

WHO- Global perspective of hematopoietic stem cell transplantation



**World Health
Organization**

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WHO

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University Hospital, Leipzig, Germany

About WHO

"Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."

WHO Constitution



Who we are



WHO began when our Constitution came into force on 7 April 1948 – a date we now celebrate every year as World Health Day. We are now more than 7000 people working in 150 country offices, in 6 regional offices and at our headquarters in Geneva.

[Our Constitution and basic documents](#)
[Our history](#)
[Our structure and presence](#)
[Reform of WHO](#)
[Multilingualism](#)
[Employment](#)
[Contact us](#)

What we do



Our primary role is to direct and coordinate international health within the United Nations' system.

These are our main areas of work:

[Health systems](#)
[Promoting health through the life-course](#)
[Noncommunicable diseases](#)
[Communicable diseases](#)
[Corporate services](#)
[Preparedness, surveillance and response.](#)

[Read more about what we do](#)
[Read about our current leadership priorities](#)

Where we work



We support countries as they coordinate the efforts of multiple sectors of the government and partners – including bi- and multilaterals, funds and foundations, civil society organizations and private sector – to attain their health objectives and support their national health policies and strategies.

[Stories on our work in countries](#)
[Working with countries](#)
[Country specific health information](#)

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Cardiovascular disease	Health workforce	R
Child growth standards	Healthy Environments for Children Alliance	Rabies
Children's environmental health	Healthy Settings	Regional Office for Africa
CHOosing Interventions that are Cost Effective (WHO-CHOICE)	HINARI Access to Research in Health Programme	Regional Office for Europe
Chronic diseases and health promotion	HIV/AIDS	Regional Office for South-East Asia

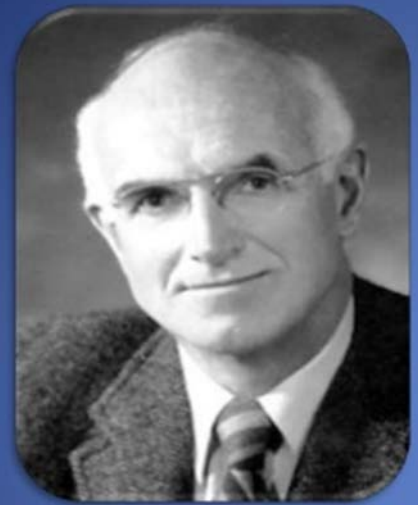
Over the past 50 years, the transplantation of human organs, tissues and cells has become a worldwide practice which has extended and greatly enhanced the quality of hundreds of thousands of lives.

D	(HPV) and Cervical Cancer	
Dengue control	Initiative for Vaccine Research (IVR)	Soil-transmitted helminths
Diabetes Programme	Injection safety	Strategic Initiative for Developing Capacity in Ethical Review
Diagnostic imaging	Inter-Organization Programme for the Sound Management of Chemicals	Strategic Planning and Innovation (SPI)
Director-General	Intergovernmental Forum on Chemical Safety	Substance abuse
Disabilities and rehabilitation	International Agency for Research on Cancer (IARC)	
Disability Assessment Schedule II (WHODAS II)	International Classification of Functioning, Disability and Health (ICF)	T
Disease Control in Humanitarian Emergencies	International Health Regulations	Taeniasis
Disease outbreak news	International Medical Products Anti-Counterfeiting Taskforce (IMPACT)	Tobacco Free Initiative (TFI)
Dracunculiasis	International Nonproprietary Names	Trade, foreign policy, diplomacy and health
Drug information	International Programme on Chemical Safety	Transplantation
Drug resistance	International travel and health	Tropical Diseases, Special Programme for Research and Training (TDR)
	Ionizing radiation	Tuberculosis (TB)
E		Tuberculosis - Stop TB Partnership
e-Library of Evidence for Nutrition Actions (eLENA)	K	U

PAST



1954



Joseph E. Murray



Allogeneic Stem Cell Transplantation

1957

Stem cells removed from donor

Donor

Blood

Stem cells

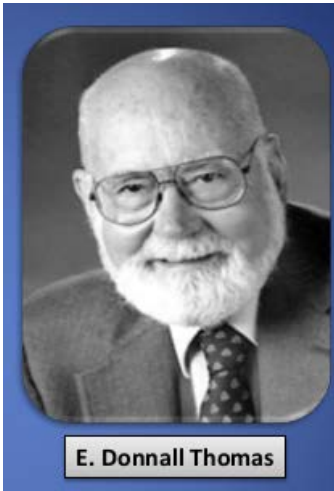
Apheresis machine

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Patient receives stem cells



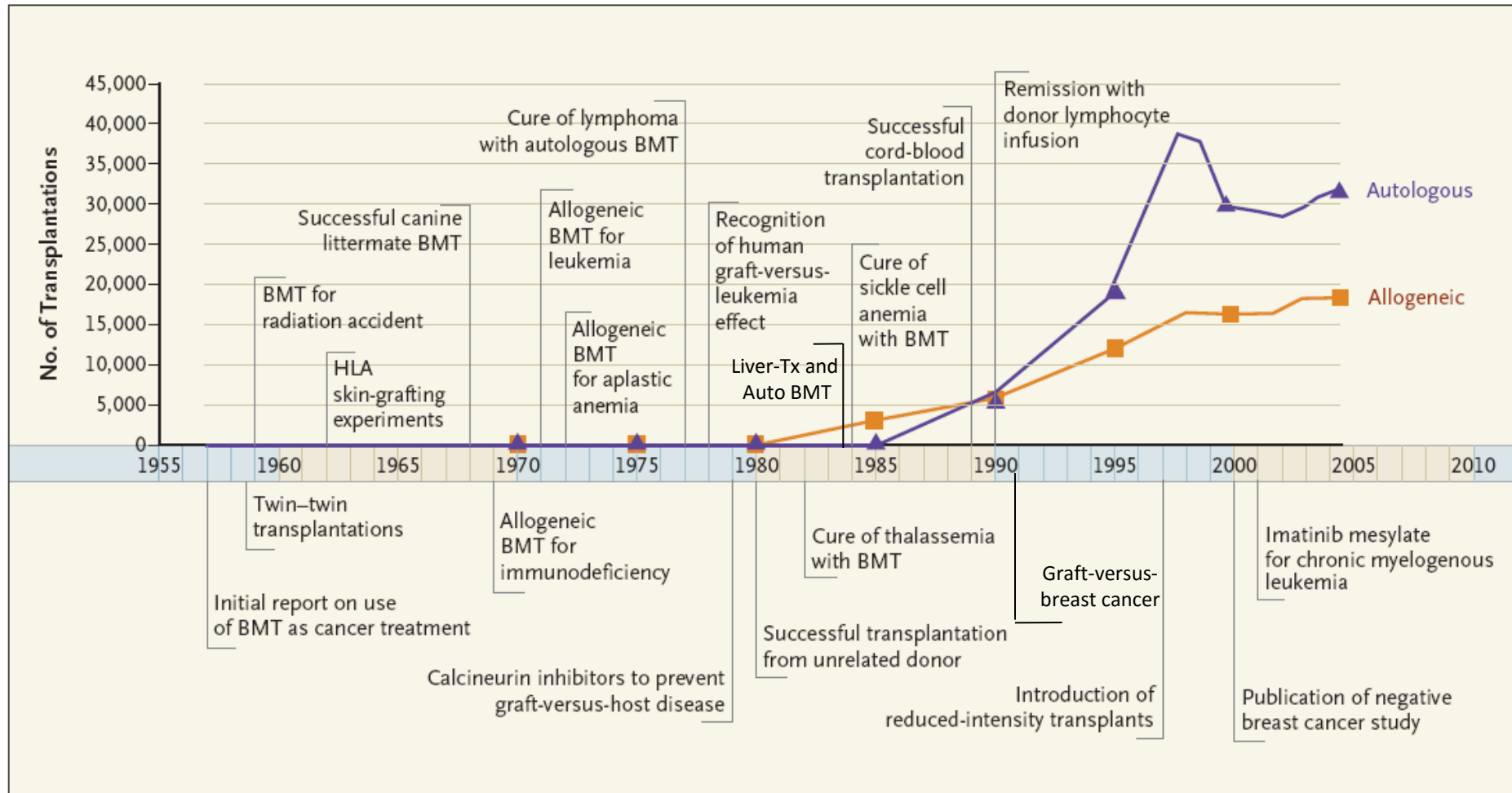
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E. Donnall Thomas

