these activities are designed to teach new sets of life skills that PC members might require as they adjust to their lives as People Living with HIV (PLHIV). Some



Ms. Narges Nowroozi conducting a Group Therapy Session

© N. Panahi 2015

of these are planned (e.g. Group Therapy and Question and Answer Sessions), while others are an organic by-product of these services and of the *safe environment* in which they take place (Peer Support).

Ms. *Narges Nowroozi* is a psychologist who has been working with Tehran Positive Club (*Yaran-e Mosbat*) for the past ten years. One of her main responsibilities is to conduct monthly Group Therapy Sessions at the PC. Guided and moderated by Ms. Nowroozi, these Group Therapy Sessions provide the members with a safe platform in which they can express and discuss their strengths and weaknesses, fears and hopes.

In this particular session, there was a newcomer who had very recently learnt about his HIV+ status. Although only 24 years old, he was clearly drowning in pain and sorrow. Able to understand the burden of the weight on him, the more experienced members of the group redirected the focus and energy of the entire session on the newcomer, who crestfallen, was slouching and listening with hardly any focus. The older members opened up about their past, discussed their own pains and struggles, and how they have managed to overcome these obstacles through hard work and perseverance. Halfway through the session, the newcomer's eyes started glittering as he began to relate and identify with them. By the end of the session, he was engaged in conversations with the members and was sharing his phone number with his newfound friends and mentors (Peer Support).

The newcomer knew he had a tough struggle ahead of him; he knew he would need to expend incredible amounts of mental and physical energy

so that he could adjust to his new life and its demands. At the same time, he came to realize he was not alone, he realized that he could rely on the support of the PC members and staff who could provide him with guidance.

At the end of the session, Ms. Nowroozi emphasized that the most important element that every single member, whether old or new, should walk away with, is the *internalization* of these new lessons and life-skills. “You are all here to help me help you; you must not become dependent on anyone or any institution. If you fail to do so, then, as a psychologist and counselor at the PC, I have failed my duty”, said Ms. Nowroozi.

The Story of Ahmad and his Book Binding Shop



Mr. Ahmad at work at the PC-supported Book Binding Shop
© N. Panahi 2015

51 year-old Ahmad became aware of his HIV+ status in 2009 when he did a blood test. "I was utterly devastated and at a complete loss as to what my next move should be", says Ahmad. "I was in the military for many years, seven of which were during the war. I was in *Khoram Shahr* when it was surrounded, I was wounded eleven times, and yet I survived it all – but here I was, lost and defeated", continues Ahmad.

He recalls how little he knew about HIV/AIDS, believing that he would be dead in less than ten years. It was in the midst of this uncertainty that

Ahmad was referred to Tehran Positive Club (*Yaraneh-e Mosbat*). "When I arrived at the PC, my CD4 count was 64 and I was broken and hopeless", says Ahmad. "It was here that I learnt to accept and live with my condition – if it wasn't for the safe and stigma-free environment provided by the PC, I don't think I would have been able to attain the state of mind that I now have", continues Ahmad.

Ahmad and two other PLHIV are now working at a book binding shop that was established through the support of the PC. "I feel productive and have demanding responsibilities at work. Having a sense of purpose is profoundly important for my health and wellbeing", Ahmad says. Ahmad also represents the PC at Narcotics Anonymous (NA) Camps and acts as an instructor at HIV/AIDS awareness raising activities. "I feel respected. People respect my work and they respect my story. I hope the PC system is further empowered and not abandoned ... it has saved my life and countless others", he says as he returning to work.



Ahmad and his colleagues displaying their message to society: Positive Outlook to a Positive Life © N. Panahi 2015

From a State of Shock to Helping the Shocked

Lowering her voice in a shy confessional way, *Tabasom* says, “even though I did not want to get married at an early age, and wanted to continue my education and become a university professor, I said yes when he and his family came to ask for my hand in marriage.”

In 2007, *Tabasom* and her husband went on their first journey of pilgrimage overseas. By that time, they had been blessed with two beautiful daughters. It was during this trip that her husband suddenly felt ill and collapsed.

