

The Production of Safe Plasma Protein Therapies

October 4, 2012
Florence, Italy

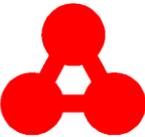
Jan M. Bult
President PPTA

Baxter
BioScience

Plasma derived therapies and
Recombinant therapies;
Manufacturing sites in USA,
Austria, Belgium, Switzerland,
and Italy
68 Collection centers

GRIFOLS

Plasma derived therapies;
Manufacturing sites in
Spain and USA
147 Collection centers



Biotest

Plasma derived therapies;
Manufacturing sites in
Germany, USA
16 Collection centers

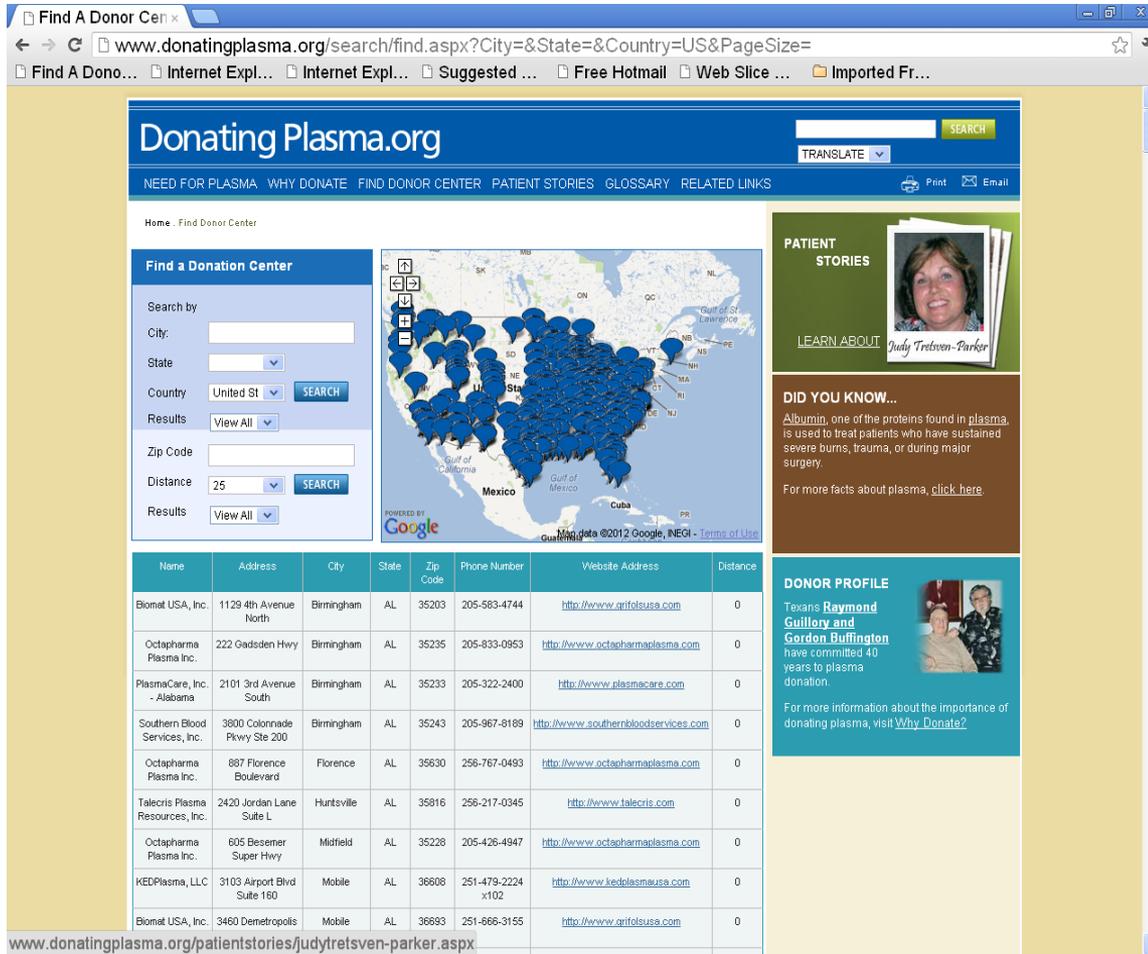
CSL Behring

Plasma derived therapies and
Recombinant therapies;
Manufacturing sites in
USA, Switzerland, and
81 Collection centers



K
KEDRION

Plasma derived therapies;
Manufacturing sites in
Italy
12 Collection centers



Donating Plasma.org

NEED FOR PLASMA WHY DONATE FIND DONOR CENTER PATIENT STORIES GLOSSARY RELATED LINKS

Home: Find Donor Center

Find a Donation Center

Search by
 City:
 State:
 Country: United St **SEARCH**
 Results: View All
 Zip Code:
 Distance: 25 **SEARCH**
 Results: View All

PATIENT STORIES
 LEARN ABOUT *Judy Tretsen-Parker*

DID YOU KNOW...
 Albumin, one of the proteins found in plasma, is used to treat patients who have sustained severe burns, trauma, or during major surgery.
 For more facts about plasma, [click here](#)

DONOR PROFILE
 Texans **Raymond Guillery and Gordon Buffington** have committed 40 years to plasma donation.
 For more information about the importance of donating plasma, visit [Why Donate?](#)

