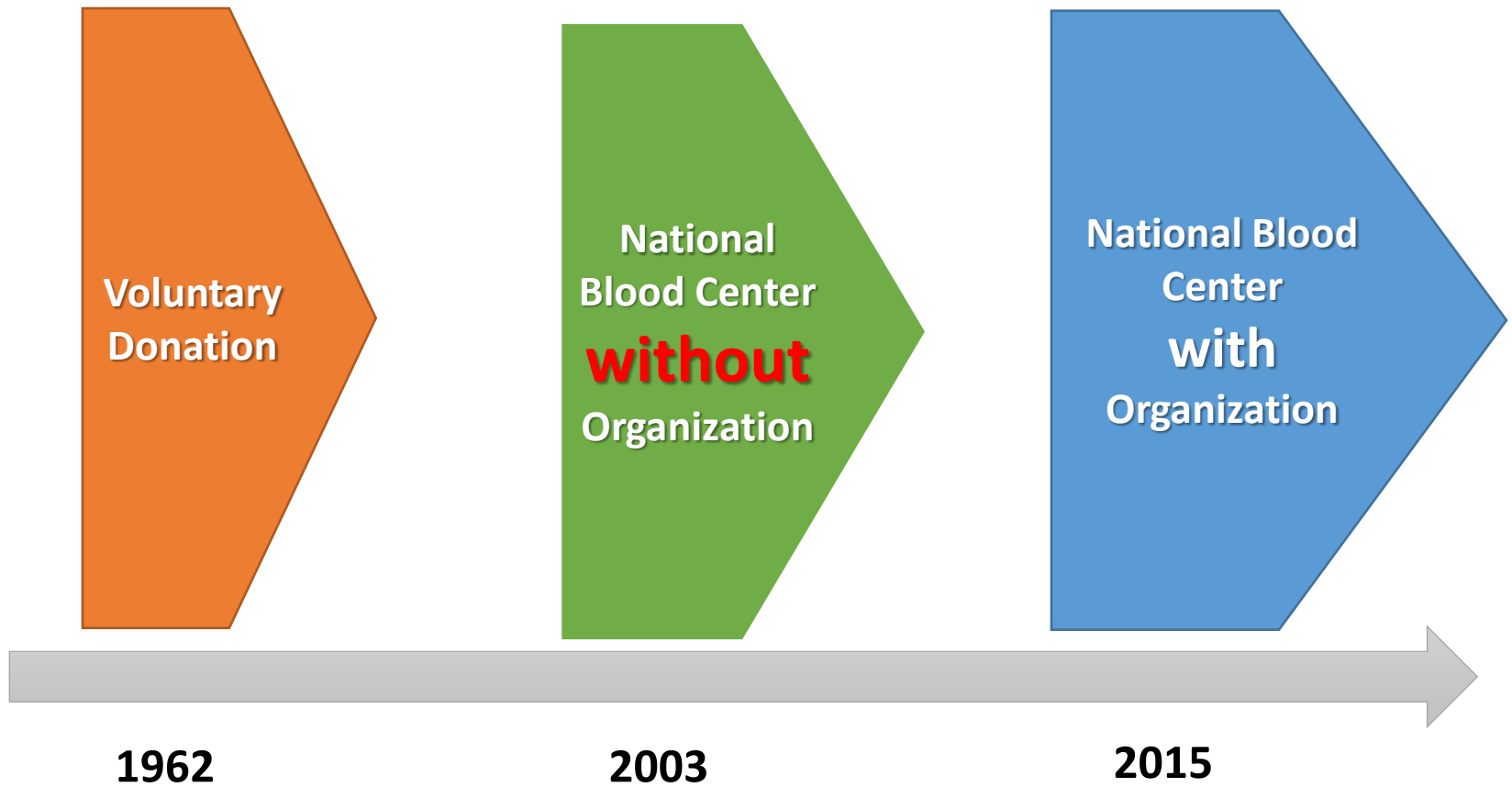
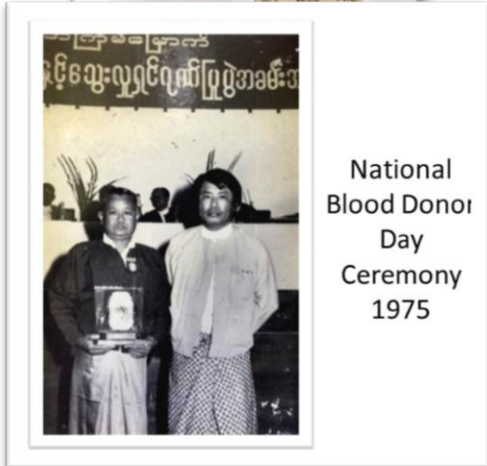


Filling The Gap in Safe Blood Transfusion service Of Myanmar

Dr Thida Aung
M.B;B.S, M.Med.Sc, PhD (Patho)
National Blood Center
Myanmar



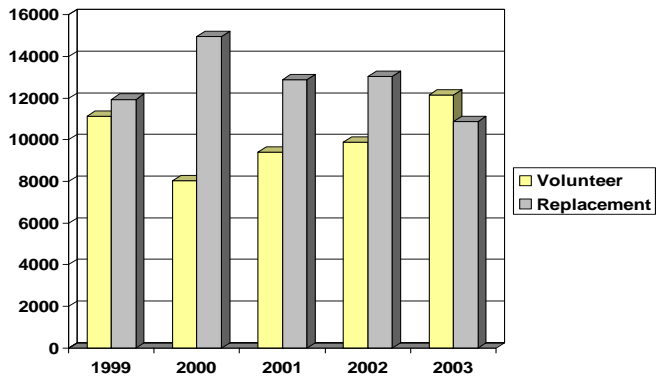
Before 1975



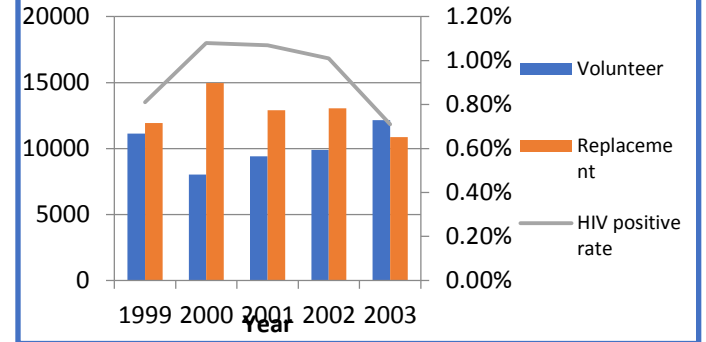
- Basic requirement was satisfactory
 - Voluntary donations
 - Satisfactory level
 - Blood group serology
 - ABO, RhD,C,c,E,e typing
 - Polyclonal antisera production from blood donor
 - Medical officer
 - trained from UK
- No awareness about Quality