Advances in the Field of HCT

1957 - 2006



mod. from Appelbaum NEJM 2007

Societies active in early Stem Cell Transplantation



*Worldwide Network for Blood and Marrow Transplantation
NGO in official relations with World Health Organization*



Global Donation



Central database



Standards

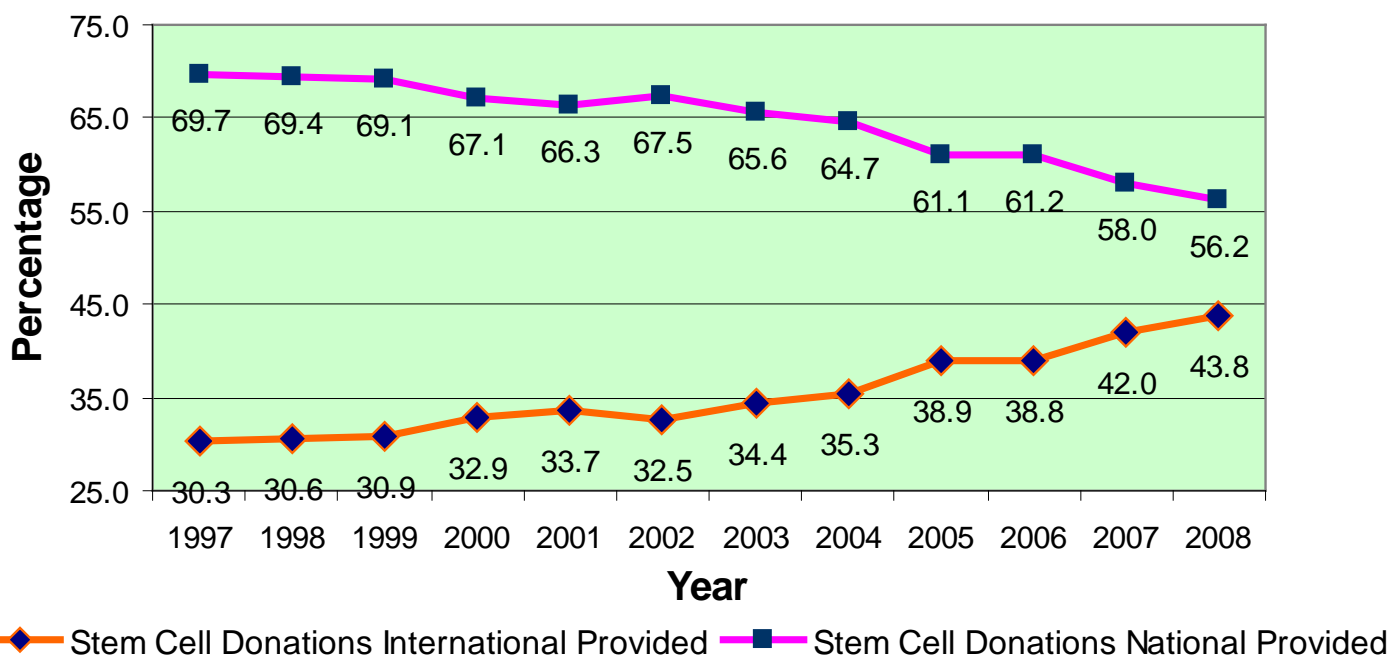
Accreditation

Policies

Education

Worldwide Network for Blood and Marrow Transplantation

Percentage stem cell donations provided for national and international patients





- Article 1 of WHO Constitution:

"The attainment by **all people** of the highest possible level of health."



World Health Organization

CHAPTER II – FUNCTIONS

Article 2

In order to achieve its objective, the functions of the Organization shall be:

- (a) to act as the directing and co-ordinating authority on international health work;