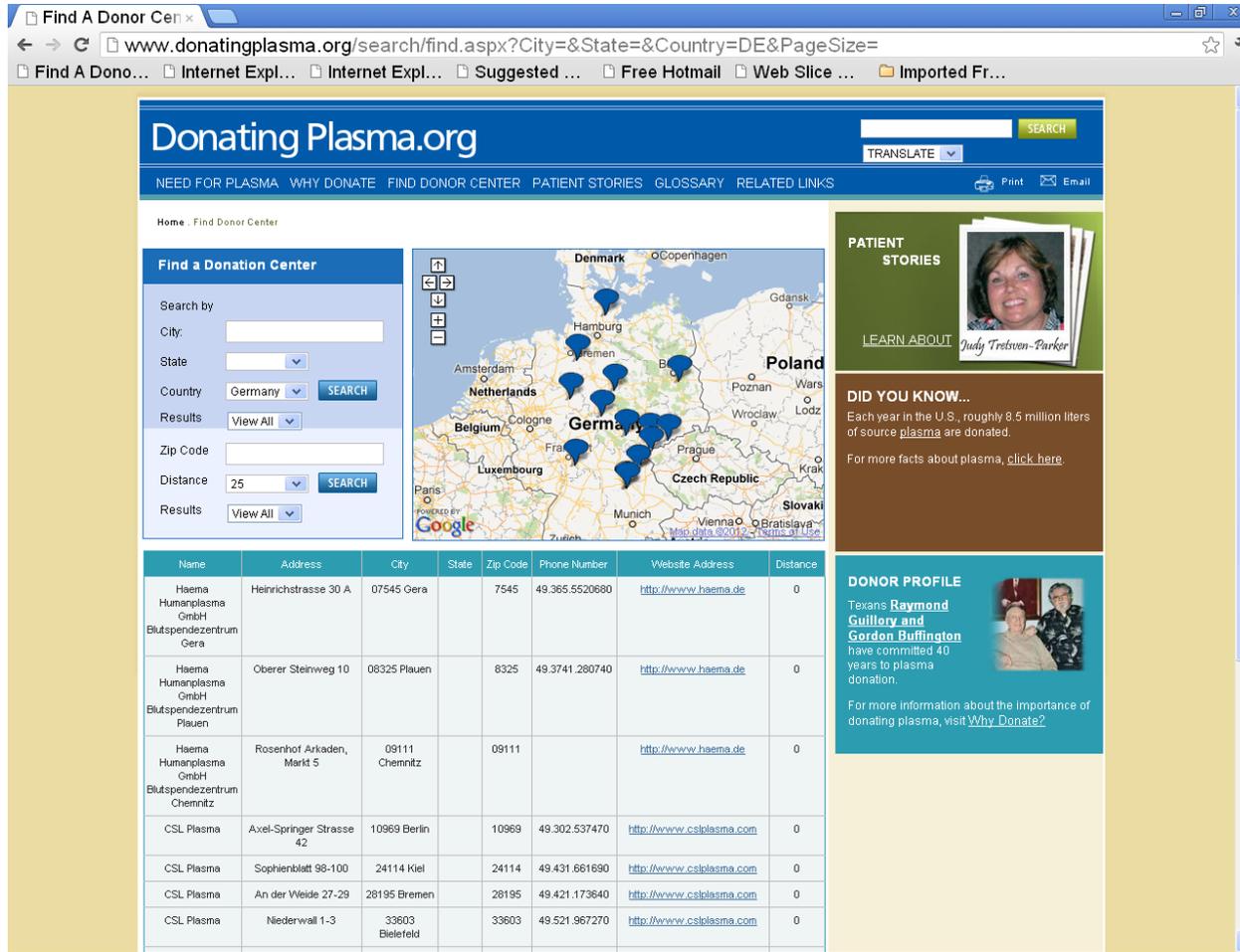
Name	Address	City	State	Zip Code	Phone Number	Website Address	Distance
Biomat USA, Inc.	1129 4th Avenue North	Birmingham	AL	35203	205-583-4744	http://www.grifolsusa.com	0
Octapharma Plasma Inc.	222 Gadsden Hwy	Birmingham	AL	35235	205-833-0953	http://www.octapharmaplasm.com	0
PlasmaCare, Inc. - Alabama	2101 3rd Avenue South	Birmingham	AL	35233	205-322-2400	http://www.plasmacare.com	0
Southern Blood Services, Inc.	3800 Colonnade Pkwy Ste 200	Birmingham	AL	35243	205-967-8189	http://www.southernbloodservices.com	0
Octapharma Plasma Inc.	887 Florence Boulevard	Florence	AL	35630	256-767-0493	http://www.octapharmaplasm.com	0
Talecris Plasma Resources, Inc.	2420 Jordan Lane Suite L	Huntsville	AL	35816	256-217-0345	http://www.talecris.com	0
Octapharma Plasma Inc.	605 Besemer Super Hwy	Midfield	AL	35228	205-426-4947	http://www.octapharmaplasm.com	0
KEDPlasma, LLC	3103 Airport Blvd Suite 160	Mobile	AL	36608	251-479-2224 x102	http://www.kedplasmausa.com	0
Biomat USA, Inc.	3480 Demetropolis	Mobile	AL	36693	251-666-3155	http://www.grifolsusa.com	0

www.donatingplasma.org/patientstories/judytretsen-parker.aspx

396
IQPP-certified
centers

10 pending
certification

Total: 406



Donating Plasma.org

NEED FOR PLASMA WHY DONATE FIND DONOR CENTER PATIENT STORIES GLOSSARY RELATED LINKS

Home - Find Donor Center

Find a Donation Center

Search by
 City:
 State:
 Country: **Germany**
 Results:
 Zip Code:
 Distance: 25
 Results:

PATIENT STORIES
 LEARN ABOUT *Judy Treitsen-Parker*

DID YOU KNOW...
 Each year in the U.S., roughly 8.5 million liters of source plasma are donated.
 For more facts about plasma, [click here](#).

DONOR PROFILE
 Texans **Raymond Guillory and Gordon Buffington** have committed 40 years to plasma donation.
 For more information about the importance of donating plasma, visit [Why Donate?](#)

Name	Address	City	State	Zip Code	Phone Number	Website Address	Distance
Haema Humanplasma GmbH Blutspendezentrum Gera	Heinrichstrasse 30 A	07545 Gera		7545	49.365.5520680	http://www.haema.de	0
Haema Humanplasma GmbH Blutspendezentrum Plauen	Oberer Steinweg 10	08325 Plauen		8325	49.3741.280740	http://www.haema.de	0
Haema Humanplasma GmbH Blutspendezentrum Chemnitz	Rosenhof Arkaden, Markt 5	09111 Chemnitz		09111		http://www.haema.de	0
CSL Plasma	Axel-Springer Strasse 42	10969 Berlin		10969	49.302.537470	http://www.csjplasma.com	0
CSL Plasma	Sophienblatt 98-100	24114 Kiel		24114	49.431.661690	http://www.csjplasma.com	0
CSL Plasma	An der Weide 27-29	28195 Bremen		28195	49.421.173640	http://www.csjplasma.com	0
CSL Plasma	Niederwall 1-3	33603 Bielefeld		33603	49.521.967270	http://www.csjplasma.com	0

15 IQPP-
certified
centers in
Germany

~27 without
certification

Total: ~42

Find A Donor Center

www.donatingplasma.org/search/find.aspx?City=&State=&Country=AT&PageSize=

Find A Dono... Internet Expl... Internet Expl... Suggested ... Free Hotmail Web Slice ... Imported Fr...