Upon returning to Iran, *Tabasom*’s husband started to get frequent bouts of fever. His body started to weaken and his situation was continuously

deteriorating. He was showing various symptoms ranging from thrush to swollen lymph nodes. The doctors speculated that it might be Malta fever, or typhoid, or even some rare virus. *Tabasom* recalls her frustration, “The entire family was confused and lost”. Finally, one of the doctors that he was referred to turned out to be an infectious disease specialist. It was here that for the first time the family was faced with the prospect of being affected by HIV/AIDS. Their worst fears had come true - *Tabasom*’s husband was HIV positive and they were uncertain as to how he had been infected.

“So after a year and half we finally realized what we are faced with! I was told that I too had to do



Dr. Masoumeh Ashtiyani, an Infectious Disease Specialist, conducting an HIV/AIDS Q&A Session at Tehran Positive Club

© N. Panahi 2015

the test for myself and two daughters at this place called a Voluntary Counseling and Testing center¹; I became incredibly worried”.

Feeling utterly lost, Tabasom recalls how her perceptions of life and the world started to change, “I became very negative, pessimistic thoughts clouded my mind, making me think that if I were HIV+ I would die in less than ten years and that I would not be there for my daughters, and that both my husband and I would let our kids down.”

Then came a glimpse of light, “If God put this challenge in front of you, He will also put solutions in front of you; you should be resilient and I will be there with you at every step of this ordeal”; so advised Tabasom’s strong and truly pious mother who encouraged her to take herself and the girls to the testing centre. In the meantime, her husband had once again become violently ill and had to be hospitalized, this time in Tehran under the observation of *Dr. Minou Mohraz* – a pioneer of and specialist in HIV/AIDS research and treatment. Tabasom’s own test results came back and she was diagnosed as being HIV+; the kids were negative. It was there that Tabasom learned, through another patient, that there is a place called Tehran Positive Club (PC) (*Yaraneh-e Mosbat*) where people living with HIV could receive psychosocial counseling.

Out of despair, and propelled by her mother’s advice, Tabasom went to the Club, which happened to be in the same hospital. Upon entering the Club, she thought she had entered the wrong place. She saw four men and three women, all looking

1. **Voluntary Counseling and Testing (VCT)** for HIV usually involves two counseling sessions: one prior to taking the test known as “pre-test counseling” and one following the HIV test when the results are given, often referred to as “post-test counseling”. Counseling focuses on the infection (HIV), the disease (AIDS), the test, and positive behavior change.

very healthy and decent! Tabasom recalls her initial gut reaction, “They all looked like medical students and personnel... they were professionals who had gathered for some sort of a seminar... I really felt I was in the wrong place... I gasped and literally took a few steps back and almost left. The counselor then asked everyone who was not HIV+ to leave the room. “I expected everyone to leave and thought that I would be the only one who would stay,” continues Tabasom. To her surprise, no one left.

The counselor, herself HIV+, started by reciting the PC’s “*Maram Nameh*” (Code of Honor) which basically sets the boundaries in which the members operate: confidentiality, unconditional support, and the prevention of the onwards transmission of the disease. Going in a circle, each member then recounted his or her life over the past week; they discussed their struggles as a group and shared their joys and hopes. The members provided advice to one another. It was evident that the group’s engagement was a genuine one – a bonding with solid roots! “These people were truly engaged in each other’s lives; “they actually walked the talk” she recalled.

It was now Tabasom’s turn to speak. She told them of her initial reaction, thinking that she was in the wrong place. Looking back on her very first experience in the Positive Club she says, “I now thank God that He guided me during this incredibly difficult phase of transition... from being completely lost and utterly hopeless I was now in an environment that gave me strength and courage.”

It was during their stay at *Imam Khomeini Hospital* that Tabasom’s husband started his special

treatment. However, the doctors warned her that the treatment had started very late and that his body was quite weak. "We will do our best, but pray for him... he is very weak" said the doctor.

Within a few days' time Tabasom got a call from the doctors at the hospital. They were all at a loss. "It must be a miracle" said one. Her husband's reaction to the medication was incredibly positive. "My husband was released from the hospital and my kids were negative. I really started to change

my perspective. I thought to myself that this is a challenge I need to face and accept and have to see HIV/AIDS as a lifelong companion that I must learn to co-exist with."

Six years have now passed since those days of despair and hope at Imam Khomeini Hospital. "He is taking his medication consistently and we are leading normal and fulfilling lives" says Tabasom.

