

سیاستها و راهبردها و موفقیت های برنامه سلامت خون در ایران

دکتر علی اکبر پورفتح اله

استاد ایمنولوژی دانشکده علوم پزشکی دانشگاه تربیت مدرس
مدیرعامل سازمان انتقال خون و سرپرست مؤسسه عالی آموزشی و پژوهشی طب انتقال خون



The prevalence (%) of infectious disease markers for HCV, HBV and HIV in risk groups

	Anti-HCV	HBsAg	Anti-HIV-1
Hemophiliacs	87.0	4.8	72.7
Multi-transfused	18.4	1.2	1.8
Organ Transplant Recipients	16.9	19.4	1.9
Hemodialysis Patients	8.1	23.7	0.4
Intravenous Drug Abusers	78.9	8.3	73.7
Homo / Bisexuals	10.0	7.9	29.5
Female Prostitutes	1.4	NA	1.0
Health Care Personal	0.8	2.9	0.4

NA = data not available

Lit.: Weber B et al: Zbl Bakt 1997: 282, 102-112

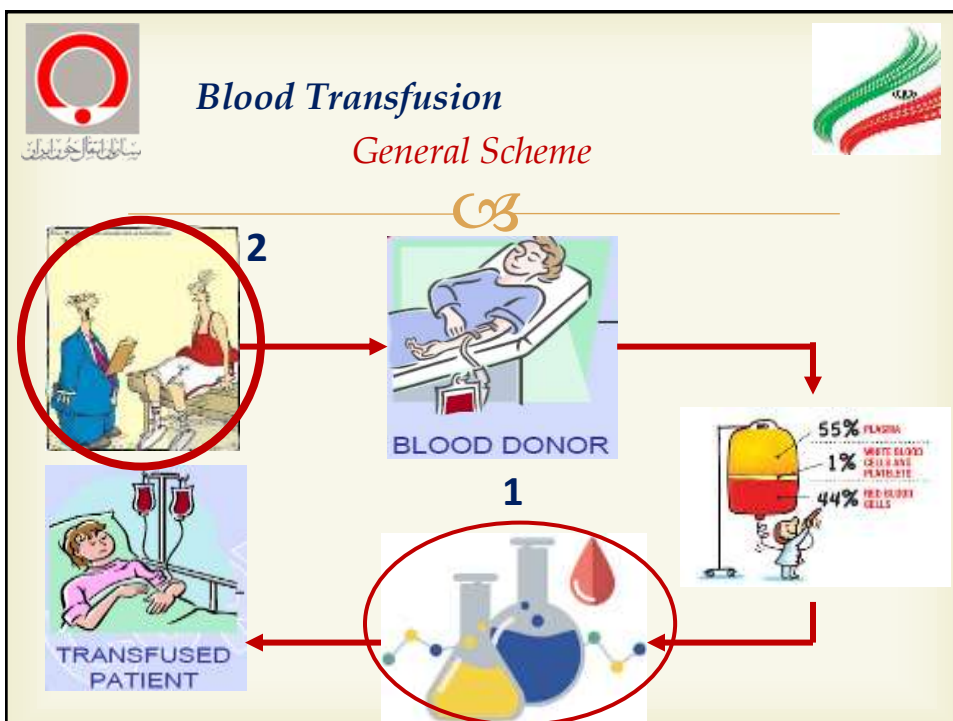


Blood Donation Safety

"National Program"

Iranian Blood Transfusion Organization

IBTO





Blood Donation Safety Policy

Blood Donor Selection



Objectives ;

- ❧ Increasing Regular Blood Donations
- ❧ Blood Donation Surveillance System
- ❧ Pre Donation screening System
- ❧ HBV Vaccination among Regular Blood Donations