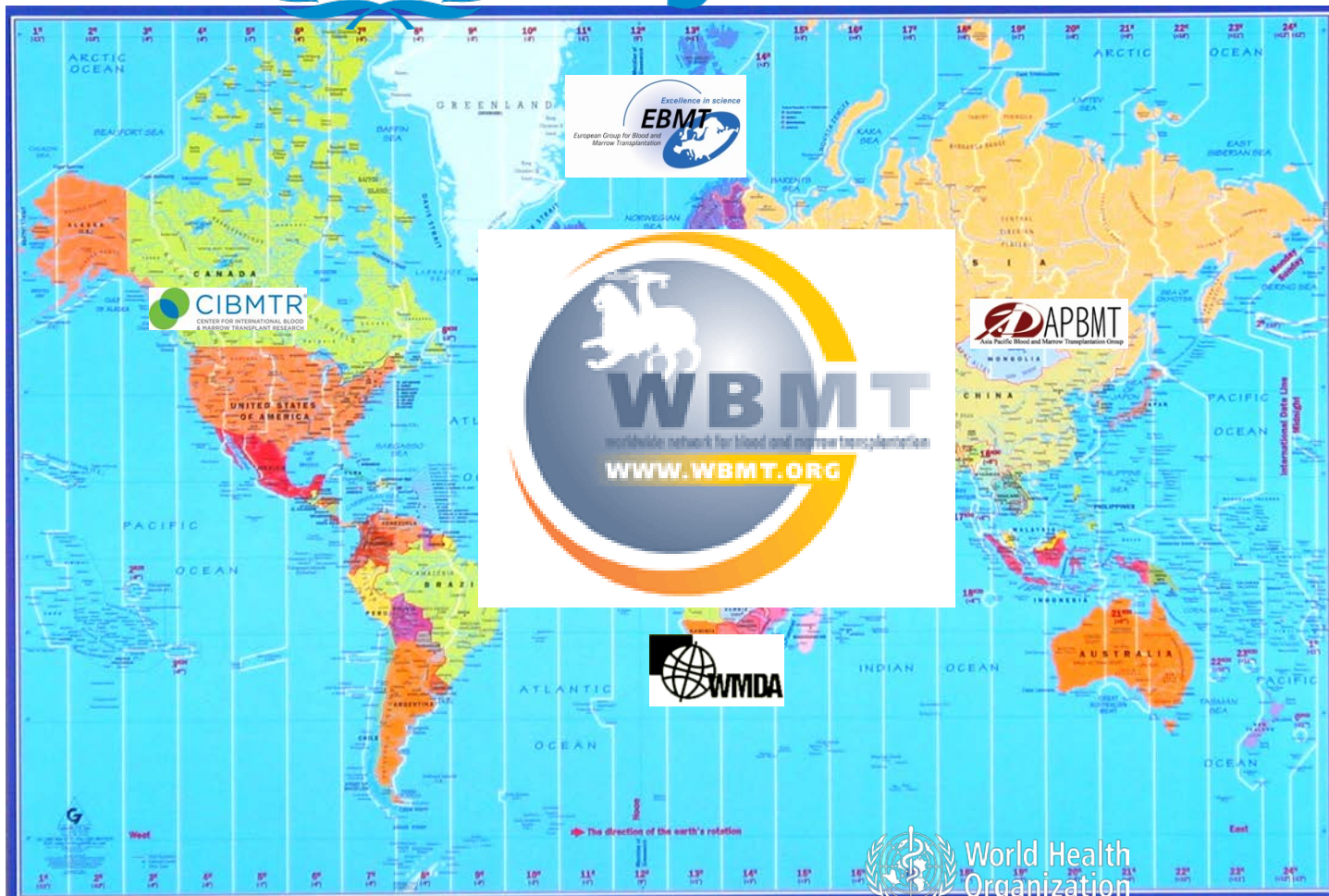
Article 71

The Organization may, on matters within its competence, make suitable arrangements for consultation and co-operation with non-governmental international organizations and, with the consent of the Government concerned, with national organizations, governmental or non-governmental.

Foundation of WBMT Lyon 2007



World Health Organization



*Worldwide Network for Blood and Marrow Transplantation
NGO in official relations with World Health Organization*



First Meeting of the WBMT



*Worldwide Network for Blood and Marrow Transplantation
NGO in official relations with World Health Organization*

What is the aim of WHO's relations with NGOs ?



Role of Global and Regional Scientific and Professional Societies in the Global Governance of HSCT

- Developing and monitoring global codes of practice about ethical issues along the Guiding Principles
- Promoting global good practice in relation to quality and safety
- Advocating for globally harmonized practices such as accreditation and use of consistent information standards
- In collaboration with all stakeholders
 - Monitoring regional and global access
 - Monitoring outcome data
 - Contributing to vigilance and surveillance
 - And ensure transparency



PAST

NOW



Foundation of WBMT Lyon 2007 by



Promotion of good practices

 Latin American Blood Marrow Transplantation Group (LABMT)



Foundation of the Latin America Blood and Marrow Transplantation Group (LABMT)



*Worldwide Network for Blood and Marrow Transplantation
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Promotion of good practices

-  Latin American Blood Marrow Transplantation Group (LABMT)
-  African Blood and marrow Transplantation Group (AFBMT)

Foundation of the African Blood and Marrow Transplantation Group (AfBMT)



39TH SCIENTIFIC CONFERENCE AND ANNUAL GENERAL MEETING





Worldwide

Promotion of good practices

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-  African Blood and marrow Transplantation Group (AFBMT)
-  Meetings (Hanoi; Salvador; Cape Town)

Global Governance

- ✓ Increasing **access** to the appropriate therapy

World Health Organization

WBMT

مستشفى الملك فيصل التخصصي ومركز الأبحاث
King Fahad Specialist Hospital & Research Center
Riyadh - King Fahad - Riyadh