In the meantime, Tabasom restarted and continued with her education at university and has been working fulltime at a PC in her home province. She says she has come a long way. She is no longer scared of the potential consequences of people finding out about her HIV status. She says, "I don't actively disclose my HIV+ status, nor am I really concerned if people find out. But I do open up to certain patients at the PC when I see that they are really struggling with their challenges and I tell them that I too am HIV+ and that I have indeed been through the exact same experience they are going through. I portray myself as a positive and real life example of how a person can overcome these challenges and remain sane, kind, and helpful. I really see their eyes and face lighting up and they really do gain strength and courage from my example. It also gives me immense strength, motivating me to expand and improve both the reach and the quality of our services! What I really want is for our preventive education to reach everyone who is vulnerable and at risk of being infected with HIV/AIDS. Prevention is the single most important factor and most effective tool in our arsenal!" Tabasom goes on to say, "the metrics of preventive education are not merely the number of workshops and educational sessions we conduct – I know how a newly empowered youth, trained with HIV-preventive education, feels and



"Maram Nameh" (Code of Honor), Shahriyar Positive Club, Tehran, Iran © N. Panahi 2015



National Reference Laboratory – Iran UMS © N. Panahi 2015

looks like... it is priceless”.

It is also three years since Tabasom started her own HIV suppressing treatment alongside her husband. Tabasom says that there are certain side effects but that she is nevertheless very happy and grateful that these medications have been made available for them. “When I look at the glass, I see the full half – not the empty half” says Tabasom. She explains that one of the most helpful elements are the group therapy sessions as they truly empower people with HIV from within, teaching them how to cope with all the various aspects of their HIV+ lives.

“I’ve kept in touch with the friends I made at the Imam Khomeini PC and they are some of the most important people in my life. They have taught me

how to have hope in life and how to actually turn those hopes and dreams into realities that I can live with and experience”. She also puts great emphasis on the annual gathering that all PCs attend. “These gatherings have become much more evidence-based and scientific in nature as the years have progressed. We have HIV/AIDS and medical experts from various universities that join us and actively participate in these sessions. Not only have I learnt a lot from them, but they have also learnt from us. The gatherings are invaluable venues for the exchange of views and experiences. I am grateful that Iran’s partnership with the Global Fund and UN system has supported these initiatives.”

Looking back at her experiences, Tabasom is amazed at her growth as an individual since 2007! She says she is no longer worried about her life

expectancy, or of stigmas and discriminations directed towards her; or the side effects of the medications she should take day-in, day-out. Rather, her biggest concern is to prevent the onwards transmission of the disease. She says the PCs are the single best way to do so.

Through the support of this international partnership, a hi-tech machine that monitors the progress of HIV in the patient's blood is now functioning in the University of Medical Sciences in Tabasom's hometown. "Now that we have a CD4 counter in our own province we have managed to increase the coverage and quality of our services to reach many more people. We are now able to put people on HIV suppressing medication in a much timelier manner than before. We also have a PCR² in our province and all these services are provided free of charge. I am thankful for all of this! I really am! We all are!"