Blood Donation Safety



Increasing Regular Blood Donations





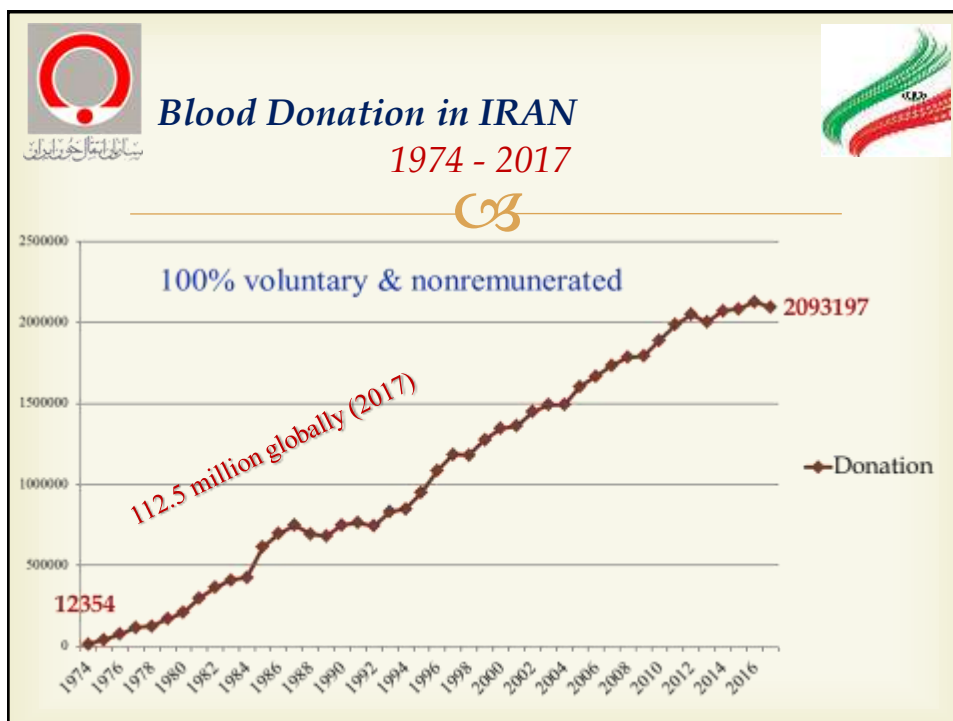

Regular Blood Donations

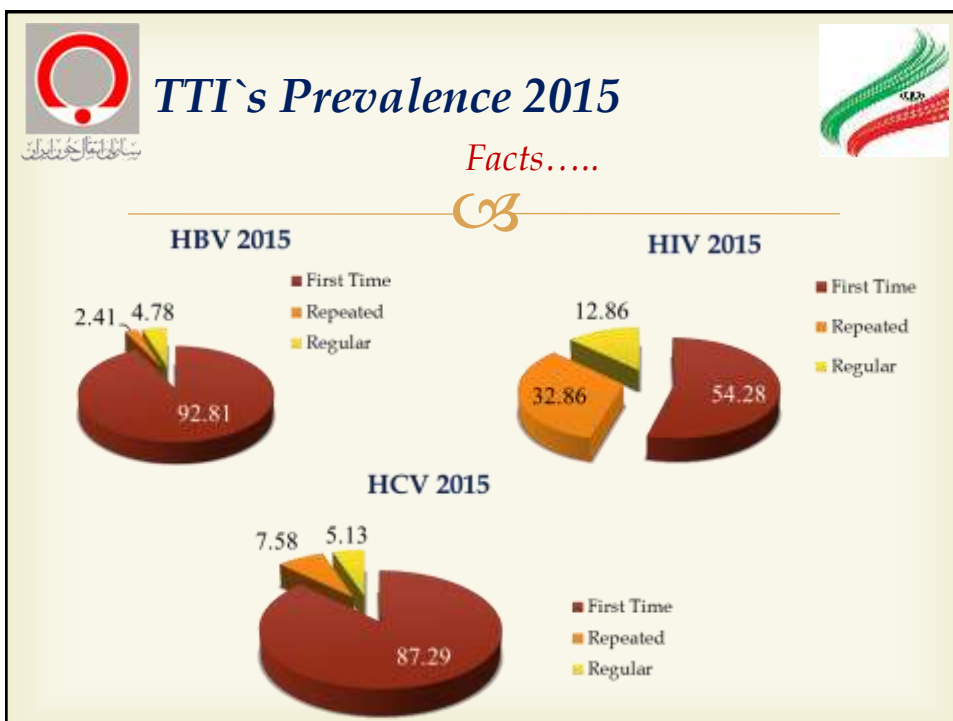
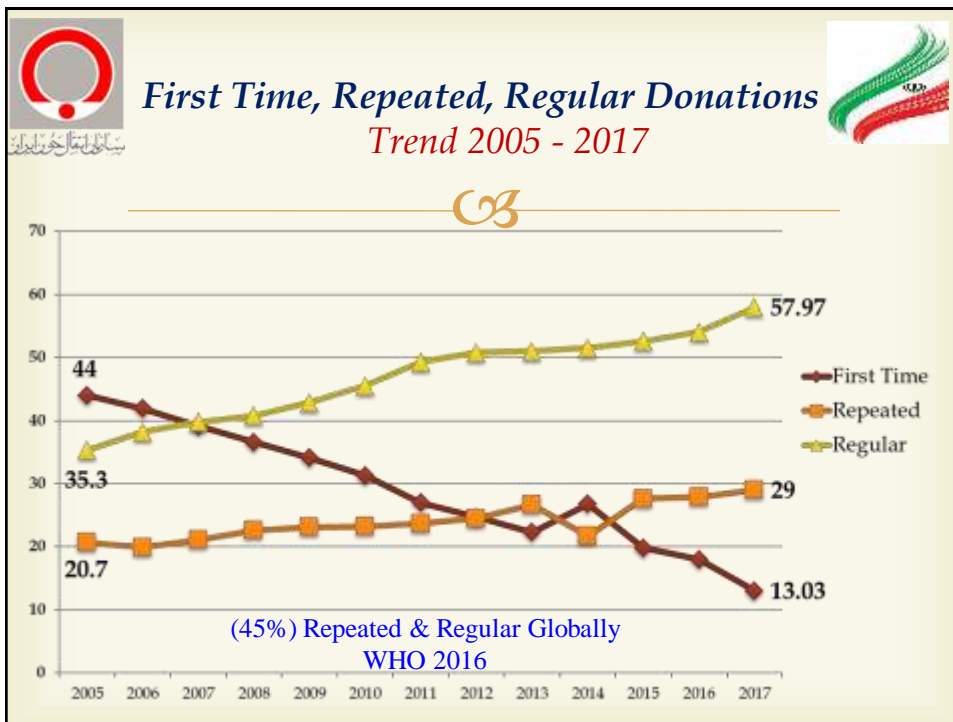
Increasing


❧

Objectives ;


- ❧ Organizing the Mobile Sites
- ❧ Issuing Colored Donors ID cards
- ❧ Conducting Annual Gathering for Regular Donors
- ❧ Promotion Self Care Programs / Athletics & Celebrities
- ❧ Conducting Awareness Raising Campaigns & Events