EMBMT
EASTERN MEDITERRANEAN
BLOOD AND MARROW
TRANSPLANTATION

W

SHOP
MT

The 4th WBMT

WORLDWIDE NETWORK FOR BLOOD AND MARROW TRANSPLANTATION
CONGRESS AND WORKSHOP

15 - 17th JANUARY 2017

RIYADH, SAUDI ARABIA

Visit our websites :
WWW.WBMT.ORG & WWW.EMBMT.ORG

PROGRAM

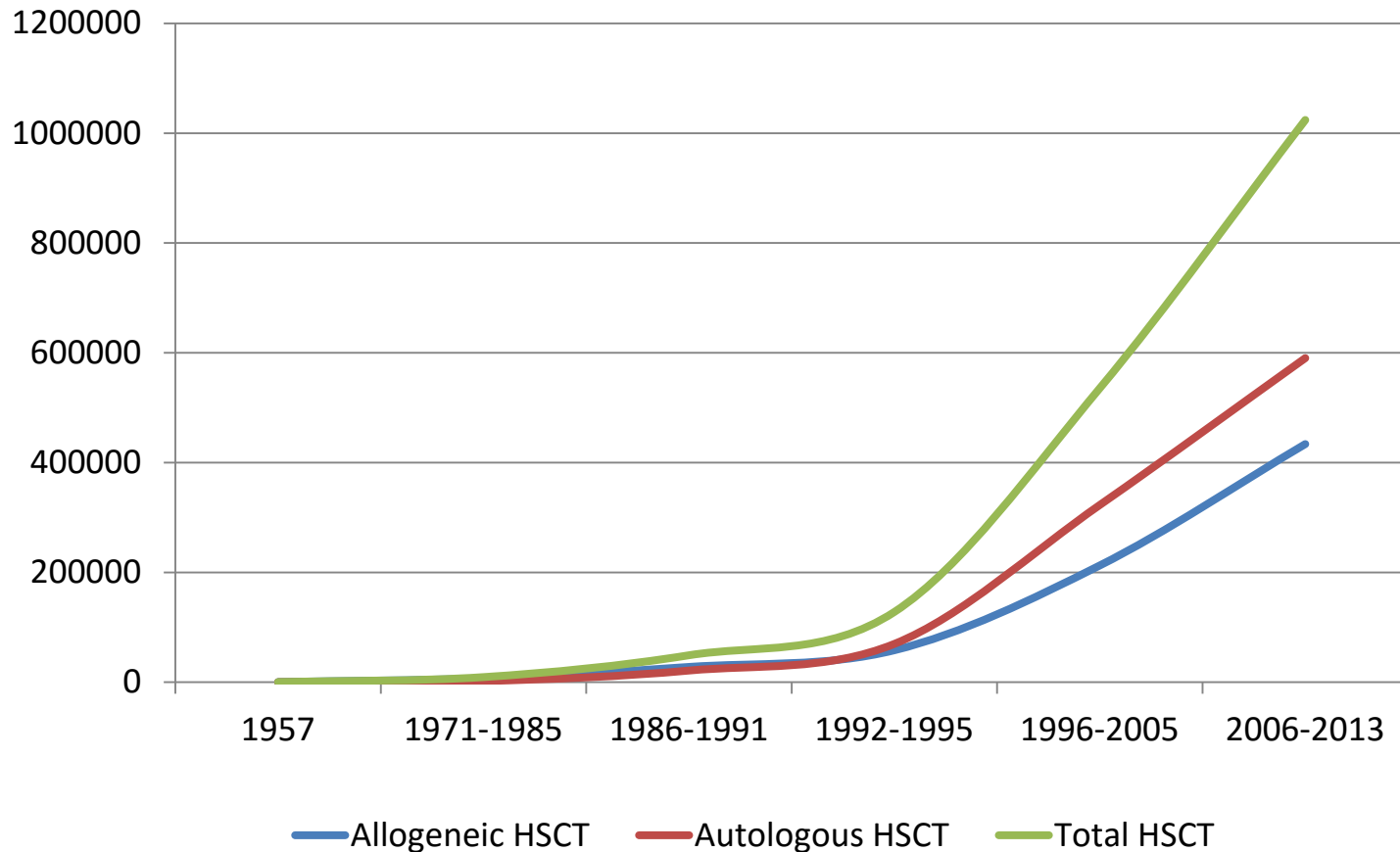
FINAL PROGRAM

FIRST ANNOUNCEMENT

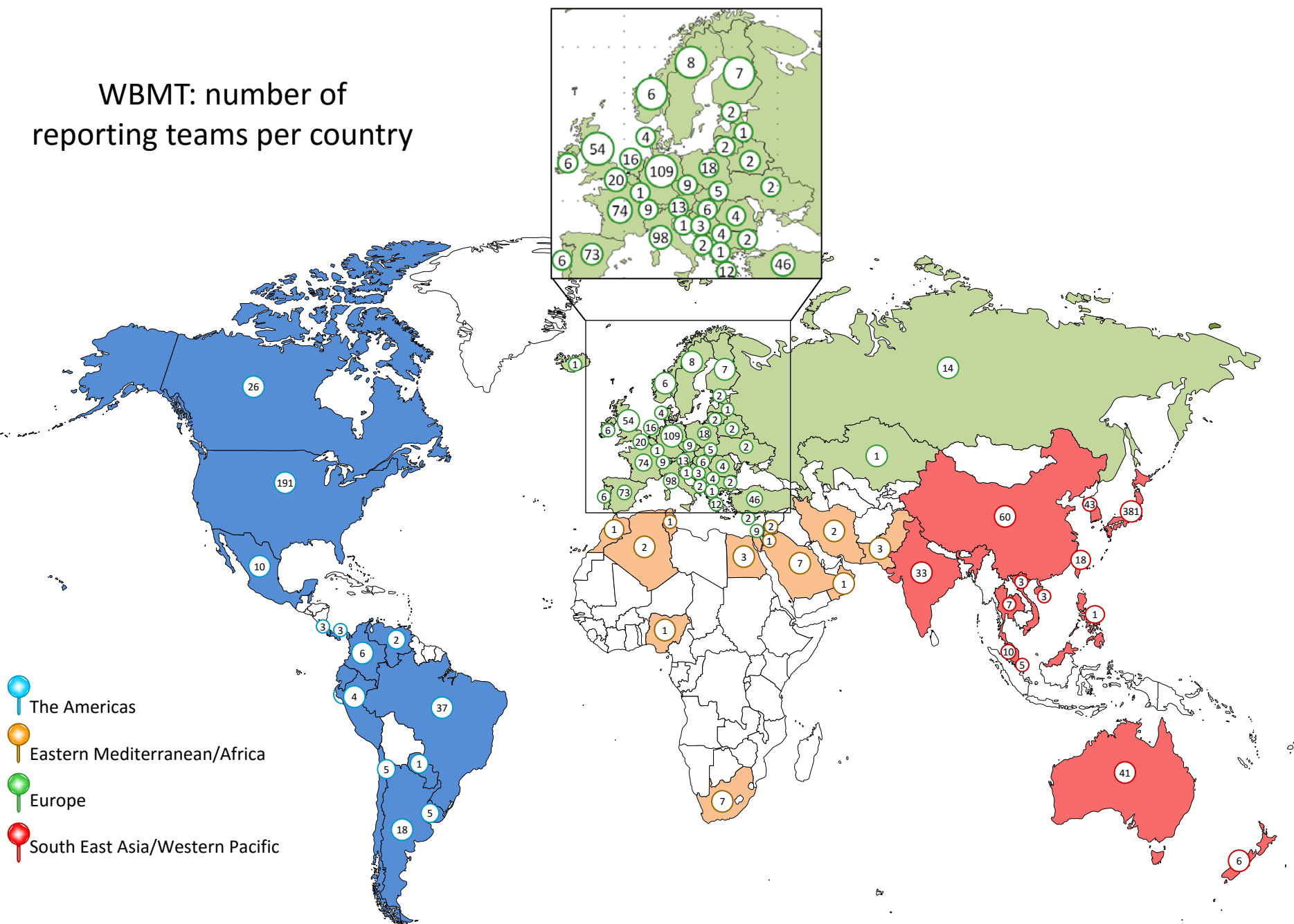
Promotion of good practices

-  Latin American Blood Marrow Transplantation Group (LABMT)
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-  Meetings (Hanoi; Salvador; Cape Town)
-  Twinning (Mongolia; Philippines; Qatar; Myanmar)
-  Dissemination 1 million SCT; global press release
-  Annual Survey with biannual publication (2006, 2006-2008, 1 million)