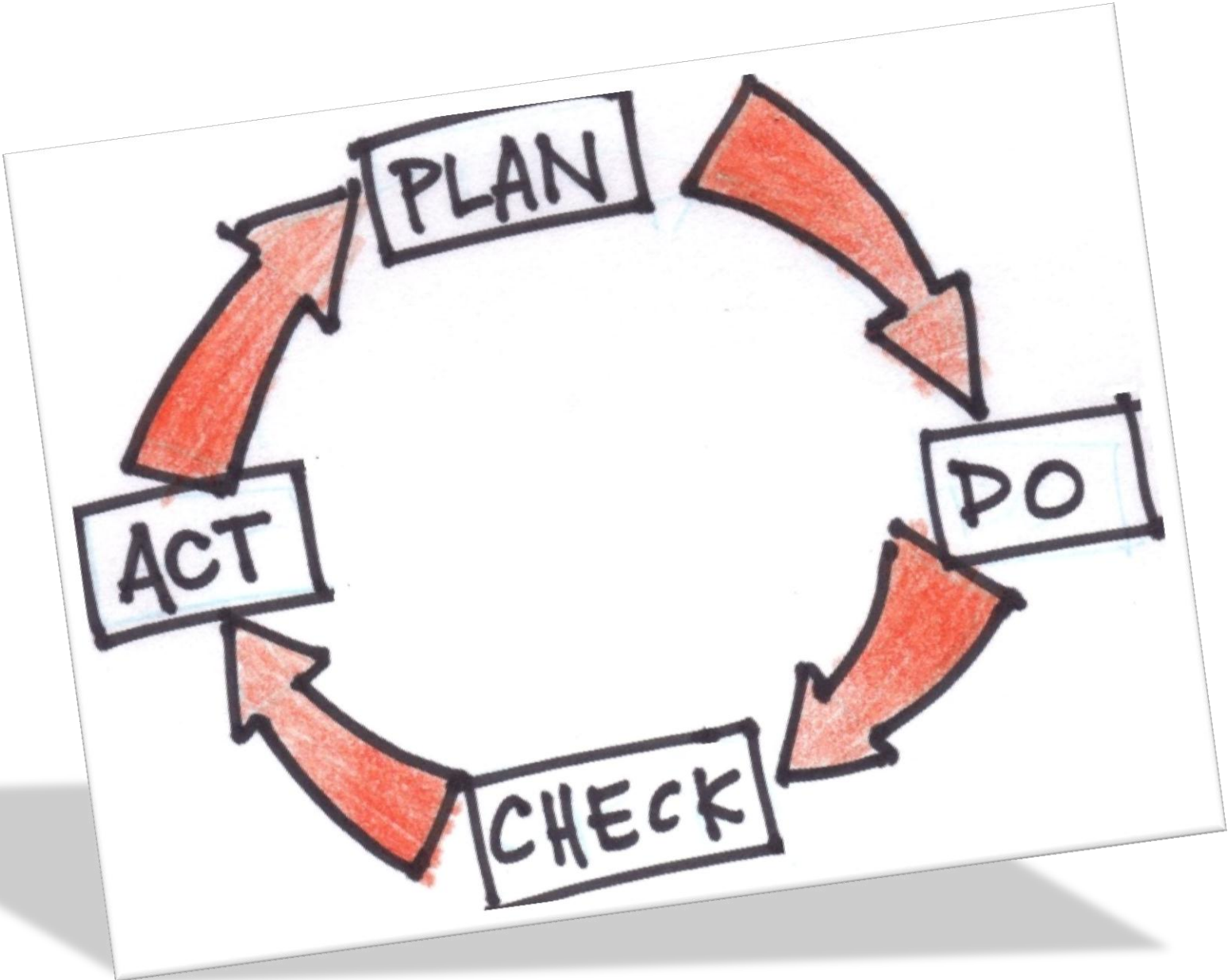
After 1988

Donor recruitment



Donation Vs HIV

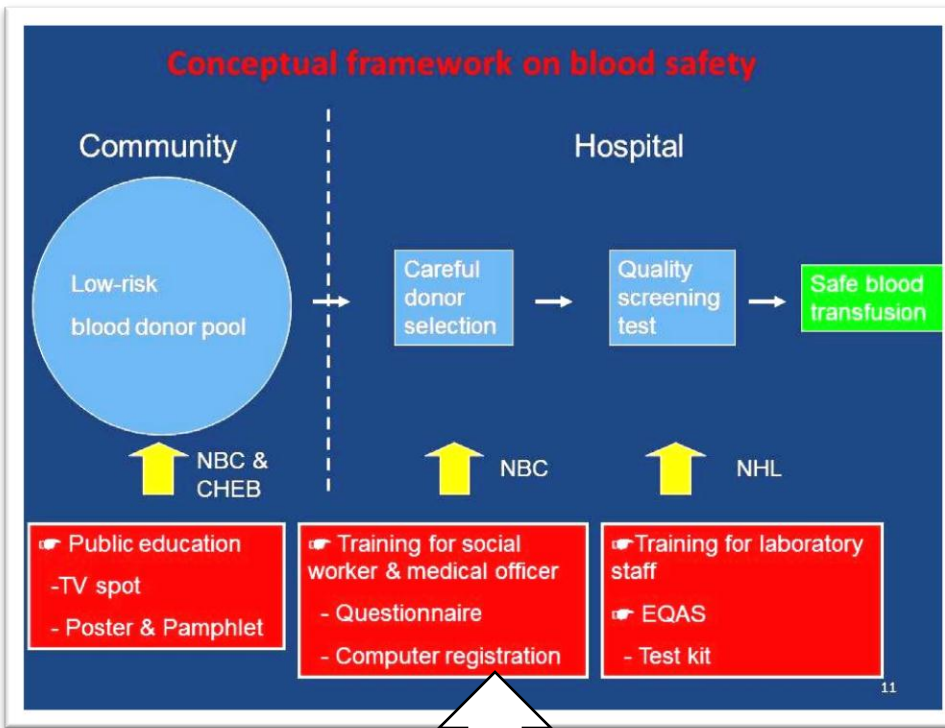




Constraints of Myanmar BTS

❑ Important constraints are -

- **Lack of awareness of Importance and Quality of BTS**
 - **both in Administrator**
 - **Implementers**
 - **Public**
- **Restricted resources -**
 - **Human**
 - **Technical skills**
 - **Financial**