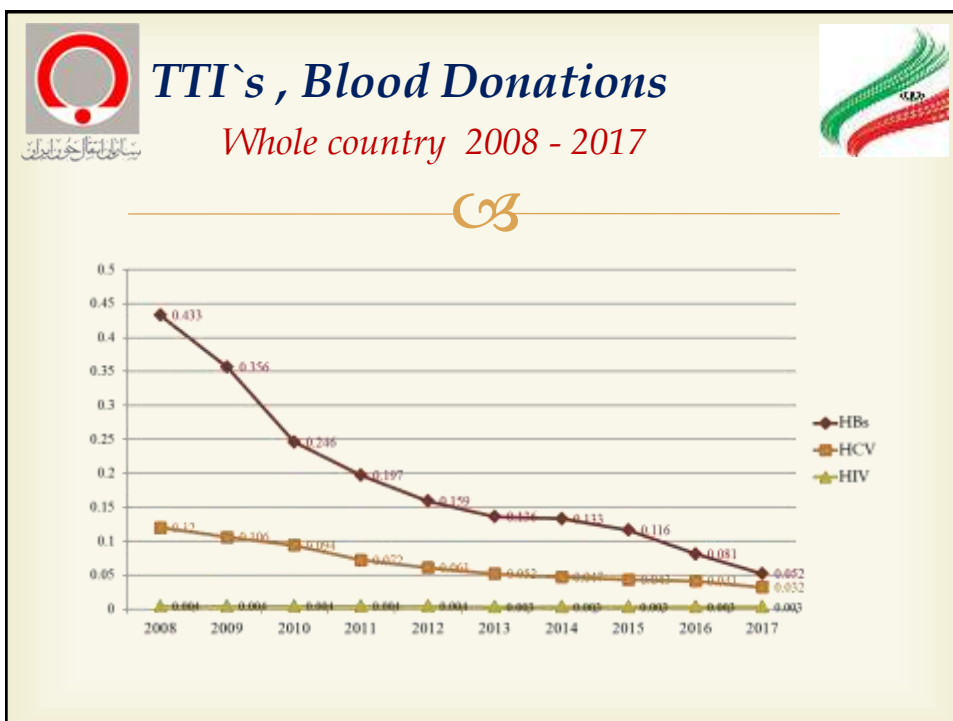


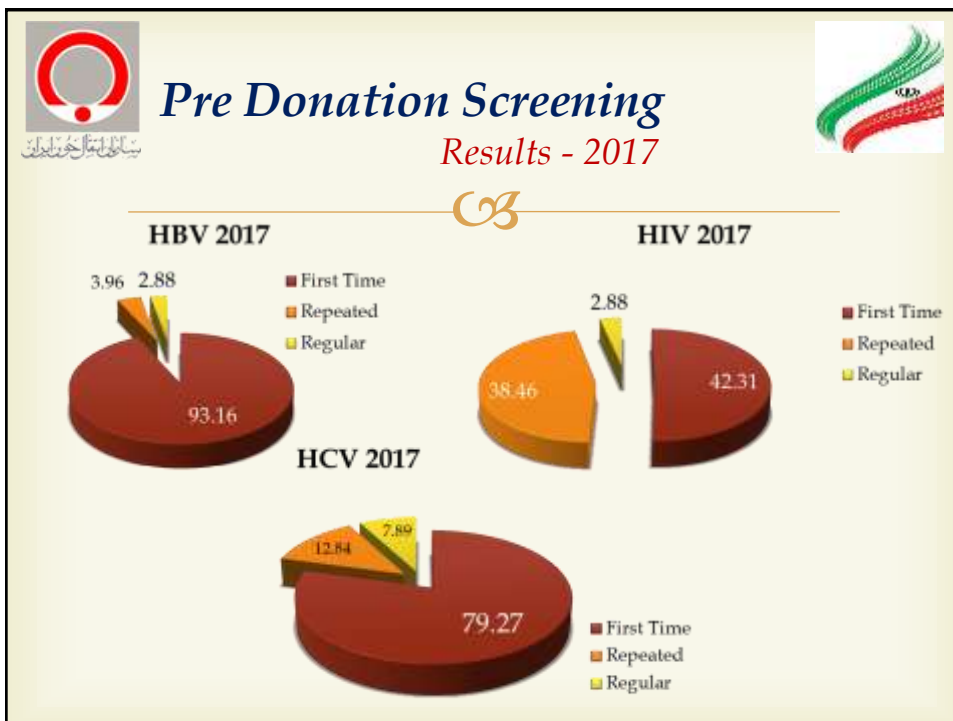
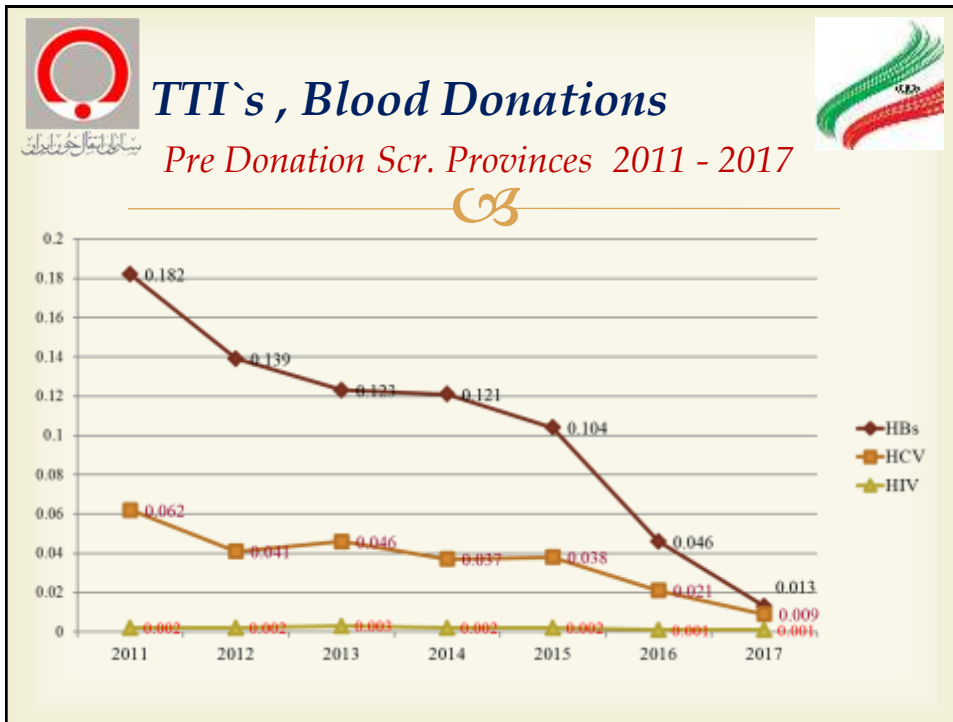


Pre Donation Screening National Program



	Program	Provinces
2015	Pilot Phase	Kurdistan
2016	1 st Phase	10 Provinces
2017	2 nd Phase	15 Provinces
2018	3 rd Phase	21 Provinces (6 Selected Sites)