WBMT Global Survey



WBMT: number of
reporting teams per country

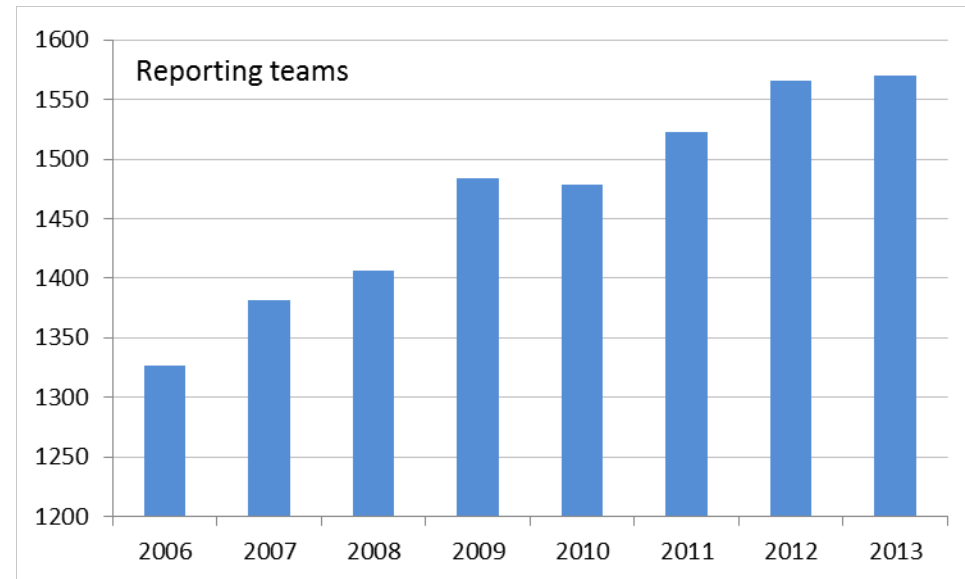
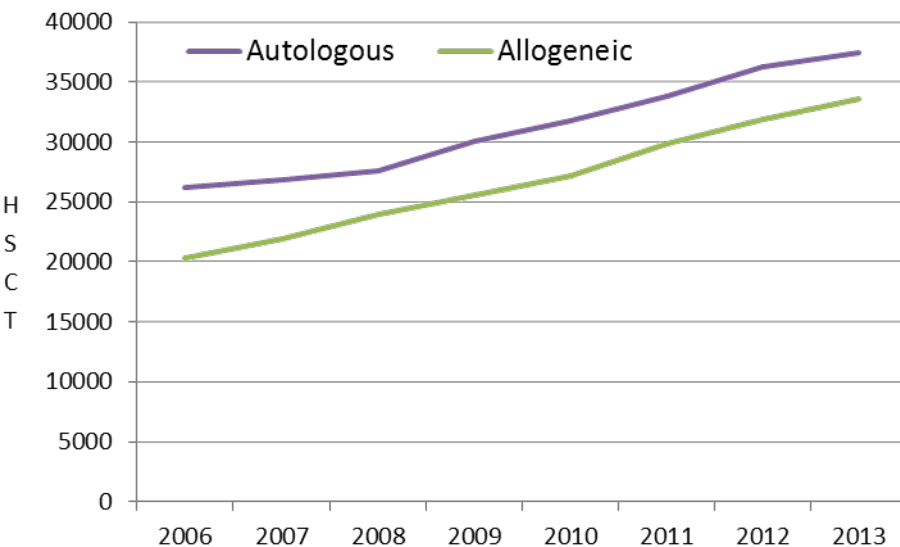


Global Survey 2013 data

WHO Regions	4
Countries	78 reporting
Teams	1 570
Year of Transplant	2013
Patients	71 036 33 572 allogeneic (47%) 37 464 autologous (53%)
Donor type	16 305 family (49%) 12 475 <i>sibling/twin</i> 3 830 <i>haplo-identical relative</i> (23%) 17 267 unrelated (51%) 2 787 <i>cord blood</i>

WBMT Global Survey 2006-2013

Increase in the numbers of transplants and reporting teams



Global Activity Survey: 2006 – 2013

Allogeneic	2006	2013		
Acute Leuk/other leuk/MDS/MPS	12 502	22 512	↑	70%
Chronic Leuk	1 890	1 824	↓	
Lymphoproliferative disorders	3 219	4 582	↑	42%
Solid Tumors	150	130	-	
Non Malignant disorders	2 360	4 380	↑	86%
BMF	1 292	2 082	↑	61%
Others	212	144	↓	
Total	20 333	33 572	↑	65%
Autologous				
Leukemias	1 726	910	↓	89%
PCD	10 675	18 766	↑	75%
Lymphomas	10 980	14 681	↑	34%
Solid Tumors	2 560	2 779	↑	9%
Non Malignant disorders	193	290	↑	50%
Others	96	38	↓	
Total	26 230	37 464	↑	38%
Total	46 563	71 036	↑	46%

Transplant Type by Region: 2013

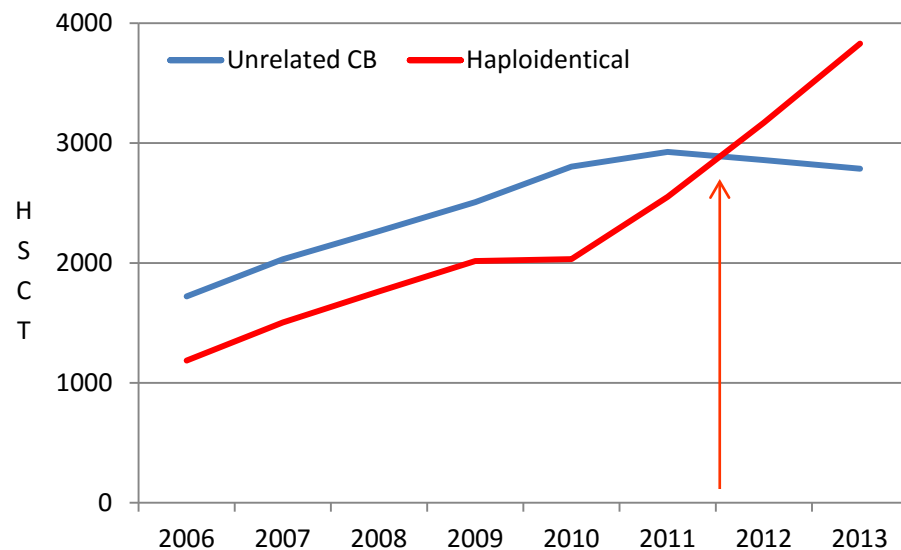
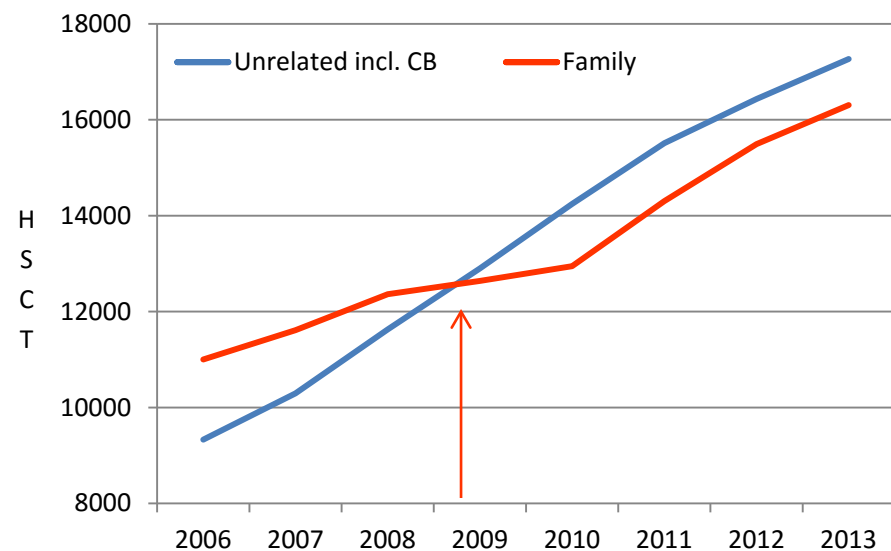
Main indication	Allogeneic HSCT	Autologous HSCT	Total
Europe	13 971	19 138	33 109 (47%)
The Americas	9 447	11 811	21 258 (30%)
South East Asia / Western Pacific	8 800	5 538	14 338 (20%)
Eastern Mediterranean / Africa	1 354	977	2 331 (3%)
Total	33 572 (47%)	37 464	71 036