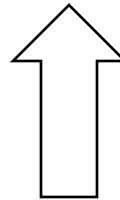
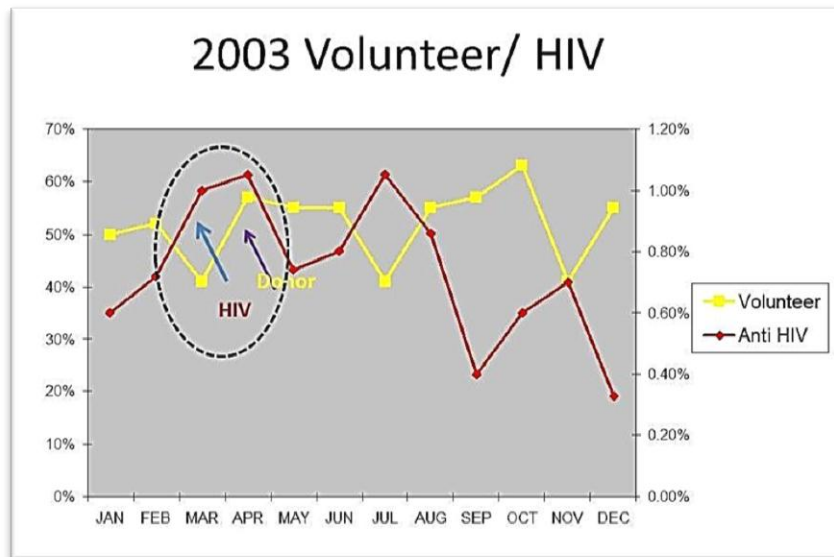
Awareness



Technical Guidance

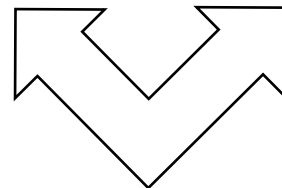


Lack of awareness of functions of Blood Transfusion service



Awareness raising through IEC materials

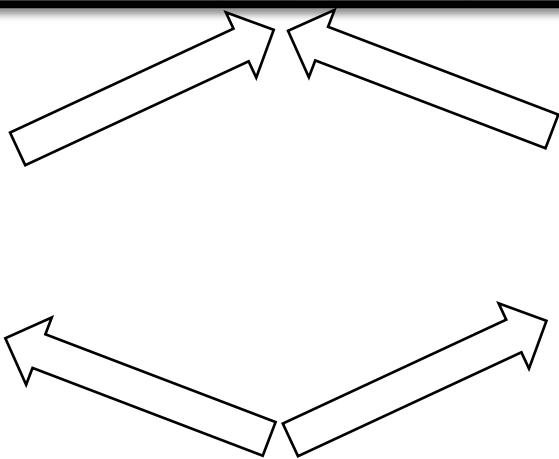
- ❑ Blood donor education pamphlet and ball pen 2004
- ❑ Set up the audio system for displaying about the process of blood donation 2005
- ❑ Calendar and poster on blood donor education 2005, 2006, 2007, 2008, 2009
- ❑ 1 TV spot for recruitment of safe blood donor, 2003
- ❑ 3 TV spots for education on blood donation, self deferral and about haemoglobin & iron, 2007, 2008.







Lack of Awareness of Public for Blood Donation



Formulation of Donor Deferral System



Title: Devoted Love

Type: Drama for safe blood education, TV showing


Length: 38:24sec **Producing date:** 2003 Dec

Language: Burmese

Target: Blood donor, general public

Info: This drama gives knowledge about blood transfusion transmitted Infections, and encourages people to keep safe behavior.

Educational video with famous movie stars



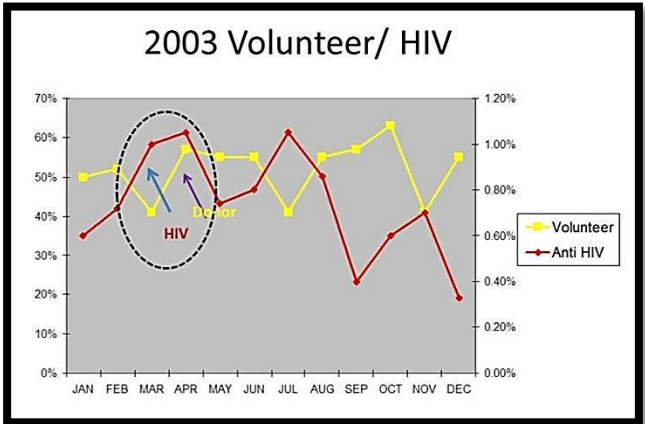
Blood Safety

AIDE-MEMOIRE
for National Health Programmes

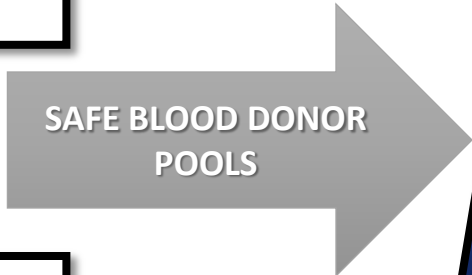
Checklist

- Blood donor recruitment and support
- Blood donor safety and care
- Blood donor selection and screening
- Blood donor counselling and education
- Blood donor retention
- Blood donor compensation
- Blood donor deferral
- Blood donor identification
- Blood donor confidentiality
- Blood donor records
- Blood donor recruitment and support
- Blood donor safety and care
- Blood donor selection and screening
- Blood donor counselling and education
- Blood donor retention
- Blood donor compensation
- Blood donor deferral
- Blood donor identification
- Blood donor confidentiality
- Blood donor records