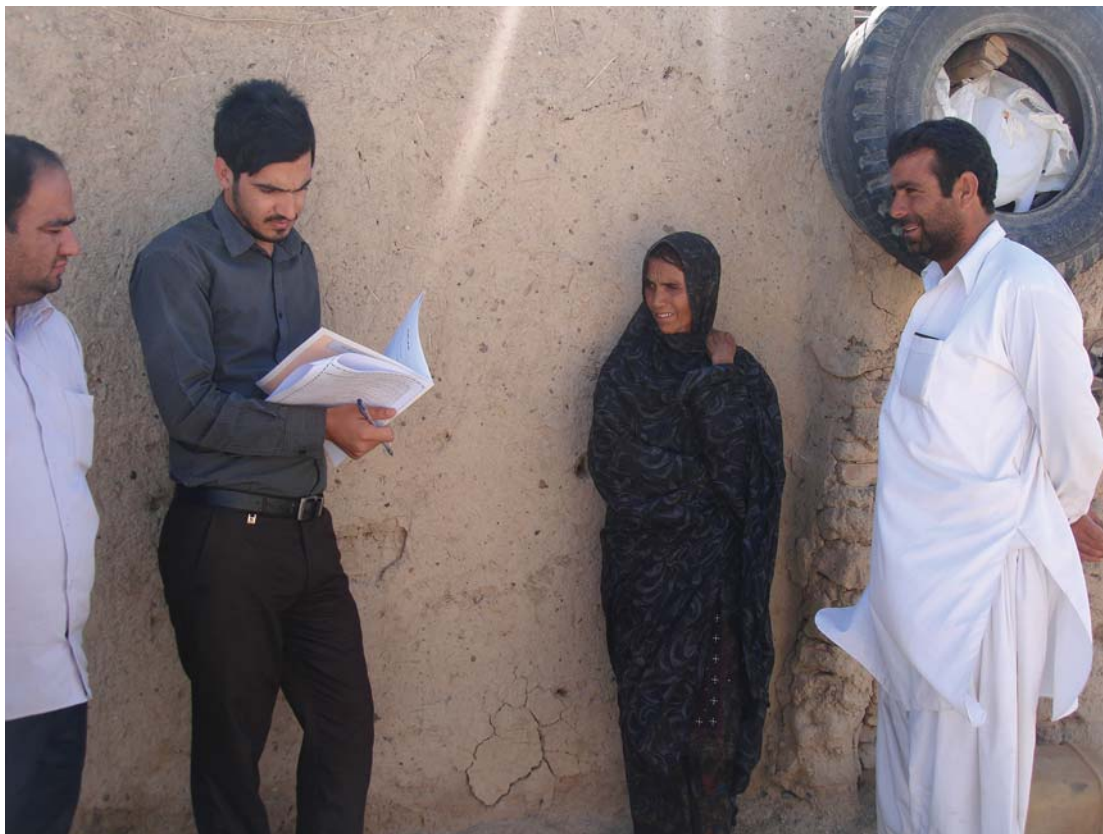
Looking at her watch, she smiles and says, "The new health authorities at our Medical University are great! They are supportive and oriented towards HIV/AIDS. I can actually see the difference...there is much less stigma and discrimination towards HIV/AIDS and the HIV positive, especially in our medical facilities. Our health service providers are much more understanding and helpful. Our province is much more open-minded."

The last thing she says before going back to work is this: "I feel great that despite the many challenges, I live in a country and society that has increasingly become pragmatic in its outlook and behavior when dealing with HIV/AIDS. I really think that the Global Fund has played a critical role in this response...please let them see how they actually

do save and change lives! Please let them know this! They should never stop their work!"

Tabasom stands up and smiles. Her posture is one of strength and determination. She beams with positive energy and motivation. Walking towards her Positive Club, her strides seem powerful. She is truly inspiring.

Public Health Information Dissemination: How a Young Girl Rescues Her Grandma



Mr. Panahi, second from the left, coordinating public outreach and educational activities in Zabol, Sistan and Balouchestan province © N. Panahi 2015

Lying close to the border with Afghanistan, the city of *Zabol* is situated in northeastern *Sistan and Balouchestan* province and is the capital of *Zabol* District. The city is located in a province that has one of the highest prevalence and incidence rates of TB in the country. Taking note of this reality, the three-member partnership of Government, UNDP, and the Global Fund has implemented a diverse array of projects and activities, with a particular emphasis on prevention.

29 year-old *Abolfazl Panahi Mishkar* was recruited by the TB project as a monitoring consultant for a period of three months, after which time he has been working with Zabol University of Medical Sciences as a TB and Leprosy Coordinating Officer. "The TB project had a tremendously positive impact on the general population's levels of knowledge about TB. Tuberculosis (or "*Degh*" in the local dialect) is not new here, but I don't think we have ever had such high levels of awareness in

terms of identification and timely precautionary measures”, says Mr. Panahi.

It was during Mr. Panahi’s time with the TB project that a sizeable information dissemination campaign on TB was conducted, targeting the entire student body of all middle schools and high schools in the District. One such student was the then 11 year-old *Mohadeseh Shahraki*. “Our teachers gave us TB-related pamphlets and discussed the dangers of the disease, and we even had Q & A competitions about TB”, says Mohadeseh.

Mohadeseh’s grandmother had been sick for a long time and the doctors had speculated that her ailment was a lingering side effect from her open-heart surgery. It was a few days after the

abovementioned project-sponsored campaign that Mohadeseh suspected that her grandmother must have TB. “According to the pamphlet, my grandmother had the signs of TB”, says Mohadeseh. Mohadeseh took her grandmother to the local hospital where she could be tested for TB. Her suspicions were confirmed when the result of the tests were shown to be positive.