Pre Donation Screening Results - 2017



Prevent

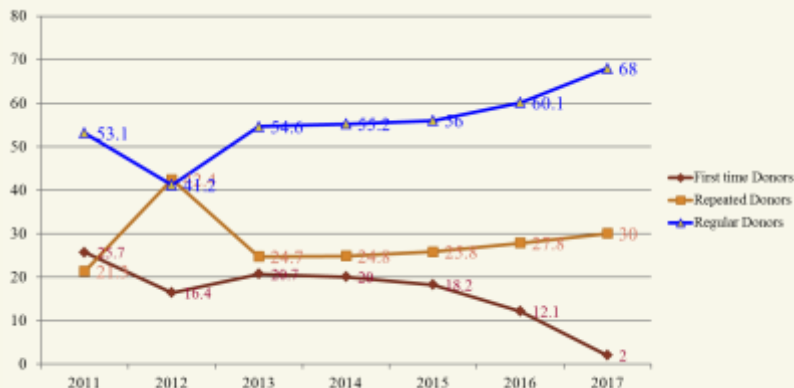
- ☞ 472 HBV+ Cases ~ 29.82 %
- ☞ 11 HIV + Cases ~ 17.46 %
- ☞ 227 HCV+ Cases ~ 29.40 %

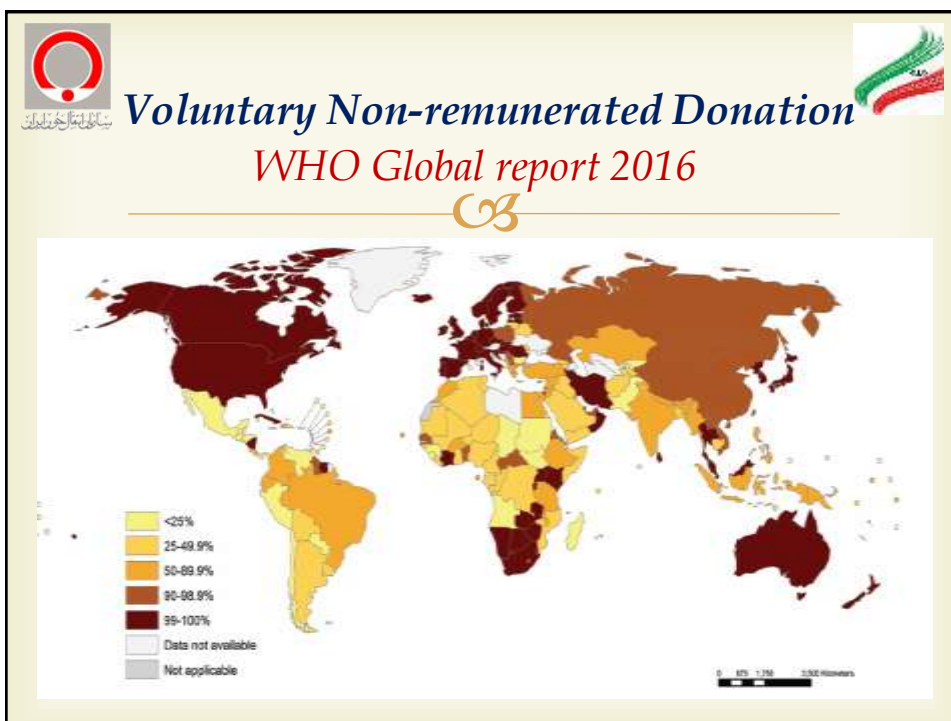
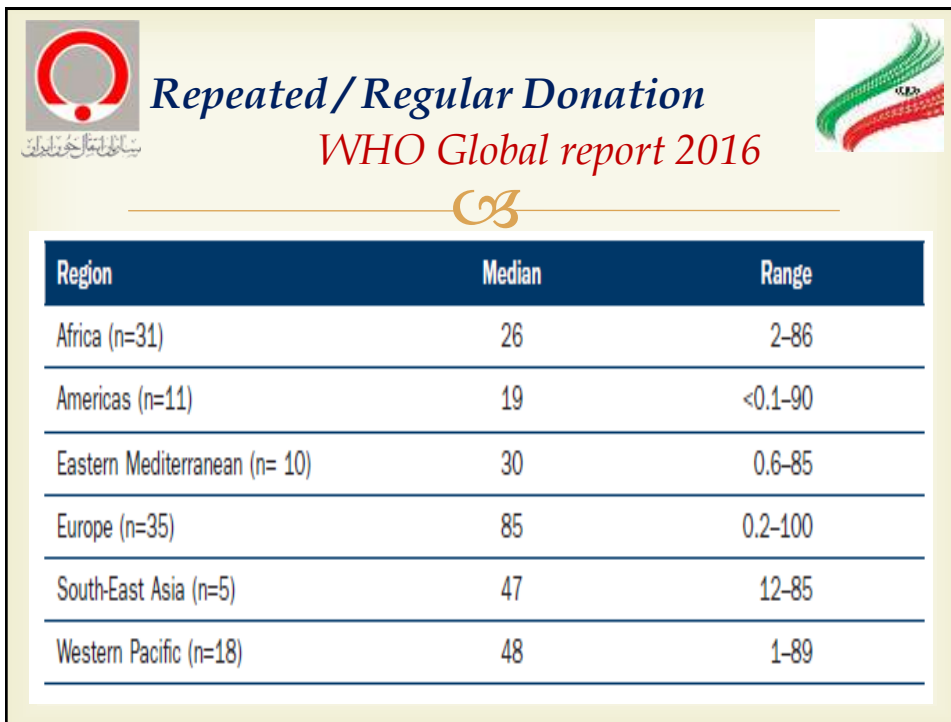
Excluded By Pre Donation Screen Program



kinds of donations

"Pre Donation Screening Program provinces 2008 - 2017 "