WHO
Strategies



Training of Donor Deferral and Registration



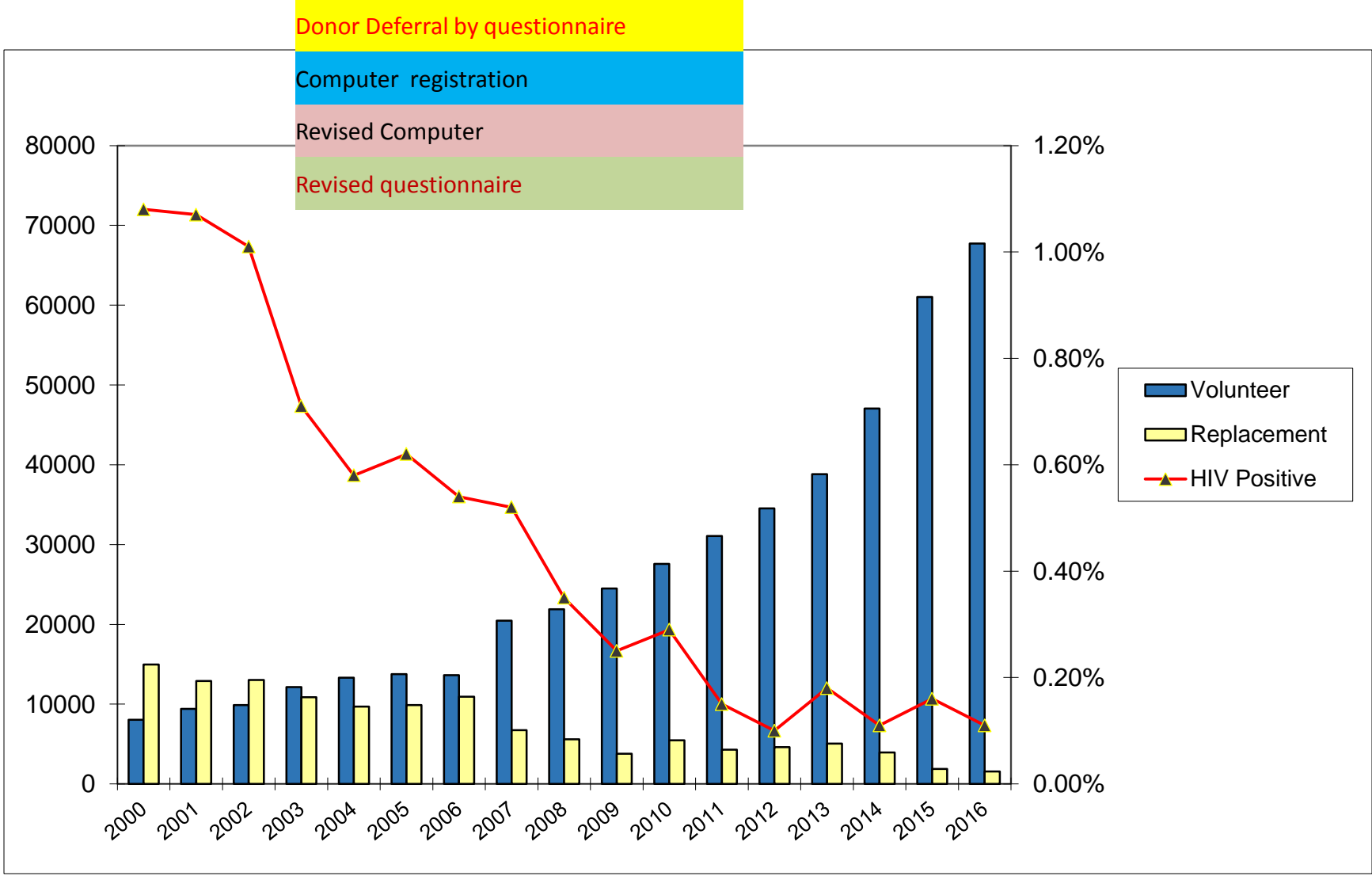
Uniform Computerized Blood Donor Registration

Encouragement and Supports by Famous Religious Leader

Mass Blood Donation by Universities

Mass Blood Donations

Fig. Relationship between Volunteer Donors and HIV Antibody Positive Rate (NBC)



ISBT Award for Developing Countries

ISBT

For making a significant contribution in strengthening
blood transfusion practice in Myanmar

**National Blood Center
Myanmar**

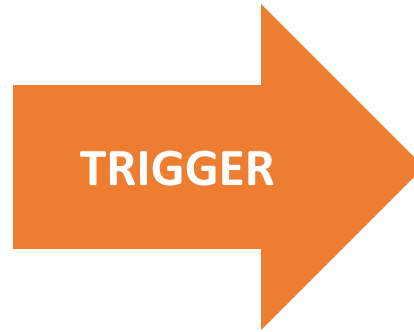
International Society
of Blood Transfusion