Donating Plasma.org SEARCH

TRANSLATE

NEED FOR PLASMA WHY DONATE FIND DONOR CENTER PATIENT STORIES GLOSSARY RELATED LINKS Print Email

Home : Find Donor Center

Find a Donation Center

Search by

City:

State:

Country: Austria

Results:

Zip Code:

Distance: 25

Results:



Name	Address	City	State	Zip Code	Phone Number	Website Address	Distance
Plasmazentrum Wien	Kirchengasse 3	1070 Wien Vienna		1070	43.1.52109	http://www.baxter.com	0
Plasmazentrum Wiener Neustadt	Neukirchner Strasse 12	2700 Wiener Neustadt		2700	43.2622.2577	http://www.baxter.com	0
Plasmazentrum Wels	Pollheimerstrasse 15	4600 Wels		4600	43.7242.436.36	http://www.baxter.com	0
Plasmazentrum Salzburg	Paracelsusstrasse 6	5020 Salzburg		5020	43.662.877652	http://www.baxter.com	0
Plasmazentrum Innsbruck	Mitterweg 16	6020 Innsbruck		6020	43.512.274332	http://www.baxter.com	0
Plasmazentrum Graz	Elisabethstrasse 41	8010 Graz		8010	43.316.339331	http://www.baxter.com	0
Plasmaspendedienst GmbH	Lazarettgurtel 55	8010 Graz		8010		http://www.baxter.com	0
EUROPLASMA Spendezentrum Hainburg	Landstrasse 155-157	Hainburg		2410	432-216-5520	http://www.europlasma.at	0
EUROPLASMA KMS Plasmaservice	Hauptplatz 19, Top 125	Leoben		8700	433-842-4440	http://www.europlasma.at	0
Baxter AG	Grubgrasse 23	Linz		4020	732-790-013	http://www.baxter.com	0

PATIENT STORIES



LEARN ABOUT *Judy Trevisen-Parker*

DID YOU KNOW...

Serum albumin and fibrin, two proteins found in plasma, have powerful anti-shock and blood clotting effects, and are credited with saving countless lives of soldiers wounded on the battlefield during World War II (WWII). They continue to help wounded soldiers fighting in the war in Iraq today.

For more facts about plasma, [click here](#).

DONOR PROFILE



Melissa Saltzman doesn't let blindness hold her back. She started donating plasma as a way to serve others.

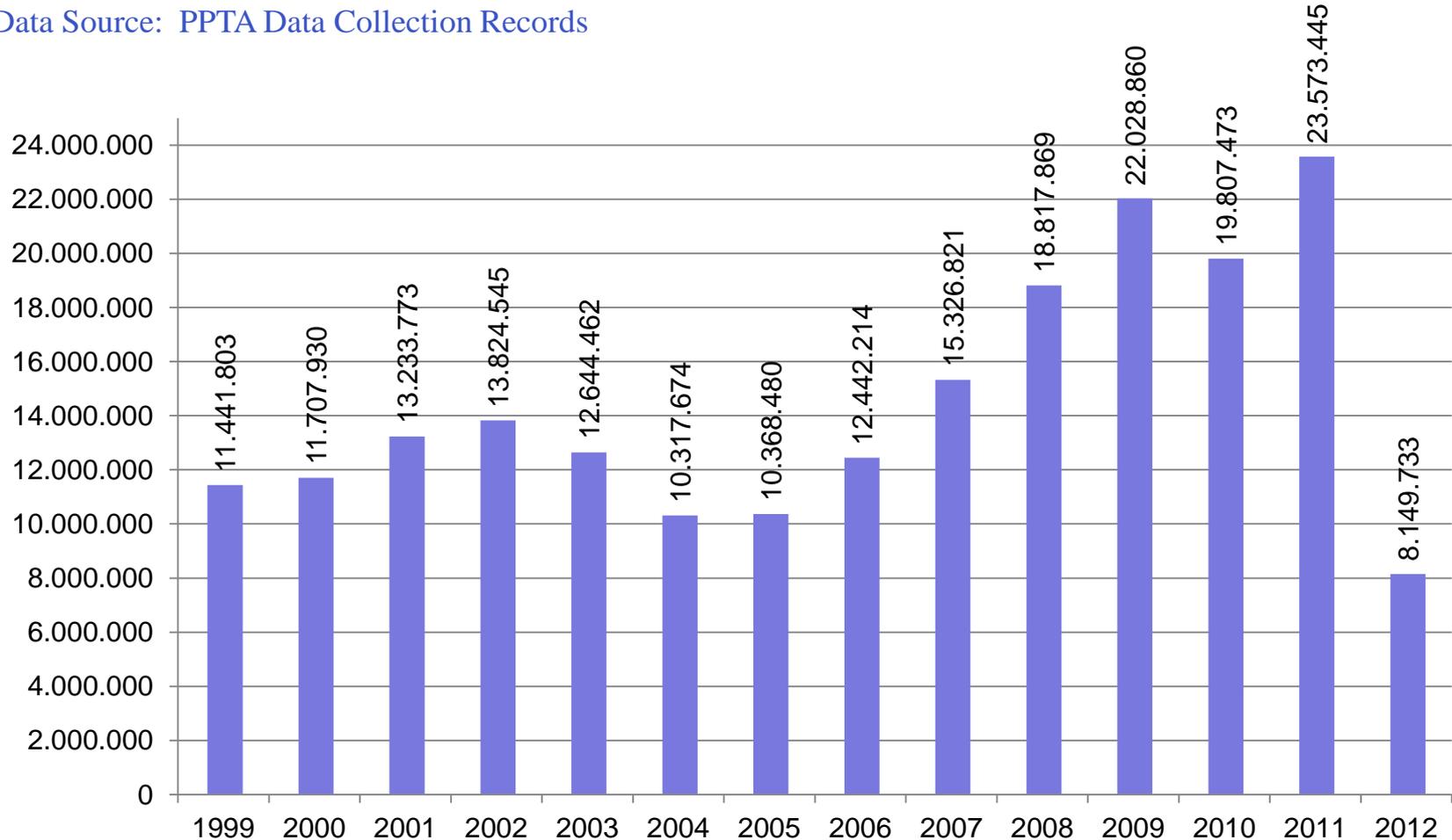
For more information about the importance of donating plasma, visit [Why Donate?](#)