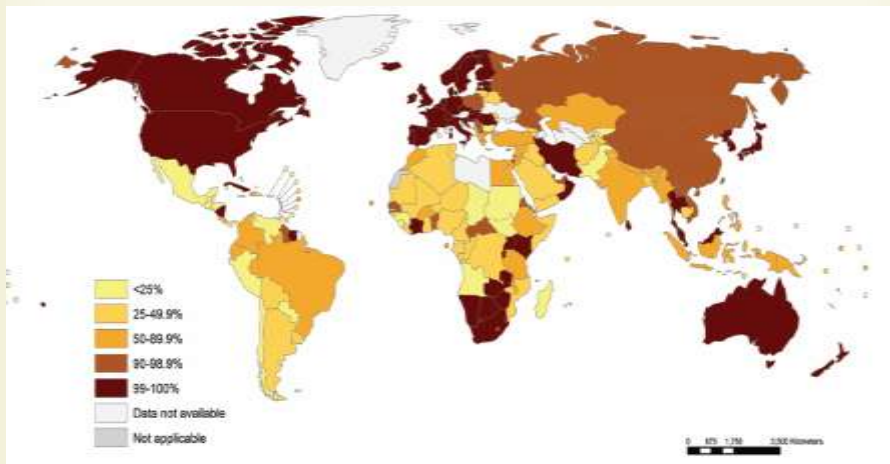






Voluntary Non-remunerated Donation





WHO Global report 2016



*Blood Donation
Safety*

*Blood Donation
Surveillance System*

Surveillance System
Blood Donor Selection

Since 2015
Each Confirmed Pos. results for
HIV , HCV, HBV

☞ *Should be evaluate retrospectively by a qualified
technical committee*

*All the process of the selection processes
in provincial level*



Surveillance System

Blood Donor Selection



Evaluated Factors ;

- ❧ Counseling skills of qualified physicians
- ❧ Confidentiality of counseling room
- ❧ Location of the blood collection site (Risky)
- ❧ Reliability of blood donors
- ❧ Overload of attending the voluntaries



Surveillance System

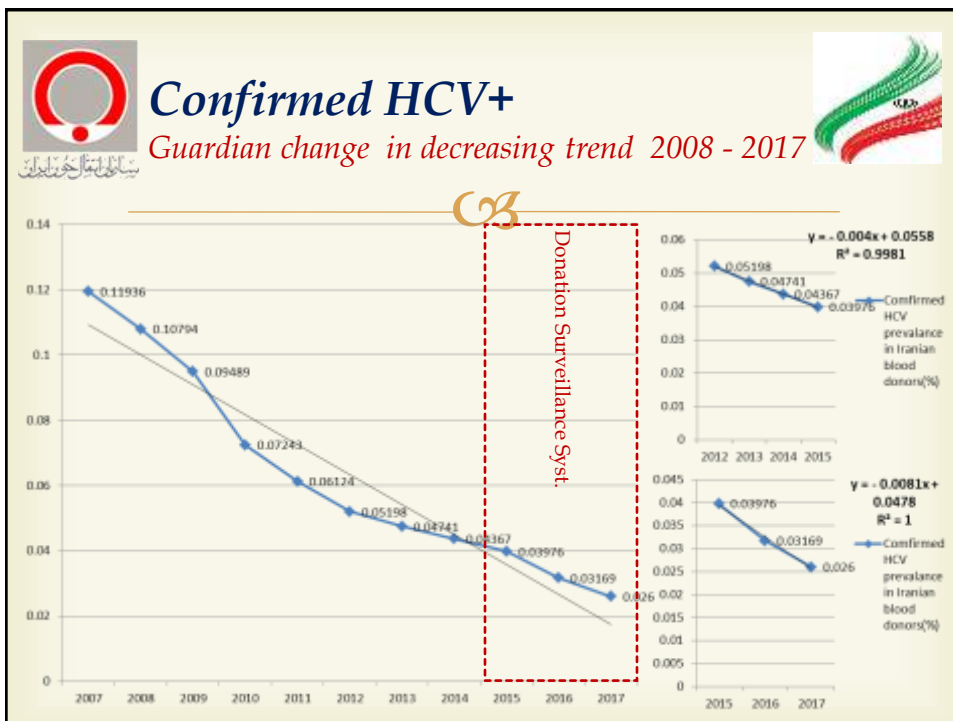
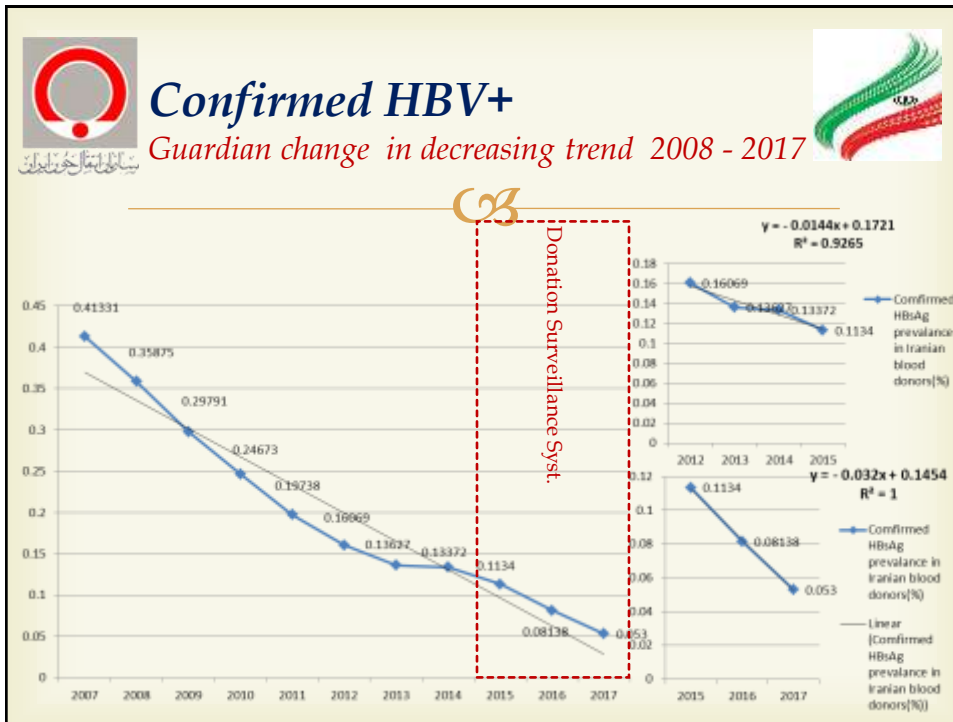
Blood Donor Selection