President
Peter Flanagan
Peter Flanagan

Secretary General
Geoff Daniels
Geoff Daniels

place
Seoul, South Korea

date
1 June 2014



Testing of TTI

- HIV Ab by ELISA and Syphilis Ab by VDRL
- Supported by NAP and WHO

- HBsAg by inhouse RPHA method
- HCV Ab by WHO prequalified Rapid Test

TESTING OF TTI

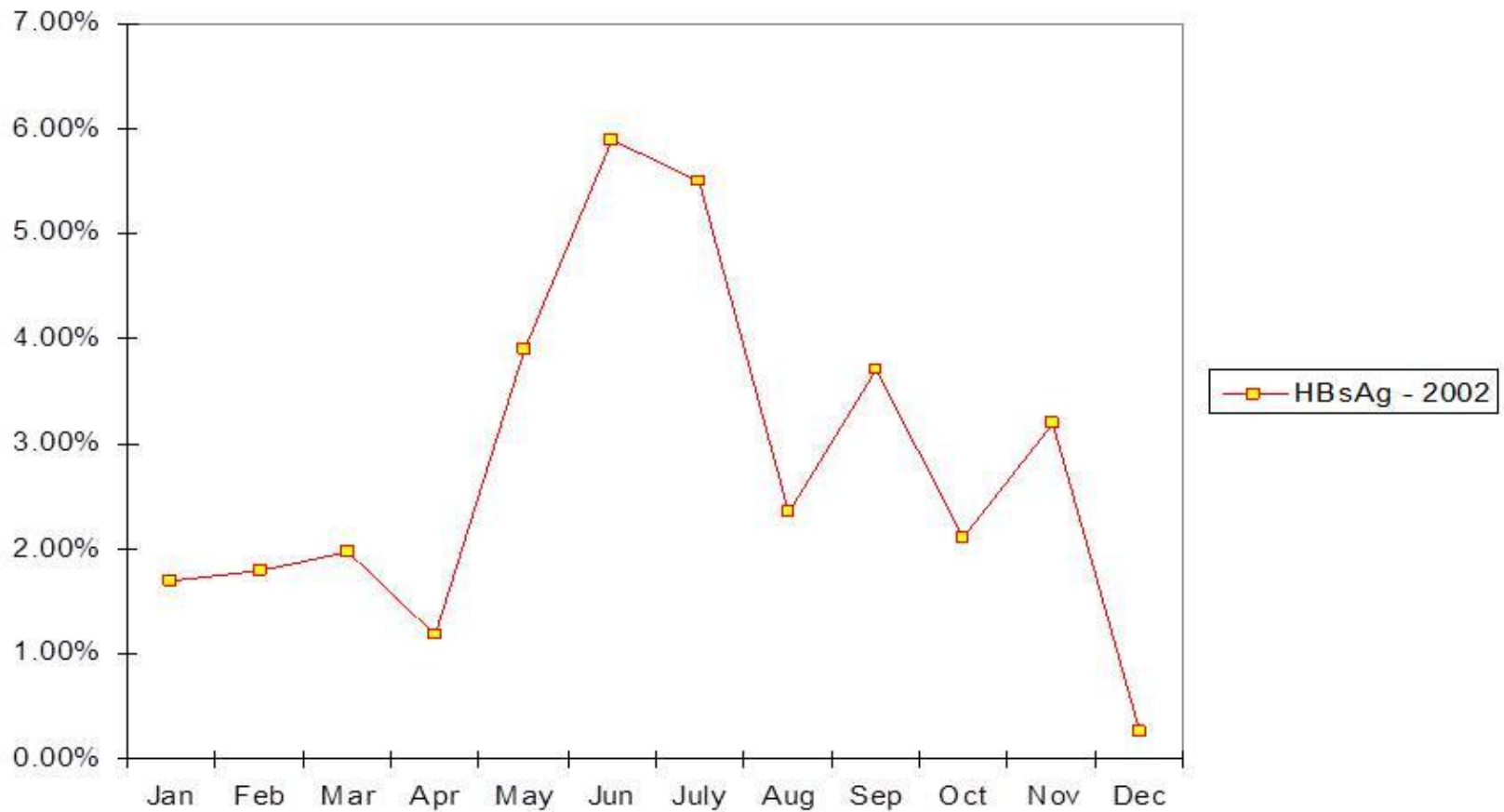
1995

2002

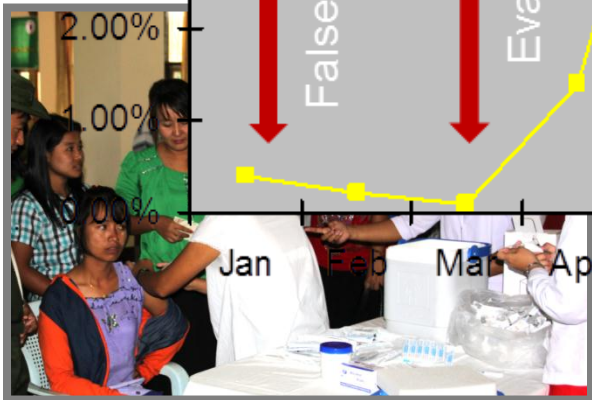
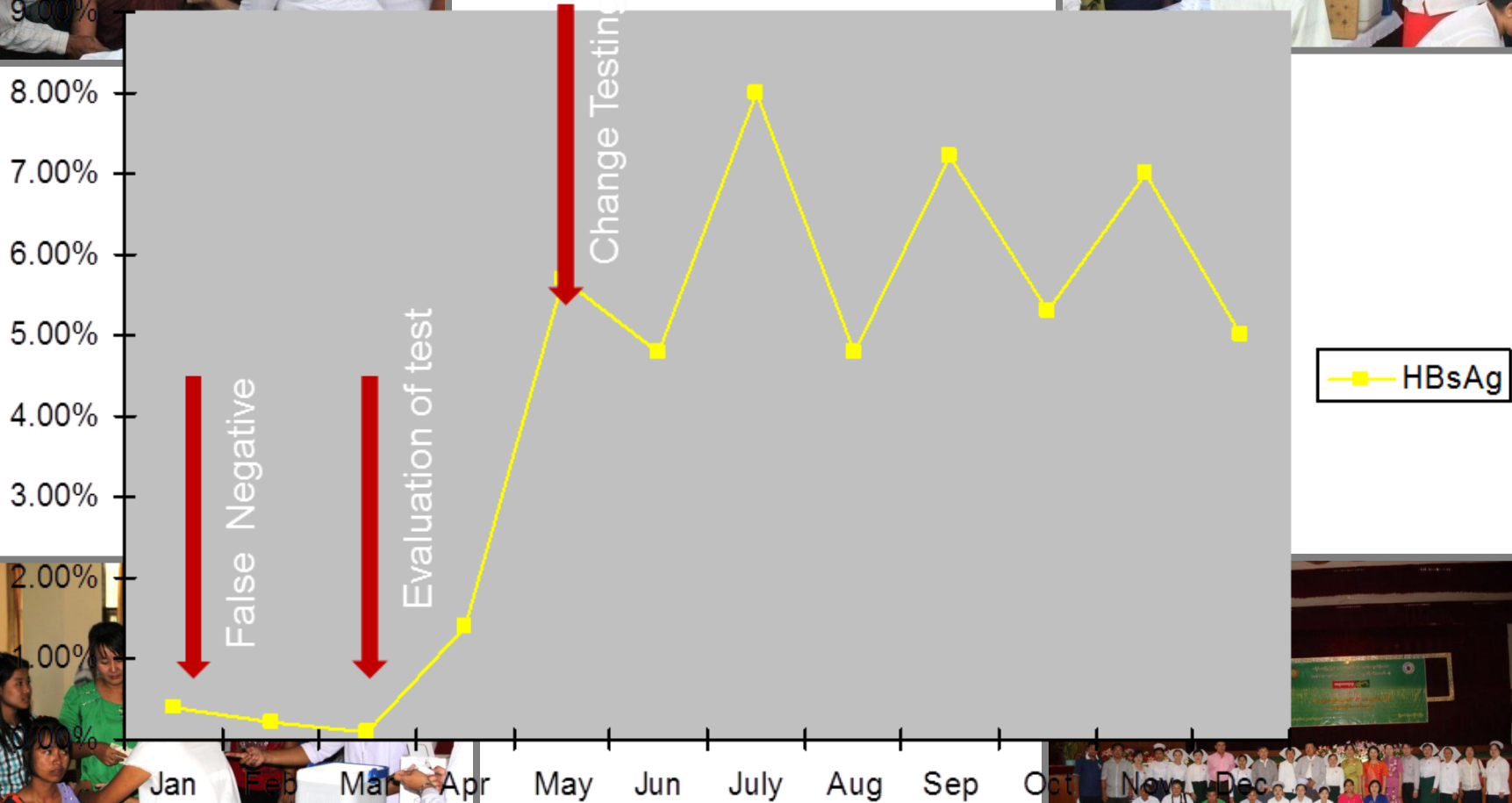
EQAS for TTI by National Serology Reference Laboratory Australia since 2002