78 (of 79) reporting countries
1 570 contributing teams



WBMT Global Survey 2006-2013

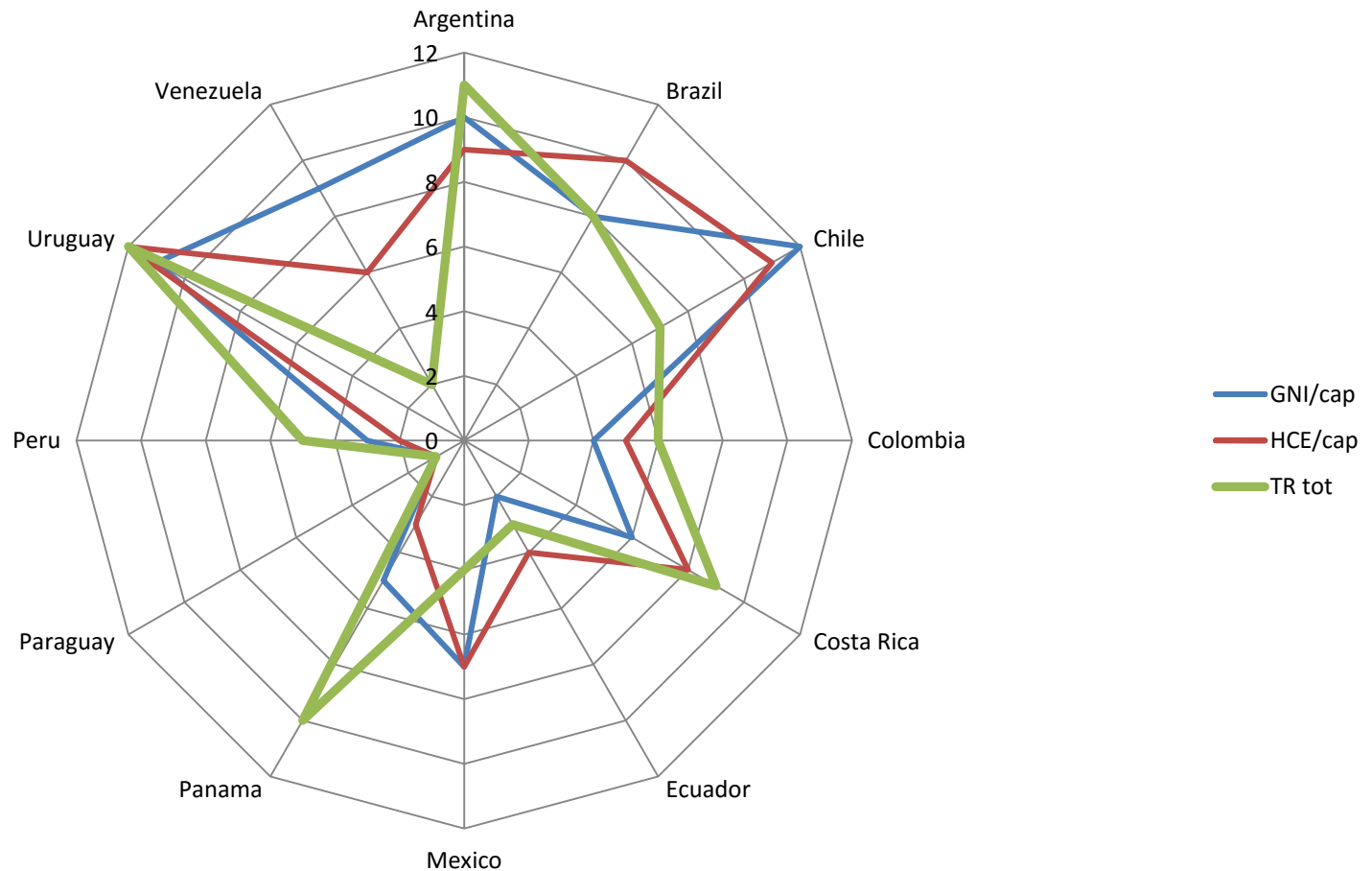
Changes in donor choice



Transplant Rates in World Regions

TR HSCT /10 million inhabitants					
	Family	Unrelated	Allo	Auto	Total
LABMT	17.6	6.0	23.6	40.2	63.8
EUROPE	68.2	88.6	156.8	222.5	379.3
USA/Canada	91.2	126.3	217.5	264.9	482.5
APBMT	14.8	13.4	28.2	17.0	45.2
EMRO	15.7	1.4	17.2	12.7	29.8
Total worldwide (median)	17.6	13.4	28.2	40.2	63.8

GNI/capita, HCE/capita and transplant rate ranking of Latin American countries performing HSCT.





Promotion of good practices

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-  Dissemination 1 million SCT; global press release
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-  Legislation (Pharmacopoea)
-  Pharmacovigilance (Notify library www.notifylibrary.org)



Bologna Initiative
for Global Vigilance and Surveillance

BIG V&S

Objective: communicating vigilance information as widely as possible in the interests of improving the safety of MPHO worldwide

- # More than 900 documented case types can be searched in a structured way by organ, tissue or cell type and/or incident type
 - # associated bibliographic references and expert analyses.
- # Reactions
 - # Infectious transmissions of all types, malignancy transmissions, and genetic transmissions to transplant recipients and to the offspring of children born from donated gametes.
- # Events
 - # caused by process failures and reactions in living donors
- # Site and search tools publicly available (without username and password)
- # Language specific interface in Regions.





A man in a dark suit and light blue shirt is pointing his right index finger at a thick white diagonal line. The line runs from the top left towards the bottom right. To the left of the line, the word 'Telemedicine' is written in white. To the right of the line, the word 'Barriers' is written in white. The background is a dark, out-of-focus blue.