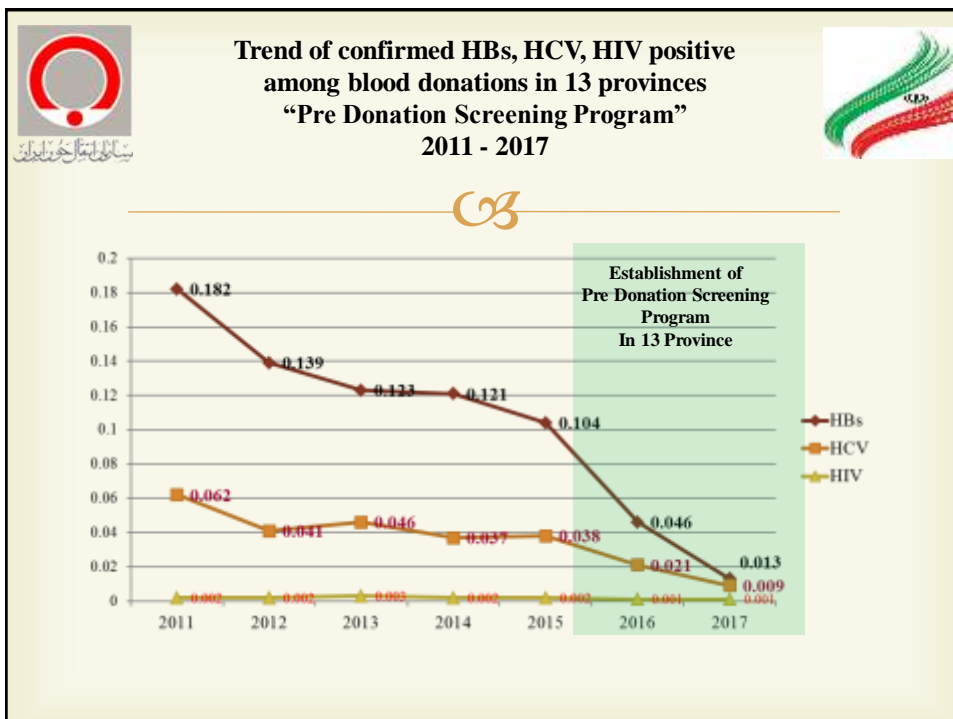
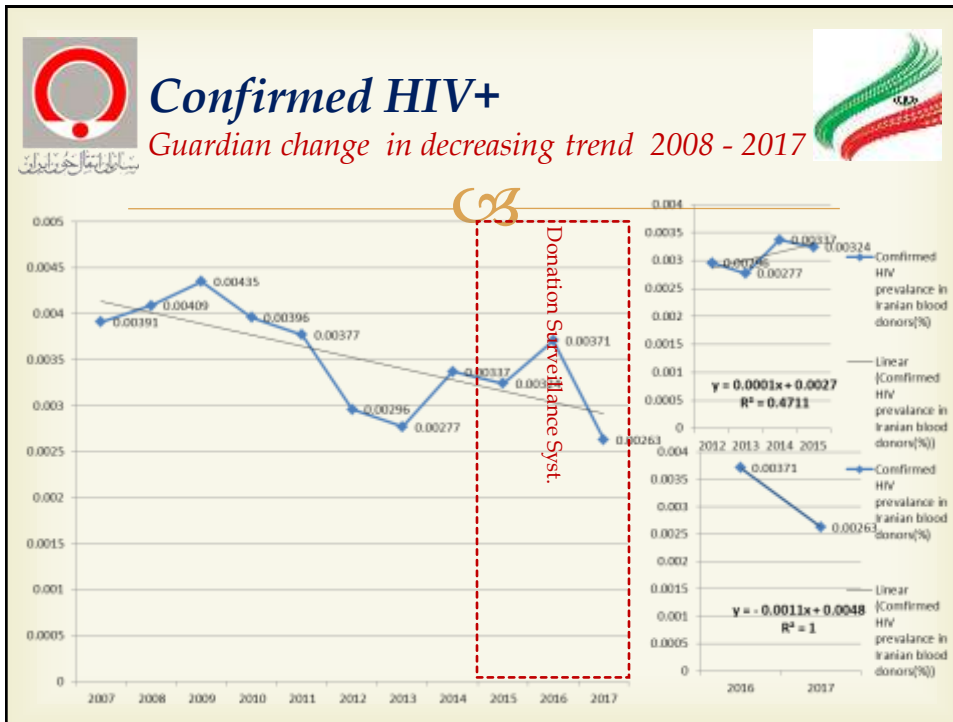



Interventions ;

- ❧ Community awareness rising
- ❧ Conducting training courses for physicians
- ❧ Standardizing the confidentiality of counseling room
- ❧ Switch the location of centers to safer areas
- ❧ Introducing Pre Donation Screening Program


62 Blood collection centers till Sep. 2018







Donation Surveillance System
Results - 2017



Reach to "Zero Risk"

- ☞ 16 Provinces for **HIV**
- ☞ 3 Provinces for **HBV**
- ☞ 3 Provinces for **HCV**