HBsAg - 2002

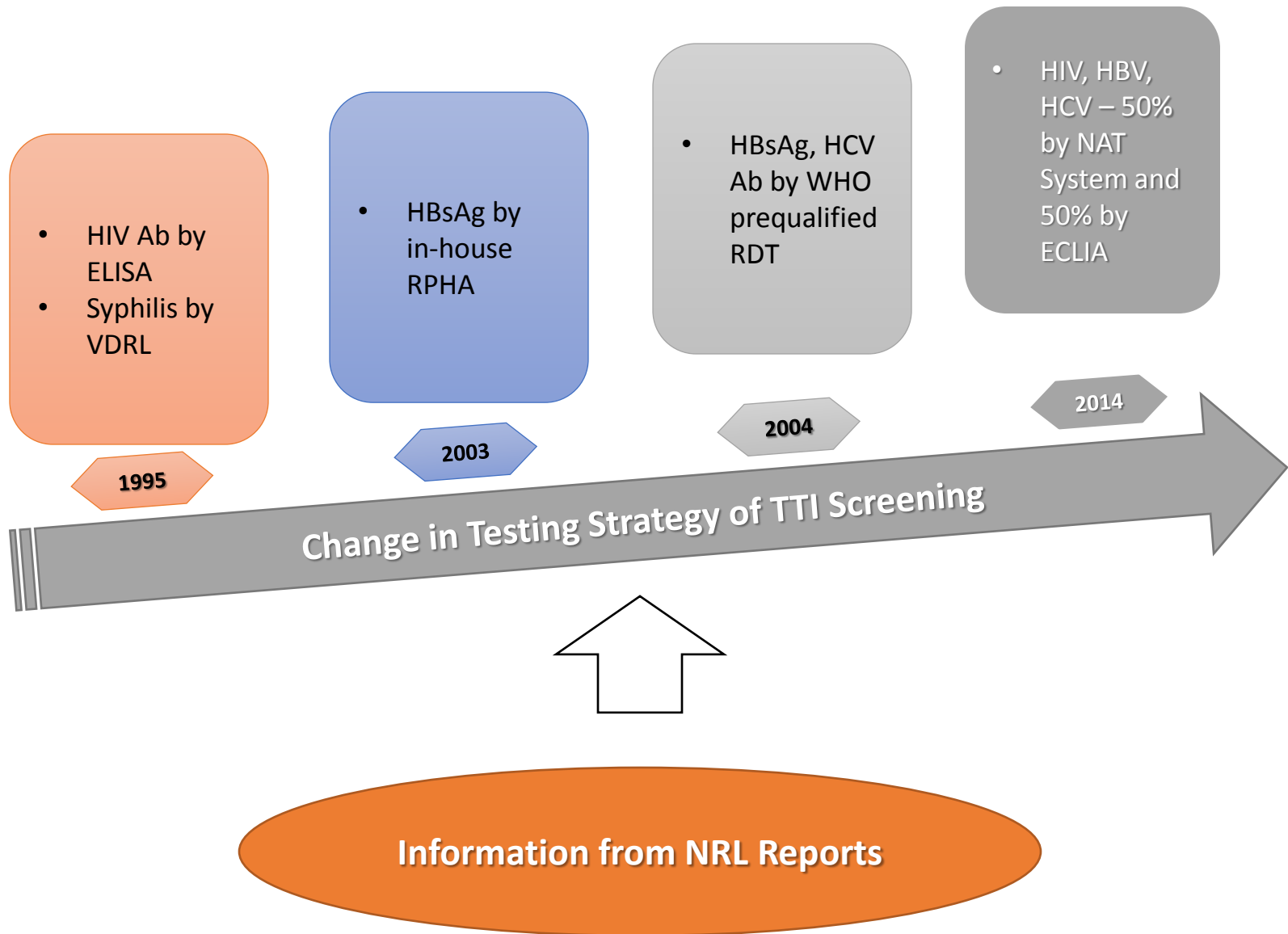
Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
1.70%	1.80%	1.98%	1.19%	3.90%	5.90%	5.50%	2.34%	3.70%	2.10%	3.20%	0.25%
33	29	34	19	96	144	89	50	82	41	44	5



Hepatitis B Vaccination Programms



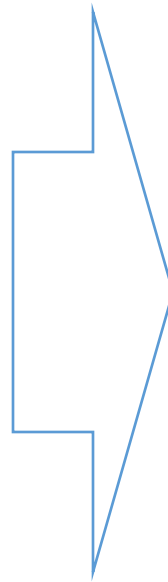
Testing Strategy for TTI Screening



Nationally Coordinated Service

2003

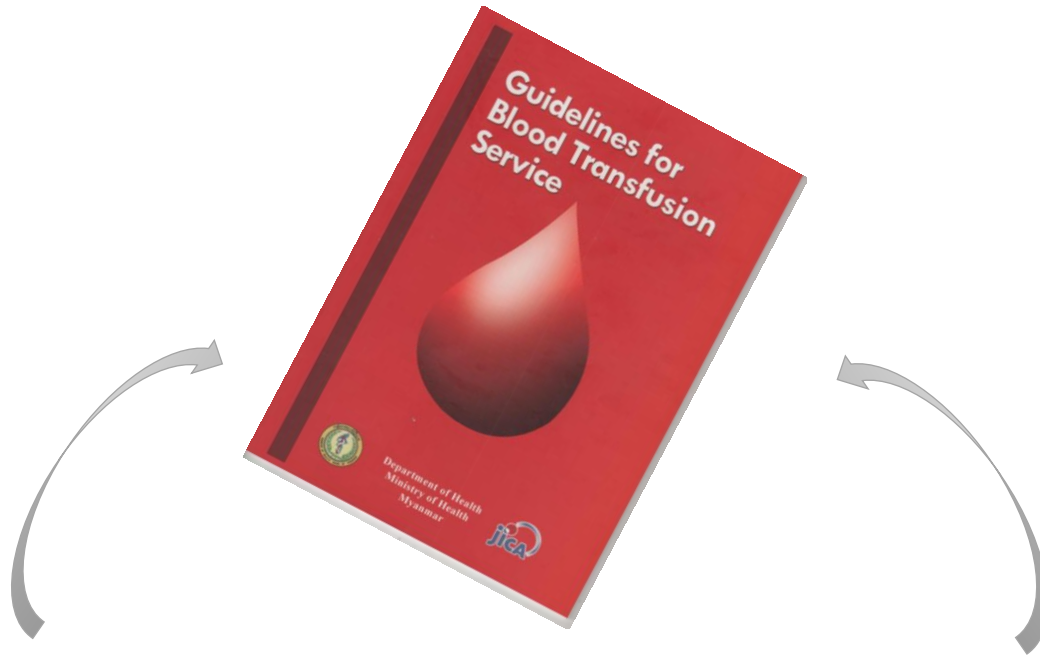
- **NBC without separate organization**
- **Hosp Lab attached - >800**



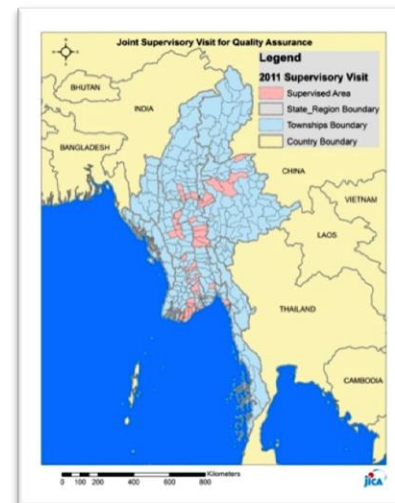
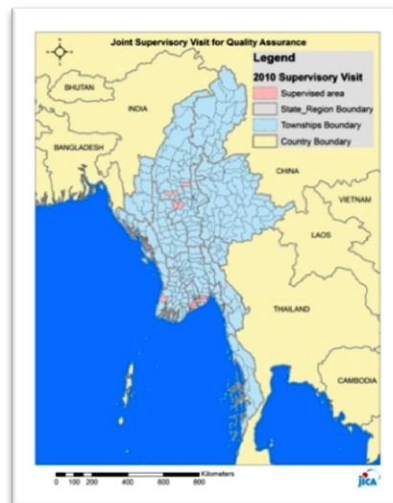
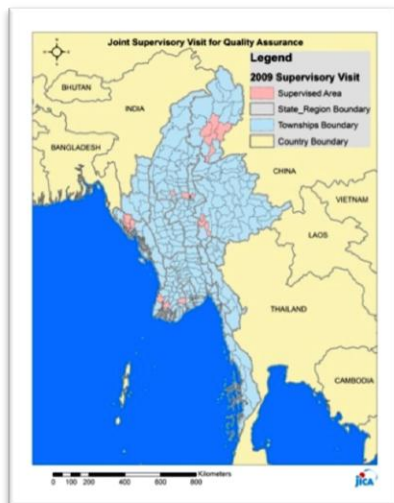
**2015
April**