16 IQPP-
certified
centers in
Austria

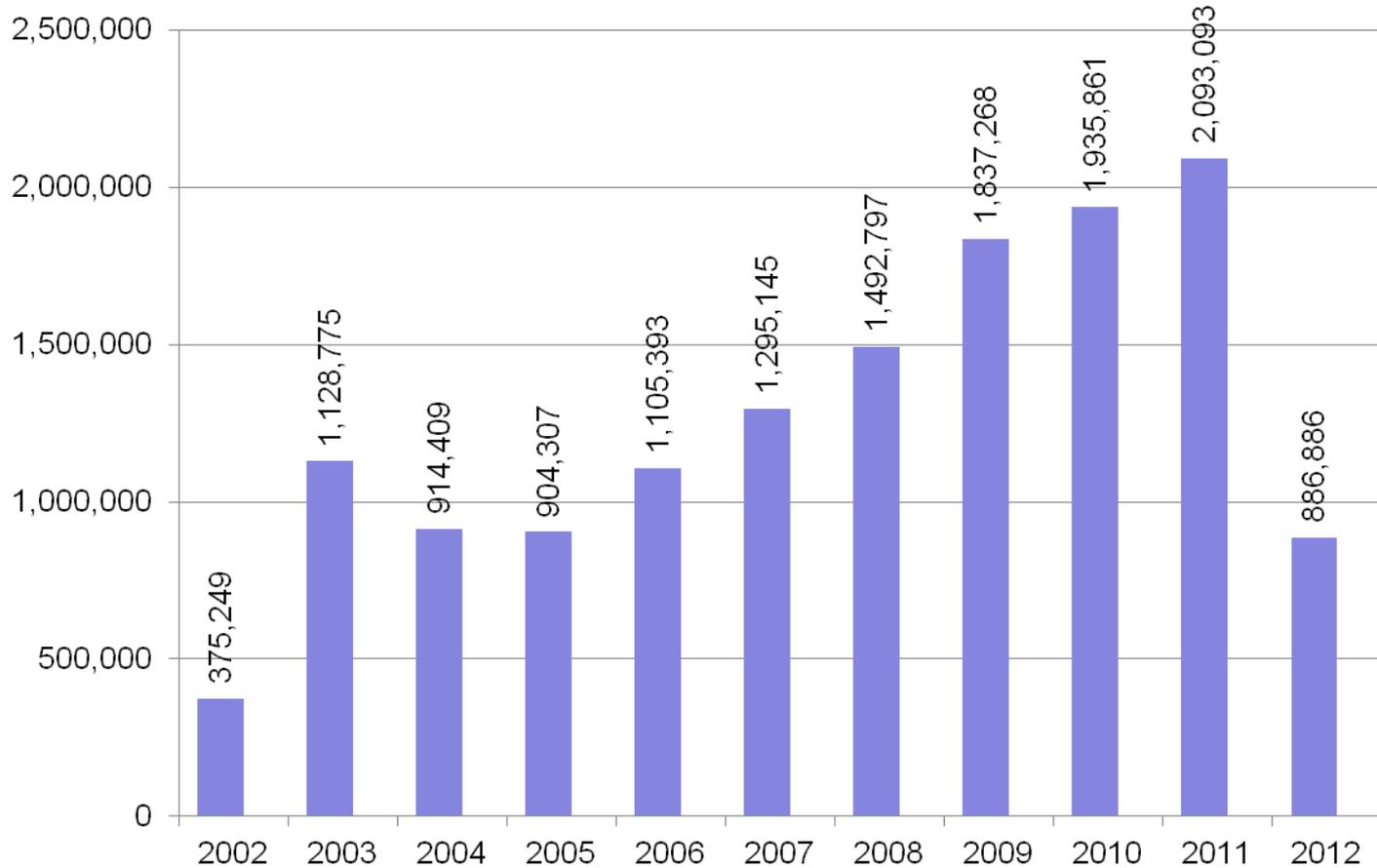
~2 without
certification

Total: ~18

Data Source: PPTA Data Collection Records



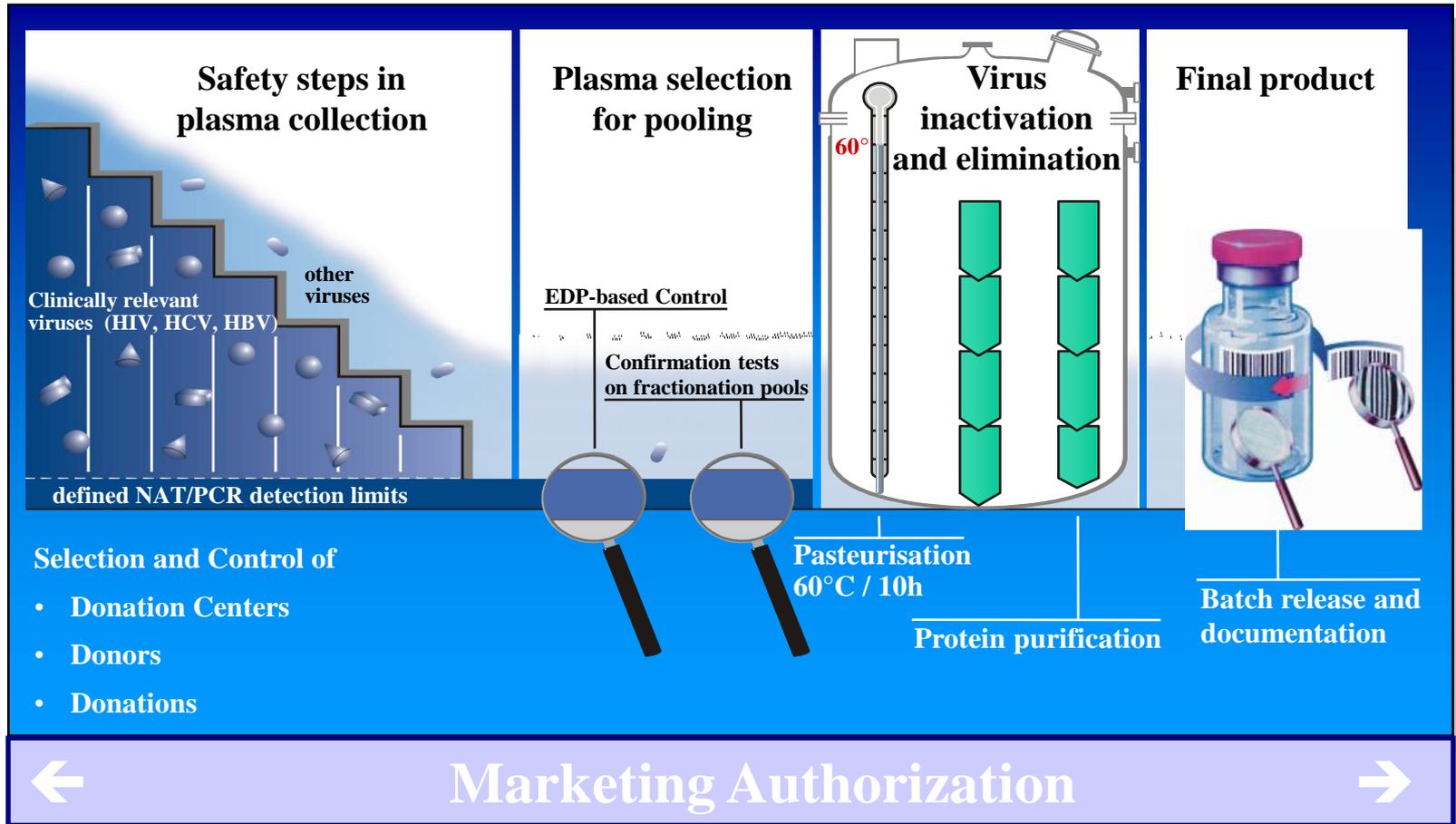
*2012 through April



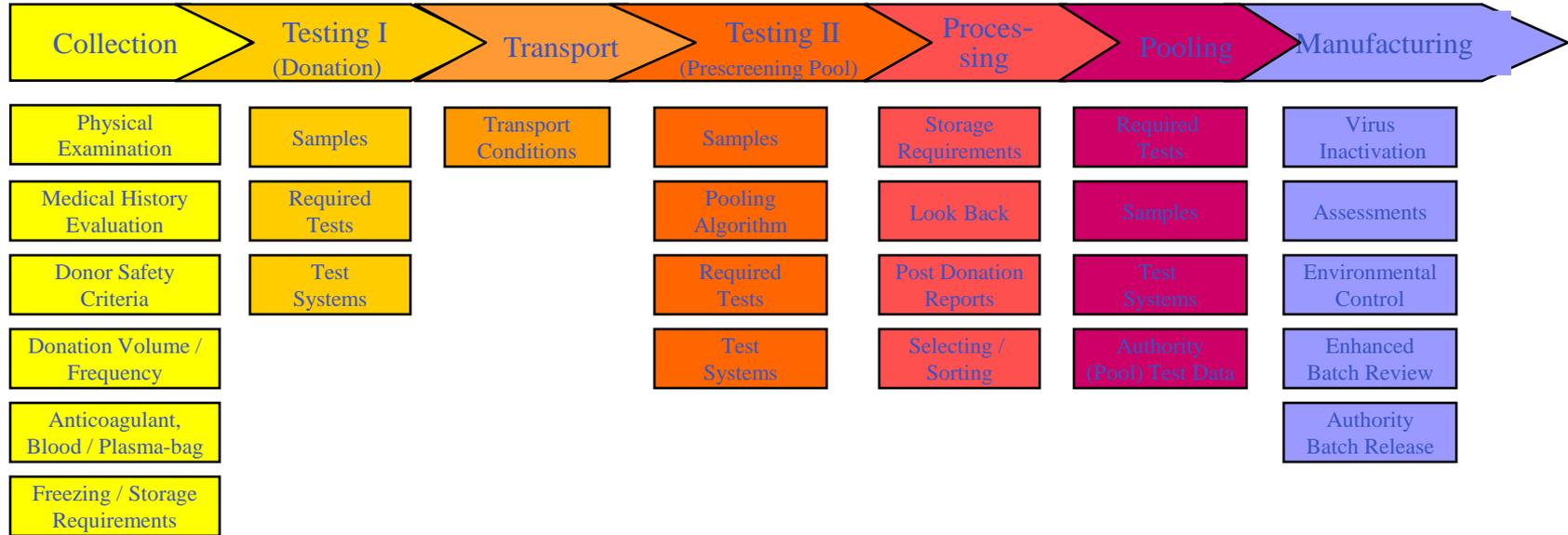
*2012 through May

- Fresh Frozen Plasma (FFP)
- Human Albumin
- PPSB (Factor II, Factor VII, Factor X) and antihemophilia Factor IX, Factor VII concentrates
- Factor VIII / von Willebrand Factor concentrates, Factor IX concentrate, activated Prothrombin Complex concentrate
- Fibrinogen / Factor XIII concentrate / Fibrin Sealant
- Antithrombin
- Protein C
- C1 Esterase Inhibitor concentrate
- Alpha 1 Antitrypsin
- Human Immune globulin

- PPTA member companies are regulated by U.S. FDA and/or EMEA.
- Therapies receive marketing authorizations.
- Source Plasma regulated
 - via Plasma Master File in Europe
 - Independently licensed in the U.S.