Telemedicine

Barriers





The Melphalan story / Shortage of freezing bags / Fukushima accident



Worldwide

Promotion of good practices

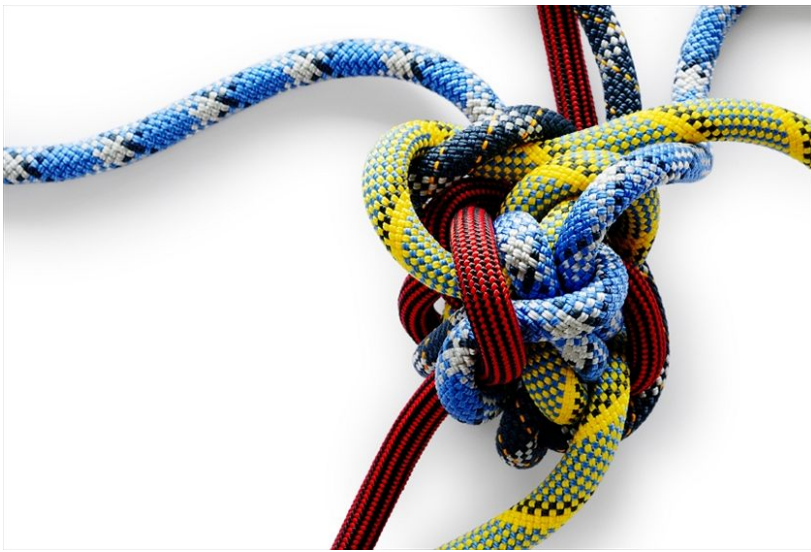
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-  “Model for other societies – the champion” WHO