- **NBC with separate organization set up**
- **Hosp Lab attached - >900**

Development of Guidelines for Blood Transfusion Service



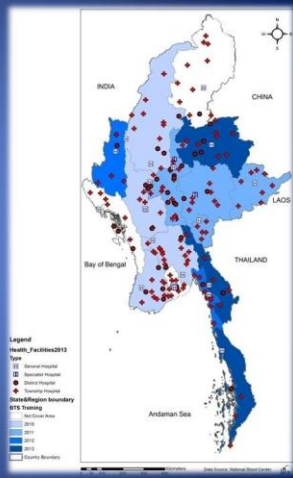
M&E of BTS around Myanmar (2009-2012)



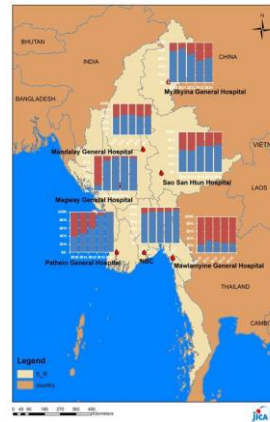
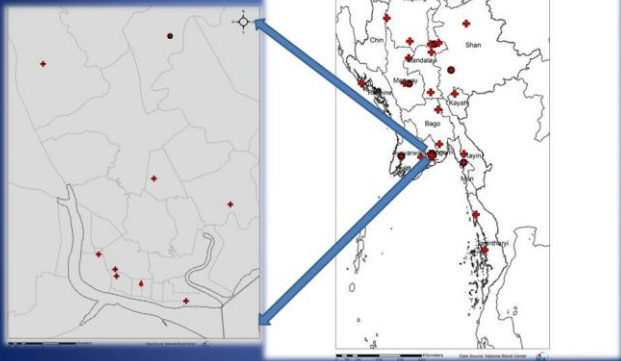
Introduction of Guideline to Services throughout the Country

Number of BTS unit adopting SOP on blood safety guideline(2013)

	FY2010	FY2011	FY2012	FY2013	Total
State and Region	5	4	2	3	14
Township Hospitals	95	48	14	26	183
District Hospitals	10	12	2	6	30
General Hospitals	9	6	3	4	22
Teaching Hospitals	2	1	0	0	3
Specialist Hospitals	0	8	0	0	8
Total	116	75	19	36	246



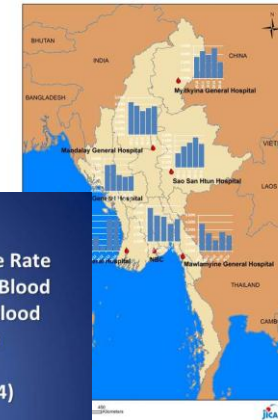
Extension of Computerized registration System in 2014



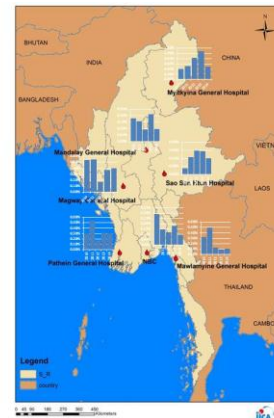
% of voluntary/
replacement
donation among
Blood Donors in
Blood Transfusion
Services
(2010 -2014)
(source:
computerised
registration
system)



HCV Positive Rate
(%) among Blood
Donors in Blood
Transfusion
Services
(2010 -2014)
(source:
computerized
registration
system)



HBV Positive Rate
(%) among Blood
Donors in Blood
Transfusion
Services
(2010 -2014)
(source:
computerised
registration
system)



HIV Positive Rate
(%) among Blood
Donors in Blood
Transfusion
Services
(2010 -2014)
(source:
computerized
registration
system)

Blood Group Serology

Case (1)

- 20yrs old female
 - Thalassaemia, B RhD positive
- In 2007 – shorten transfusion interval
 - Once/year → twice per month → twice per week
- First antibody → Anti-E & Anti-c



After 2 units of B RhE , Rhc neg blood



Not Responding

Case 1 cont

↓
Anti Fyb appear again

↓
2 units of B RhE , Rhc, Fyb neg
blood,

↓
Still Hb is not responding

↓
Anti Jka appear



Hb rises

Transfusion free upto 2015

Give these two units – search
from donor register

Upto now Transfusion free

Normal life



Total – B, RhE,c, Jka, Fyb
neg blood from donors –
only 2 units (Out of 50
donors)

Case 2

- 7 yrs old child for DHF
- During grouping-
 - Discrepancy between parents and child
- Father – B RhD pos
- Mother – O RhD neg
- Child – Cell grouping O, Serum group A

Case 2 cont

	Anti A	Anti B	Anti A,B	A cell	B cell	O cell	Anti D	Anti H	
son	0	0	2+	0	4+	0	4+	4+	Ael
Father	Mf	4+	4+	0	0	0	4+	Mf	A3B
mother	0	0	0	4+	4+	0	0	4+	O RhDneg

Case 2 cont

	Previous Group	Final Group
Father	B RhD pos	A ₃ B RhDpos
Mother	O RhD neg	O RhD neg
Son	O RhD Pos with Discrepancy	A _{el}

Blood Group Serology Technique



2002

- ABO system alone
- Compatibility micro titer plate



After 2002

- ABO and RhD
- Compatibility AHG



2007

- blood group antibody screening and identification





Training from SIF Experts (2007 – 2015)



Blood Group Serology



Training From Tooting Blood Center, 2007

Incidence of Blood Group Antibodies among patients (n tested =13679) 2004- 2016

Type of Antibodies	Number
Anti E	99
Anti D	25
Anti E,c	24
Anti Le ^a	26
Anti Le ^b	15
Anti M	4
Anti Jk ^a	6
Anti Jk ^b	6
Anti E, Le ^a	1
Anti Fy ^a , Le ^a	1
Anti Fy ^b	2
Anti C,e	2

Types of Antibodies	Number
Anti D, C, Le ^b	1
Anti S	2
Anti Fy ^b , c	1
Anti S, Fy ^b	1
Anti E, Le ^a , Le ^b	1
Anti c	33
Anti Le ^a , Jk ^b	1
Anti e	3
Cold Reacting Ab	3
Panagglutinating	8
Anti C	4
Anti E,c, , Fy ^b	2
Anti D,E,c	1

Component preparation

- **30 yrs old, Haemophilic**
- In 2003 – he admitted for 45 days for intramuscular bleeding
 - Already 155 units of WB have been transfused
 - Used blood in glass Bottles for stored more than 8 hrs
 - Collected from replacement donors
 - Screening only HIV and Syphilis only
 - Already infected with HIV
 - Daily dressing by nurses
 - Risk of spreading infection

- Infusion of Cryo 4 units 12 hrly for 3 days
 - All bleeding arrested
 - Wound was healed