In 2017

22 of 31 Provinces experienced Zero

Infection

گزارش موارد صفر مارکرهای منتقله از راه خون
در استان های کشور - سال ۱۳۹۶

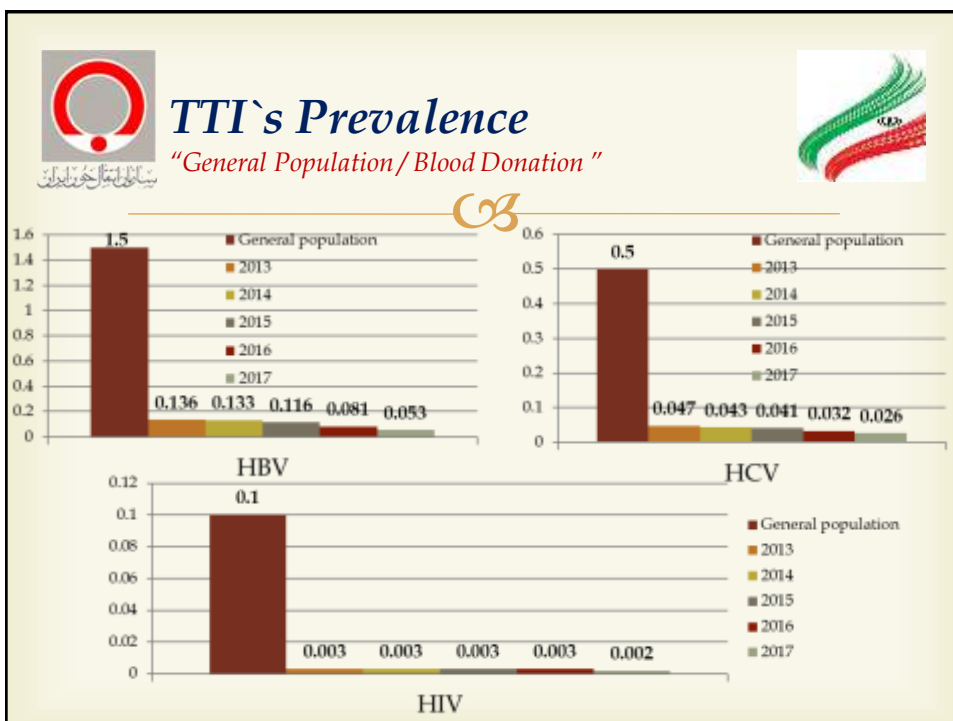
HBV	HCV	HIV	استان
		صفر	آذربایجان شرقی
		صفر	آذربایجان غربی
		صفر	اردبیل
		صفر	اصفهان
صفر		صفر	ایلام
		صفر	بوشهر
صفر			چهارمحال و بختیاری
		صفر	خراسان جنوبی
	صفر	صفر	خراسان شمالی
			خوزستان
	صفر	صفر	زنجان
		صفر	سمنان
		صفر	سیستان و بلوچستان
		صفر	قزوین
		صفر	کرمان
			کرمانشاه
	صفر	صفر	کهگیلویه و بویراحمد
صفر		صفر	همدان
		صفر	یزد
۳	۳	۱۶	مجموع صفر





Blood Donation Safety

— — — — —


Regular Blood Donors` HBV Vaccination





HBV Vaccination

Towards to "Zero Risk"



From 23 Sep. to 20 Feb.



- ☞ With **CCDC** Bests Support
- ☞ In **all Provinces** of Country
- ☞ All **Regular** Donors more than **29 Years** old

is Estimated ~ 600 Regular Donors

~ 1800 Vaccine Dozes

Prevalence of Anti-HTLV I/II 1390-1396

Year Donation Status	1391	1392	1393	1394	1395	1396
First time donors	261 (0.28%)	273 (0.31%)	284 (0.33%)	238 (0.30%)	233 (0.31%)	176 (0.22)
Repeat donors	16 (0.020%)	13 (0.015%)	16 (0.017%)	4 (0.004%)	10 (0.010%)	14 (0.012)
Regular donations	0	0	0	2 (0.001%)	3 (0.001%)	2 (0.001)
Total	277 (0.07%)	286 (0.07%)	300 (0.07%)	244 (0.06%)	246 (0.06%)	192 (0.04)

Trends in Sero-epidemiology of Human Immunodeficiency Virus in voluntary blood donations in Iran, 2008-2013

Maryam Zadsar MD , Ali Akbar Pourfathollah PhD, Mahboube Rasouli PhD , Gharib Karimi MD

Archives of Iranian Medicine, Volume 20, Number 3, March 2017 -135-140

Table 1. Donors demographic and donation characteristics

Year	Donations/ Unit	Gender		Type of donation			Marrital status		Age (Mean ± SD)
		Male	Female	First-time	Elapsed	Repeated	Married	Single	
2008	1784246	1667216 (93.4%)	117030 (6.6%)	652978 (36.6%)	403796 (22.6%)	727472 (40.8%)	1294404 (72.5%)	489842 (27.5%)	33.9 ± 11.09
2009	1791477	1683857 (94%)	107620 (6%)	610627 (34%)	413122 (23%)	767728 (43%)	1325823 (74%)	465653 (26%)	34.5 ± 10.9
2010	1889850	1770468 (93.7%)	119382 (6.3%)	592069 (31%)	437554 (23%)	860227 (46%)	1418539 (75.1%)	471311 (24.9%)	34.87 ± 10.8
2011	1986992	1874443 (94.3%)	112549 (5.7%)	536205 (27%)	470922 (23.7%)	979865 (49.3%)	1516835 (76.3%)	470157 (23.7%)	35.04 ± 10.7
2012	2049875	1944034 (94.8%)	105841 (5.2%)	506160 (24.7%)	502394 (24.5%)	1041321 (50.8%)	1593485 (78.8%)	438956 (21.2%)	35.17 ± 10.7
2013	2001791	1912370 (95.5%)	89421 (4.5%)	450403 (22.5%)	534478 (26.7%)	1016909 (50.8%)	1574534 (79%)	416917 (21%)	35.68 ± 10.6
Total	11504231	10852388 (94.3%)	651843 (5.7%)	3348442 (29.1%)	2762266 (24%)	5393572 (46.9%)	8723620 (76%)	2752836 (24%)	---