“I am just grateful that I could identify this disease before it could take my grandmother away from me. Not having her would have been incredibly difficult for me”, says Mohadeseh.

Encouraged by this experience, Mohadeseh now aspires to be a doctor when she grows up.



Mohadeseh and her grandmother, Mrs. Fatemeh Salari © N. Panahi 2015

Detecting TB in Zabol: Technology that Works



Ms. Mir displaying some sputum samples © N. Panahi 2015

Ms. *Raha* Mir has been the head of the TB laboratory in the city of Zabol since 2009. She oversees a team of five, and is determined to provide the very best anti-TB services that her laboratory can offer. “The TB project has provided us with some of the best equipment ranging from UV lights, florescent microscopes, and bio-safety cabinets to centrifuges and incubators” says Ms. Mir. The financial and technical support provided by the project has played a critical role in the reduction of TB cases in the area. “Although it has been over a year since the Global Fund TB project has come to an end, we do our very best to maintain

the technical and operational standards that the project has established”, says Ms. Mir.

Discussing the medium-to-long-term prospects of Iran’s national efforts against TB, she believes that the TB project should have continued its operations for at least another 3 to 5 years. “Yes, the TB project has achieved remarkable results, yet the risk-factors associated with TB are still very much present. The project should have continued its operations while re-orienting its efforts and focus on supporting the national Government in combating socio-cultural and economic risk-factors that are associated with TB”, she says.

An avid reader, Ms. Mir refers to the UNDP's 2013 Human Development Report that has documented Iran's remarkable progress in human development over the past three decades. "Despite all our problems and shortcomings, it is abundantly clear that the country is doing something right, and I therefore think that the risk-factors associated with TB are going to be dealt with as well", she says with a confident tone

Containing TB with a Dose of Resilient “joie de vivre”

Situated on the outskirts of Zabol in the northeast of *Sistan and Balouchestan* province, *Deh-e Arbab* is a small village of roughly five hundred people. 33 year-old *Abbas-Ali Moghimi* has been the village's *Behvarz* for the past five years. In addition to his own village, he is also responsible for the provision of health services to two others: *Abbas-Agha Jan*, with a population of 66 people and *Hossein-Abad*



Mr. Moghimi leading the way to Deh-e Arbab on his Global Fund-purchased motorcycle © N. Panahi 2015

e Jor, populated by 53 locals. Mr. Moghimi's father was also a *Behvarz*, and it was during his time, in 1978, that the Directly Observed Treatment (DOTS) was first established in their area for TB patients. He recalls how his father would get up very early in the morning, sort out the medications and head out to remote villages so that the patients' medication would be administered on time. Looking back on his father's career, Mr. Moghimi says, "I admired his commitment and proactive sense of responsibility towards his patients, and I have tried to incorporate a similar work ethic in my own career."

Explaining his work routine, Mr. Moghimi points to the significance of the Door-to-Door Programme, which calls for the undertaking of monthly health checkups (active case finding) and information dissemination activities for all households that are under his coverage. It was during one of these monthly checkups that Mr. Moghimi noticed that 83-year-old Mohammad Tavakoli-Nejad who was of exceptional happy character and full of contagious 'joie de vivre', was exhibiting all the signs of a would-be TB patient. Not wasting time, he took a sputum sample and educated Mr. Tavakoli-Nejad and his new wife of two years on the full spectrum of precautionary and anti-TB measures. The results of the sputum sample were negative.

Not persuaded, Mr. Moghimi returned two weeks later to checkup on Mr. Tavakoli-Nejad who was still exhibiting signs of TB. This time Mr. Moghimi called Mr. Tavakoli-Nejad's son who lives in the city of Zabol, to come and assist him in taking his father to the city's TB-specialist for a chest X-ray which confirmed that Mr. Tavakoli-Nejad had TB, at which point, Mr. Moghimi immediately initiated the

DOTS treatment for his patient. It is critical to note that Mr. Moghimi also initiated 'active case finding' procedures in regards to the people that Mr. Tavakoli-Nejad might have had contact with. "This is probably the most important aspect of my work. Knowing that the disease can be quite contagious in its early phases, I *must* go out of my way to find these potential cases, otherwise all our efforts are wasted, and countless people are needlessly exposed to this potentially lethal disease", says Mr. Moghimi. "The logistical support of the Global Fund TB project has been instrumental in this regard, because without the motorcycle provided by the project, no matter how committed I may be, I would have never been able to provide such consistent and timely health services" he adds.