- Since 2012 , Factor VIII concentrate donated by World Federation of Haemophilia, Initiated by Dr Tin Nyunt From NHL in 2005

**Renovation and Donation of Equipment
for National Blood Center
from Thai Red Cross Society**

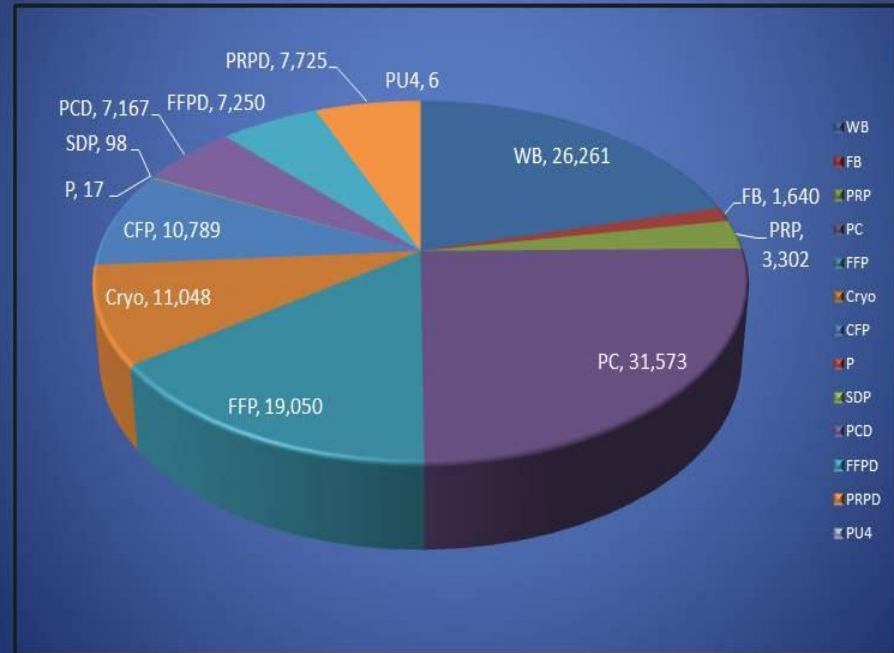


HRH Princess Maha Chakri Sirindhorn of the Kingdom of Thailand at the National Blood Centre, Yangon, 2010

Component Preparation

Before 2002, whole blood, pack cells and Platelet rich plasma were prepared by blood bank.

After 2004, fresh frozen plasma, cryo precipitates and single donor platelet became available for patients.



2016 Component Usage

Continuous Education Program

- Education seminars
 - 1st – Mar 2015
 - 2nd – Jan 2016
 - 3rd – Jan 2017
 - 4th – Jan 2018

- Diploma in Transfusion
 - 1st batch - 2016
 - 2nd batch - 2017
 - 3rd Batch - 2018

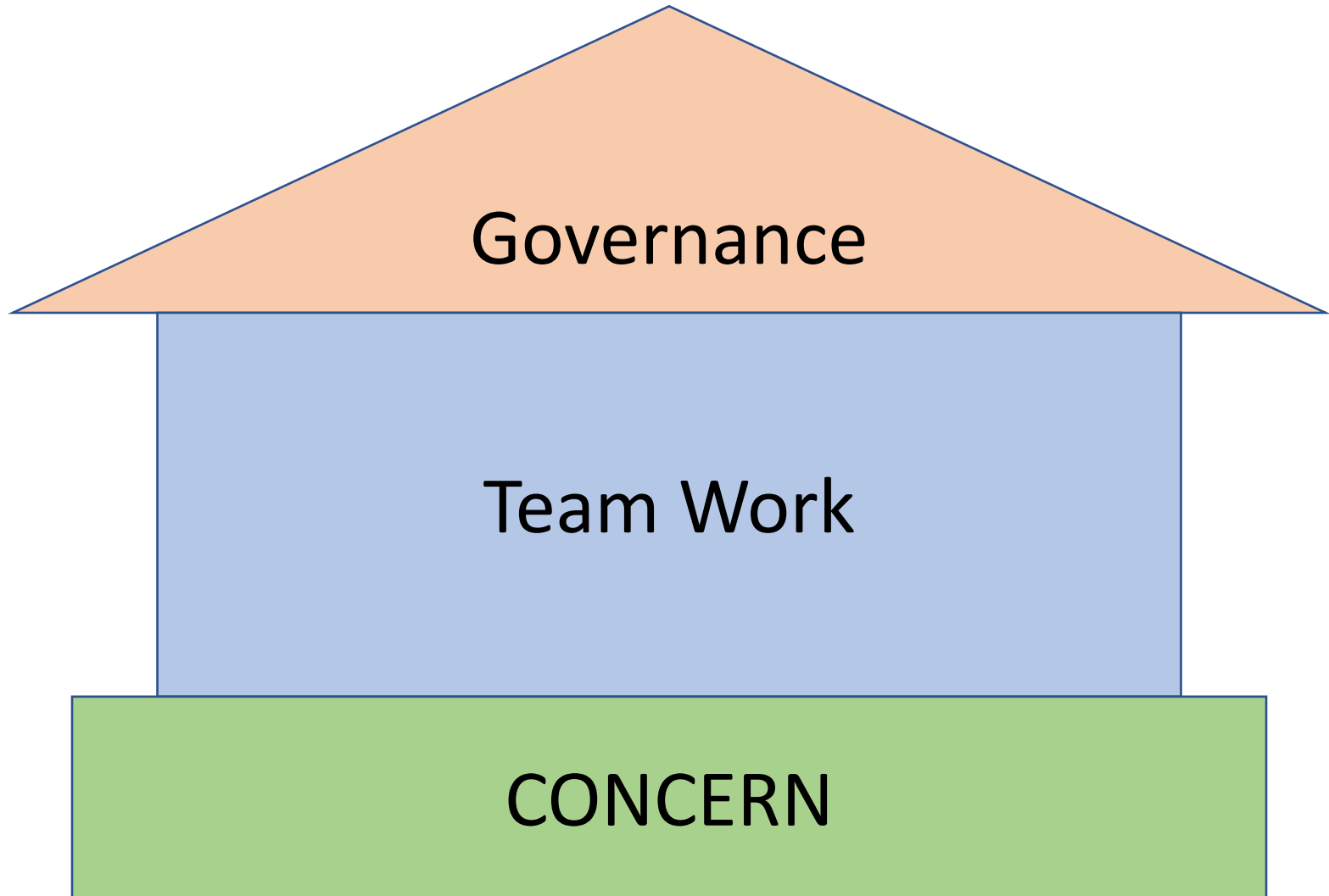
Present Challenges

- Sustainability
- Equality throughout the country

Areas Needed to Improve

- ❑ Establishment **of well organized Services**
- ❑ Strengthening of **Red cells Immunohaematology** service throughout the country
- ❑ Introduction of **Quality management** system into all services
- ❑ **Controlled Component** preparation services

Most Important Area





Thank You..