Table 2. HIV seropositivity rate among blood donors and general population

Year	Prevalence in population (per 100,000)	Donations/ unit	HIV seropositive donations	Prevalence in blood donations (per 100,000)	95% CI
2008	81	1784246	68	3.8	2.9-4.8
2009	85	1791477	77	4.3	3.4-5.3
2010	88	1889850	72	3.8	3-4.8
2011	90	1986992	75	3.8	3-4.7
2012	93	2049875	69	3.0	2.6-4.3
2013	96	2001791	60	2.9	2.3-3.8
Total	533	11504231	421	3.6	3.3-4



مرکز ملی سنجش و پیشگیری از ویروس نقص ایمنی انسانی

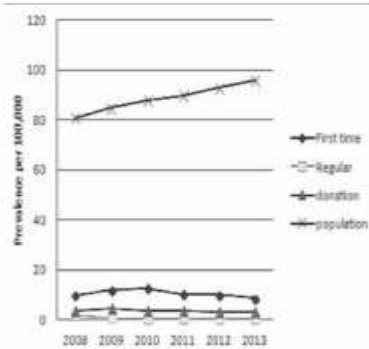


Figure 2. Comparison of HIV sero-prevalence between population and Blood donors

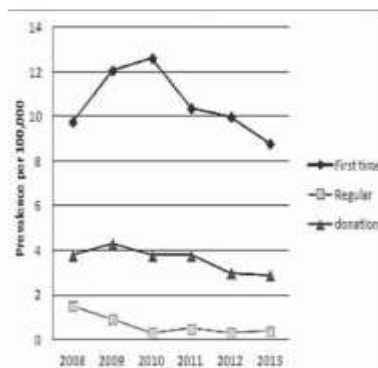


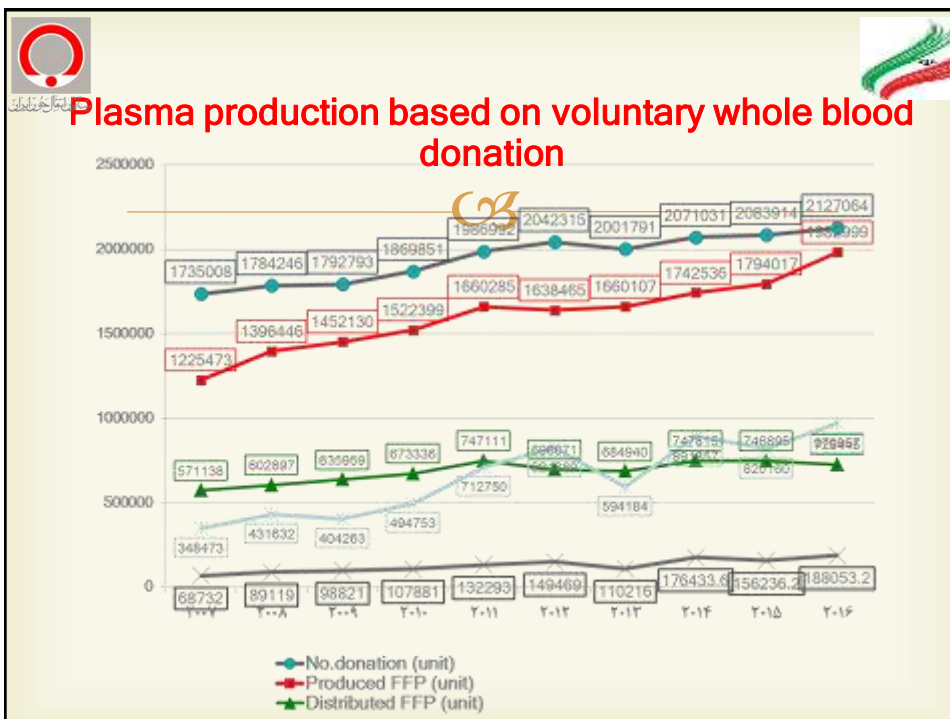




Figure 3. Sero-prevalence of HIV in Iranian blood donors

Iran toll manufacturing project and its role in safety of products

- ❖ During 2005 -2018, plasma contract fractionation and inspection by health authorities contribute to improvement of IBTO quality assurance system and GMP, including in donor selection, blood collection, processing, screening and storage, especially donations software, validation program, automation system in screening laboratory, cold chain, and documentation.
- ❖ Cellular component including RBC and platelet concentrate improved similar plasma products, so all of recipients such as thalessemic patients received safe and qualified blood components.



Risk Assessment on Epidemiological Data from IBTO centers

Mar 2012 - Mar 2013 vs. Biotest PMF plasma (2012)

Country	Type of Plasma	Risk of HIV		Risk of HCV		Risk of HBV	
		WP donations per 2,750 L plasma pool		WP donations per 2,750 L plasma pool		WP donations per 2,750 L plasma pool	
		First time donors	Repeat donors	First time donors	Repeat donors	First time donors	Repeat donors
Austria	Source	0.000	0.000	0.329	0.136	0.000	0.000
Czech Rep.	Source	0.044	0.021	0.186	0.077	0.000	0.000
Hungary	Source	0.271	0.130	0.000	0.000	0.000	0.000
Switzerland	Recovered	0.000	0.000	0.000	0.000	0.097	0.027
USA	Source	0.150	0.072	1.078	0.445	3.230	0.890
Germany	Recovered + Source	0.023	0.011	0.018	0.007	0.207	0.057
Iran (19 IBTO centers)	Recovered	0.015 – 0.028	0.007 – 0.013	0.091 – 0.601	0.038 – 0.249	1.571 – 1.748	0.433 – 0.481

Among 211,528 tested Iranian blood units, **there were no reported positive cases for HIV, HBV and HCV.** The screening tests were per-formed by Swiss Red Cross.

Plasma sent to CSL Behring 57.355 L

Total Donations 301.888

Donations have been tested 211.528

HBV 0

HCV 0

HIV 0

HAV 4

Parvovirus B19 52

total 56 or 0.02% of Donors

*NAT test performed by Swiss Red Cross