PAST

NOW

FUTURE





more complex



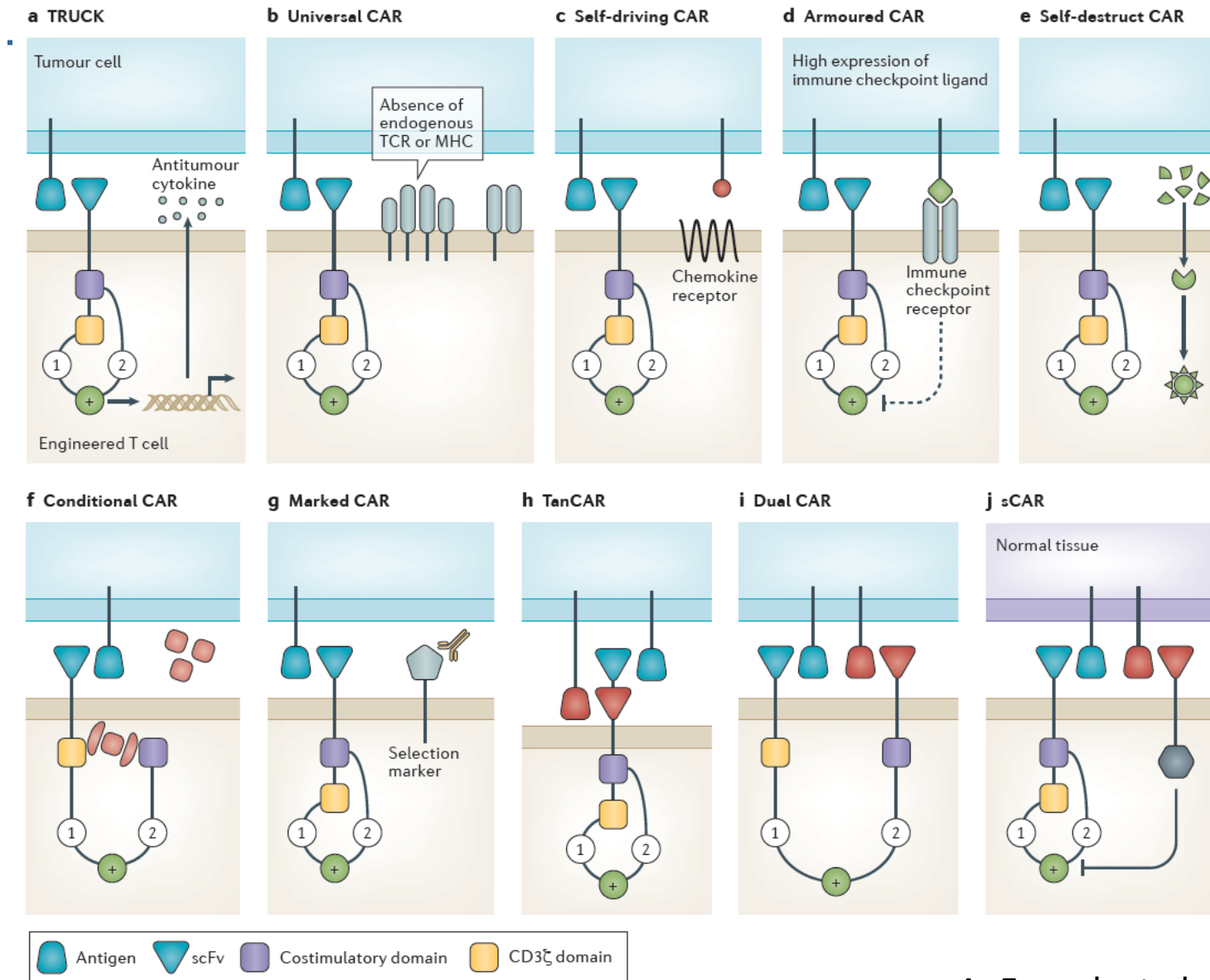
more individualized



more efficient

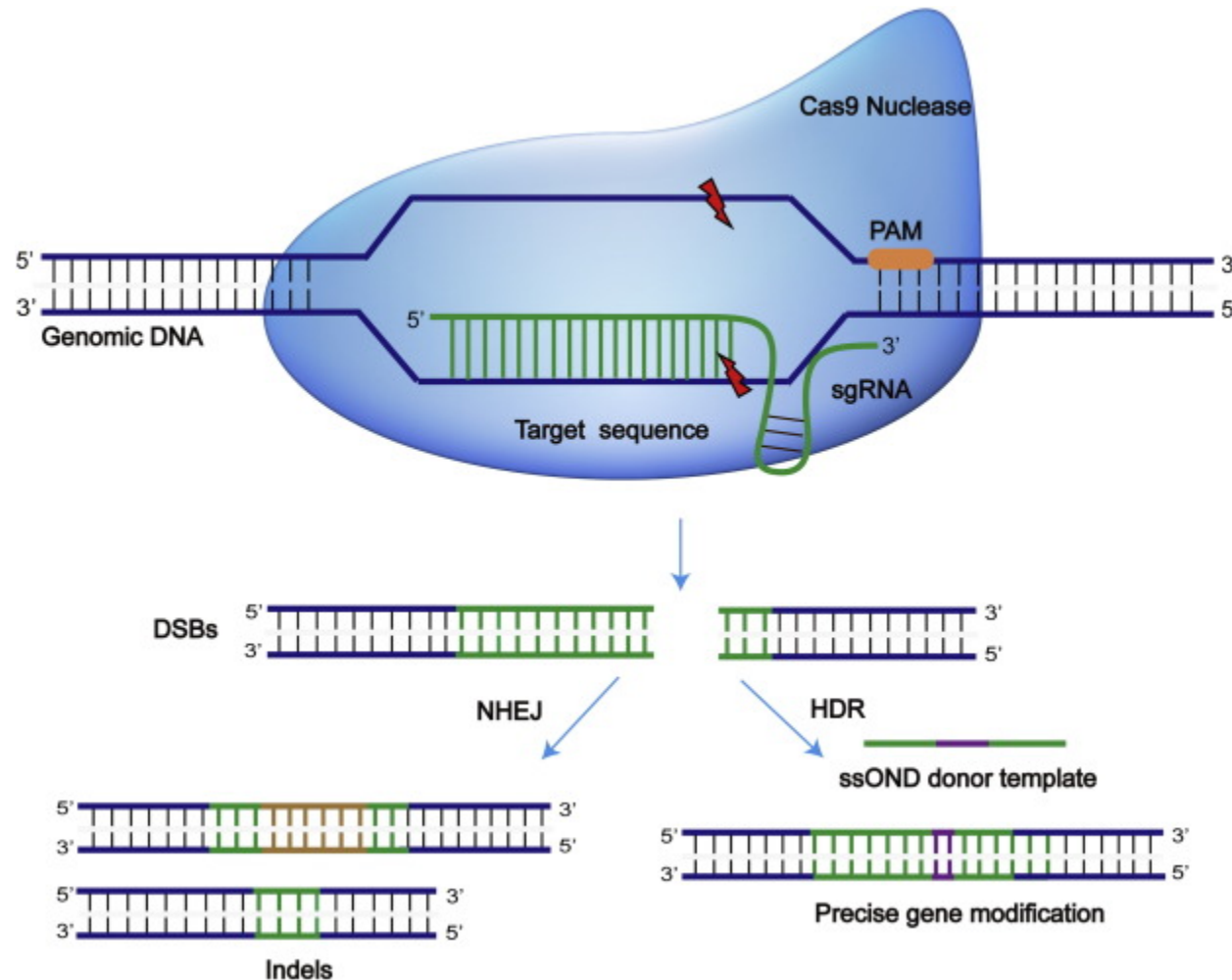


CARs: different approaches



Gene Therapy comes of Age

Gene editing



WHO Guiding Principles on Human Cell, Tissue and Organ Transplantation

GP 5 Free donation and no purchase of human transplant as such, but cost & expenditures recovery

GP 3
Maximizing DD

Protecting LD

GP 6

Promoting
No advertising

GP 7

Reasonability
For transplant origin

GP 8

Justifiable fees

GP 2

Death
No conflict

GP 4

Protecting the
incompetent

GP 9

Equitable allocation

GP 1

Consent DD

Process

Donor

Recipient

GP 10 Monitoring long term outcomes. Quality and safety of procedures and products

GP 11 Transparency, openness to scrutiny, anonymity

63th World Health Assembly, 2010

Transmission of Lymphocytic Choriomeningitis Virus by Organ Transplantation

Staci A. Fischer, M.D., Mary Beth Graham, M.D., Matthew J. Kuehnert, M.D., Camille N. Kotton, M.D., Arjun Srinivasan, M.D., Francisco M. Marty, M.D., James A. Comer, Ph.D., Jeannette Guarner, M.D., Christopher D. Paddock, M.D., M.P.H.T.M., Dawn L. DeMeo, M.D., M.P.H., Wun-Ju Shieh, M.D., Ph.D., M.P.H., Bobbie R. Erickson, B.S., Utpala Bandy, M.D., M.P.H., Alfred DeMaria, Jr., M.D., Jeffrey P. Davis, M.D., Francis L. Delmonico, M.D., Boris Pavlin, M.D., Anna Likos, M.D., M.P.H., Martin J. Vincent, Ph.D., Tara K. Sealy, B.S., Cynthia S. Goldsmith, M.S., Daniel B. Jernigan, M.D., M.P.H., Pierre E. Rollin, M.D., Michelle M. Packard, M.P.H., Mitesh Patel, B.S., Courtney Rowland, B.S., Rita F. Helfand, M.D., Stuart T. Nichol, Ph.D., Jay A. Fishman, M.D., Thomas Ksiazek, D.V.M., Ph.D., Sherif R. Zaki, M.D., Ph.D., and the LCMV in Transplant Recipients Investigation Team*

ABSTRACT

BACKGROUND

In December 2003 and April 2005, signs and symptoms suggestive of infection developed in two groups of recipients of solid-organ transplants. Each cluster was investigated because diagnostic evaluations were unrevealing, and in each a common donor was recognized.

The New York Times
nytimes.com

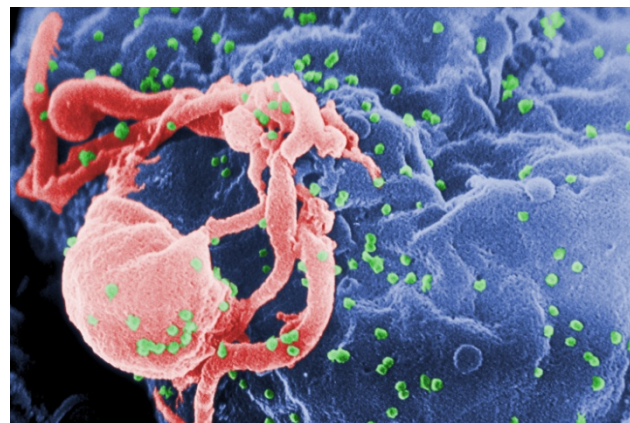
November 13, 2007

Four Transplant Recipients Contract H.I.V.

By [DENISE GRADY](#)

Four transplant recipients in Chicago have contracted [H.I.V.](#) from an organ donor, being spread by organ transplants.

The organs also gave all four patients [hepatitis C](#), in what health officials say was spread simultaneously by a transplant.





Good governance mechanisms

- **Transparency** e.g. registries
- **Efficiency** e.g. preventive measures to limit the demand
- **Accountability** e.g. Oversight of the process
- **Responsiveness** e.g. increasing donations
- **Inclusiveness** e.g. including all stakeholders



World Health
Organization

Human Cell, Tissue and Organ Donation and Transplantation

Necessity of a legal framework



Three Global Governance Tools for MPHO

EB140/18



**EXECUTIVE BOARD
140th session
Provisional agenda item 8.2**

**EB140/18
December 2016**

Principles for global consensus on the donation and management of blood, blood components and medical products of human origin

Report by the Secretariat

Global Governance





Thank you

Thank you



World Health
Organization