Sitting contently in his living room, Mr. Tavakoli-

Nejad quips that he has never had TB and that both his wife and Mr. Moghimi are mistaken. "I have not been able to leave the house since I started this medication and I never had '*Degh*' (*the latter being the local word for tuberculosis*)", says Mr. Tavakoli-Nejad. At this point Mrs. Tavakoli-Nejad interrupts and says, "He is much better and healthier since he started his medication, and all of this is because of Mr. Moghimi's consistent and hard work in ensuring that he takes his medication properly". Mr. Moghimi explains that the older generation of this area frown upon illnesses, and seeing it as some sort of a personal weakness, they never accept it. Although this mode of thinking is still prevalent, Mr. Moghimi maintains that the Door-to-Door Programme has been instrumental in countering this trend and that many senior citizens no longer harbor such views. Additionally, he draws attention



Mr. Moghimi administering Mr. Tavakoli-Nejad's medication in line with standard DOTS protocols © N. Panahi 2015

to the monthly education sessions that he holds at the health house. Using the local mosque's loud speakers, he calls on the residents to attend these education sessions. He says that each session manages to draw a diverse array of people, young and old, healthy and sick. "People are much more pragmatic now and openly seek medical care without being bothered by these archaic stigmas" says Mr. Moghimi.

At the time of our visit, there were only nine days left of Mr. Tavakoli-Nejad's DOTS treatment. Mr. Moghimi is very meticulous in explaining the post-treatment precautionary measures that he will undertake. Starting with a comprehensive review of the TB-preventive educational material, he has to make sure that Mr. Tavakoli-Nejad's room is well ventilated and has good lighting, that his post-treatment diet is appropriate, and to ensure that he is free of TB, Mr. Moghimi will take another sputum sample and send the patient for a second X-ray check so that the TB-Specialist can have the final say on whether he can stop his medication or not. Lastly, Mr. Moghimi will keep the patient's file for another two years, during which time the patient is visited every three months to ensure that everything is fine.

Looking back on his experiences, Mr. Moghimi readily acknowledges that the project has had a lasting impact on the manner in which TB is dealt with in his area. Although the DOTS protocols are not new, he maintains that the practice has been revitalized and is now implemented according to, and held accountable to higher standards of quality. The Global Fund's outreach and advocacy programs have increased the people's understanding and levels of awareness, not just regarding TB, but also in other health-related

matters. "These higher levels of expectations have also had a drastic preventive dimension, as the flip side of this reality is that people themselves are much more cautious, and thus less prone to becoming sick from TB or other illnesses. In the long run, this has been a key element in the overall reduction of the TB disease burden in our area", says Mr. Moghimi.

Saving lives One Call at a Time: Hotline Telephone Counselling Services



Mr. Ardalan (far left) and his colleague at work at the PC's Hotline Office © N. Panahi 2015

24 year-old *Ardalan* is uncertain as to how he became infected with HIV/AIDS – maybe through contaminated blood when he had had surgery on his leg several years back; “but what difference does it make,” he says grudgingly. It is now six years since he became aware that he was HIV+. While recalling the initial impact and shock of that day, he says, “I had some knowledge of what HIV/AIDS was, but I never thought it would happen to me. My reaction was very bad ... I went into a deep depression and became suicidal; I even went as far as buying cyanide”. *Ardalan* dropped out of high school and continued to sink deeper and deeper into an unhealthy state of mind and body. “I was

completely out of control, my parents and family were completely lost and couldn't help me”, says *Ardalan*.

This vicious downward spiral continued until about two years ago when *Ardalan* was introduced to Tehran Positive Club (*Yaran-e Mosbat*). “My CD4 count was 32 when I entered and at first I didn't participate and kept to myself, but the members were warm and receptive, they never gave up on me”, says *Ardalan*. “I think the most helpful service was the Group Therapy Sessions. I was able to find and rediscover myself in those sessions”, he continues. Gaining strength and courage, *Ardalan* is now an active and resourceful member of the

PC, and through commitment and perseverance, he has become a qualified HIV/AIDS counselor working at the Hotline services provided by the PC.

The hours of operation are from 8 AM to 7 PM, and after 7 PM, the incoming calls are diverted to the counselor's cellular phones. "We respond to all calls, even if it is a mandatory holiday or the weekend. I feel productive and believe that I am doing crucial preventive work", says Ardalan with a proud tone of voice. The Hotline service has also received calls from many Iranian expats in far-flung places such as Germany, Thailand, Afghanistan, and Pakistan. "These callers are extremely grateful that they can access these services from people who speak their own language. Many of our current members have also used our Hotline services before becoming members of the club", explains Ardalan.

Ardalan now plans to enroll in school again so he can finish his high school diploma. He says that he is eternally grateful to the staff of the PC and hopes to open his own PC down the road so that he can give back to society what the PC has given him – a new lease on life!

On The Front Lines of Harm Reduction: 'Outreach' and 'Shelter'

Forty-one year old *Farid Saberi* has been working in '*Payam Avaran-e Hamyari's*' 'Outreach program', an NGO that provides HIV Harm Reduction services to injecting drug users (IDUs) who are at greater risk of contracting HIV via unsafe injection methods. Established in 2007, the Outreach program manages to reach an average of 15 to 20 IDUs and other vulnerable people per day. As an ex-IDU



Mr. Saberi at work – cleaning up used syringes at a 'patogh'

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himself, Mr. Saberi's experience and perspective gives him an edge as he works on the frontlines of harm reduction activities.

Mr. Saberi leads the Outreach team – usually composed of two individuals – to locations (known as "*Patogh*") that are frequented by IDUs. The team distributes sterile syringes and alcohol pads, and disseminates information on safe modes of injection and HIV/AIDS preventive measures. IDUs are also referred to other facilities such as Drop-in Centers, Shelters, and Voluntary Counseling and Testing facilities where they can receive additional services.

"They see one of their own, one who has broken free from these gripping shackles – their eyes glimmer with a ray of hope when they see us", says Mr. Saberi, adding, "If it wasn't for the support provided by the project, these people would not see me."

After his shift at the *patogh*, Mr Saberi says he wants to show me something special. In a neighborhood in southeastern Tehran is the facility that saved his life. There, he introduces me to the Shelter's supervisor, forty-nine year-old *Ramezan Mohammadi*. Mr. Mohammadi's life story is a familiar one here. His first experiences with addiction were early in life. "I was about 15 when *I felt that I needed cigarettes*; and in retrospect, I think they can be a gateway to many other things", says Mr. Mohammadi.

In his early 20s, Mr. Mohammadi started to use heroin. Eventually he started intravenous drug use. He says he "destroyed everything" in his life. "I destroyed my business, my marriage, and

countless other precious things.” He also became infected with HIV/AIDS.

His life changed about five years ago when the Outreach staff of the project approached him. “Their presence and advice gave me hope, they showed me a path, they took me to the Shelter, I was given a warm welcome and safe place to sleep – it was at this point that I realized I was not alone, and that with their support, I could set myself free”, says Mr. Mohammadi.

Today, Mr. Mohammadi has overcome his addiction, has suppressed his viral load through a strict adherence to his antiretroviral regimens, and for the past three years, has been working as the Shelter’s supervisor.

On average, the Shelter receives about twenty to

thirty male IDUs per night. Operating from 5pm to 8am every day of the year, the shelter provides services including showers, food, clothing, and condoms. Peer educational activities on topics such as safe sex, safe injection methods, methadone maintenance therapy, sexually transmitted diseases, and opportunistic diseases such as tuberculosis, and hepatitis are routinely conducted.

Energized and determined, Mr. Mohammadi stresses the vital importance of not only maintaining, but also expanding the Outreach and Shelter services. “I was sleeping in the streets, desperate for my next fix, but now ... I am saving lives – if this is not a miracle, I don’t know what is”.



Mr. Saberi providing basic medical services to an IDU © N. Panahi 2015



Left to right: Mr. Mohammadi, the Shelter's supervisor; Mr. Ajir, the supervisor of the Outreach programme; and Mr. Sarabi, a staff member at the Vali-Asr DIC – 'Payam Avaran-e Hamyari' Shelter © N. Panahi 2015

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