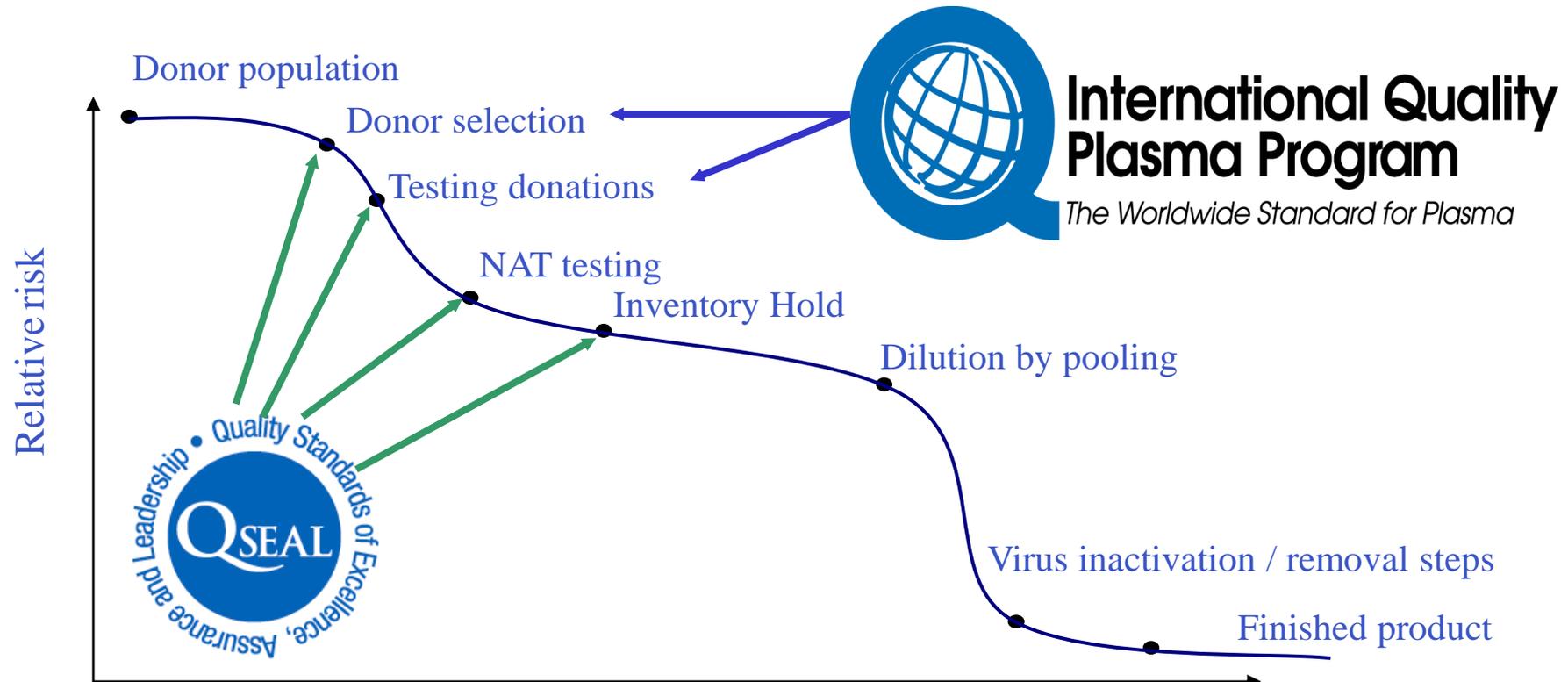


Collection – Testing – Processing - Pooling - Manufacturing



Requirements:



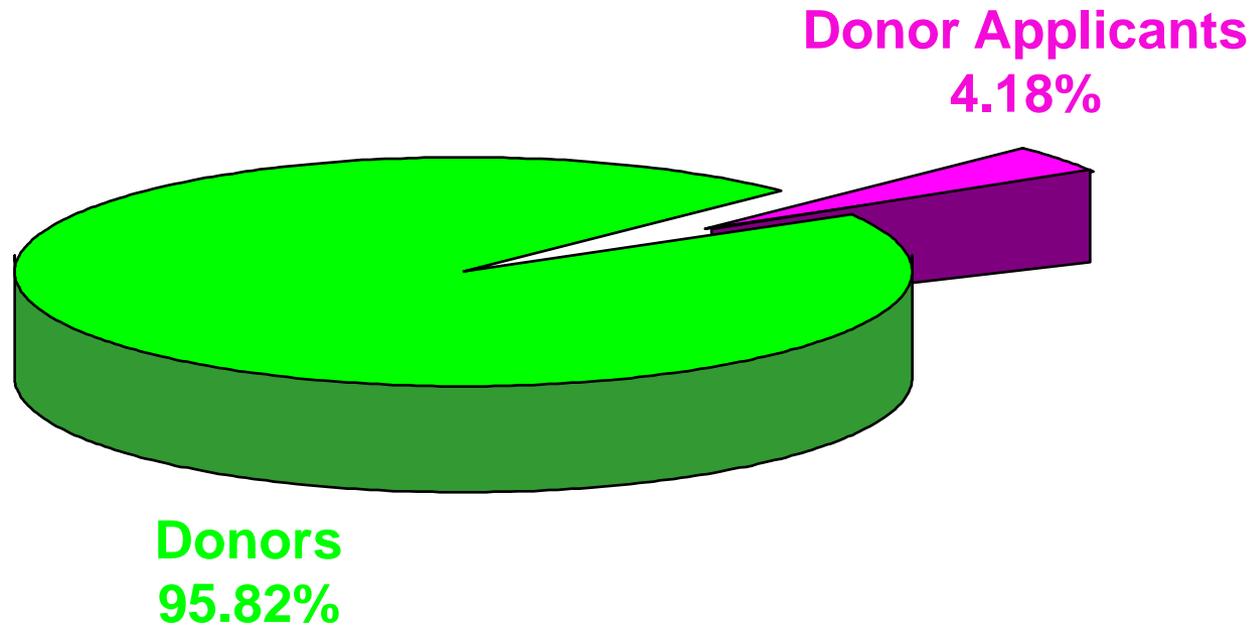


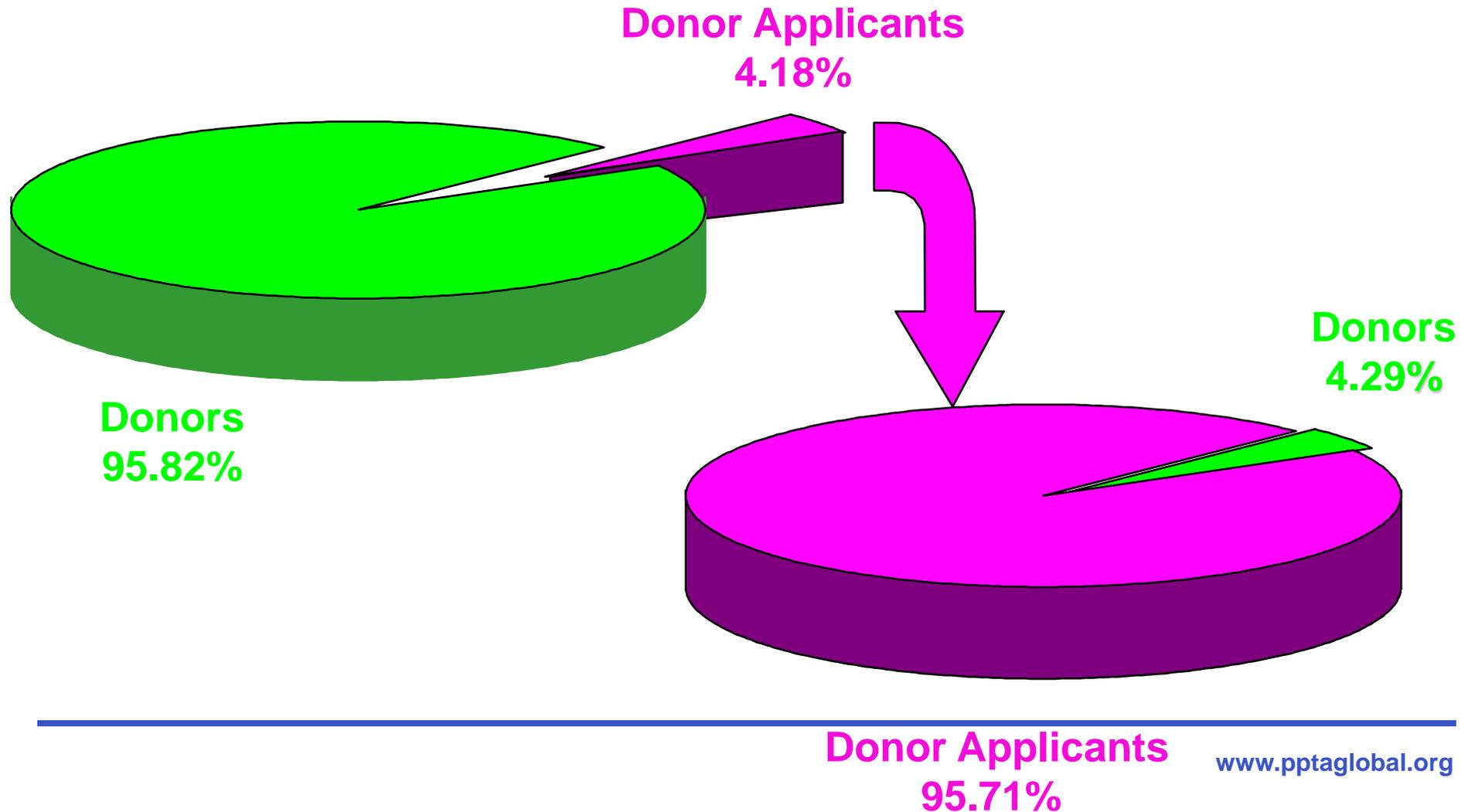
From the general public to the patient

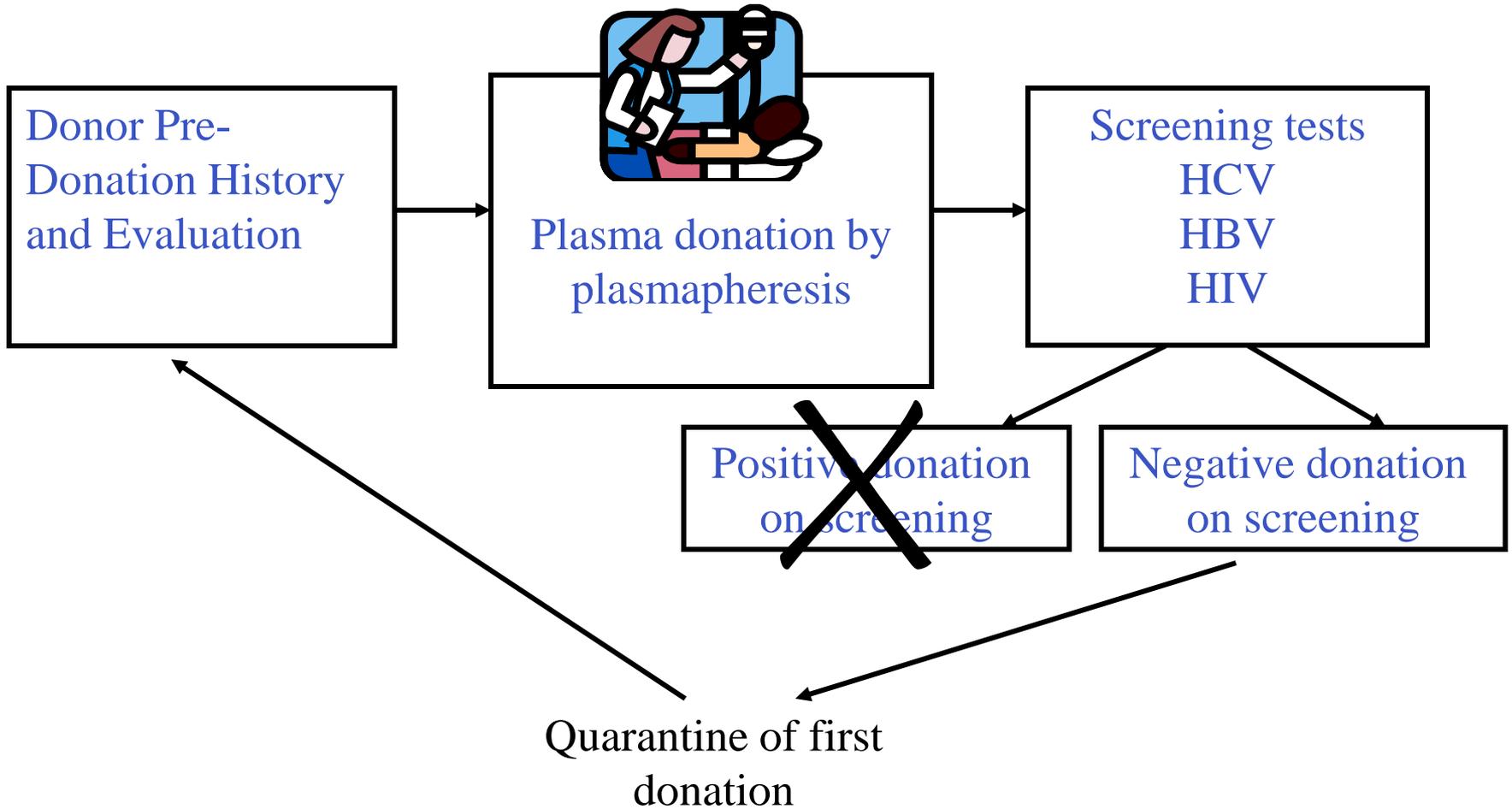


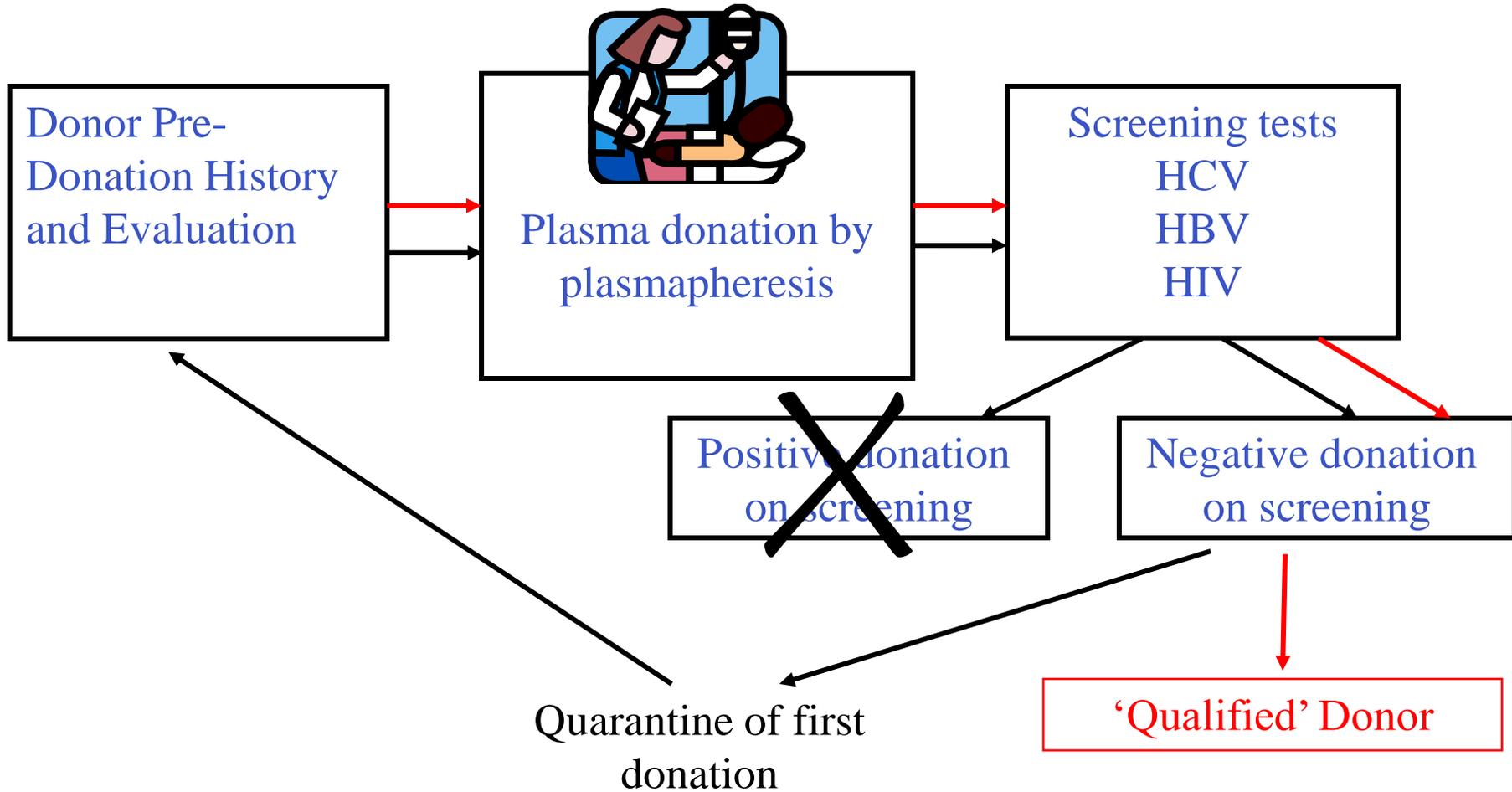
- US only
- Telephone and Internet based
- All new plasma donors (and those returning after 6 month lapse in donating) checked in registry
- Quickly and effectively identify previously deferred donors
- Donors reactive on screening for HIV, hepatitis B and C











- Standard is a Quality Control Standard for the Center, not a Donor Epidemiology Standard
- Standard based upon industry average confirmed positive and NAT qualified donors per 100,000 qualified donations
- Alert Limit Tables based on a statistical probability distribution (collection volume dependant)
- Regularly revisit standard when changes occur
 - Testing algorithm (e.g. NAT)
 - Industry average changes
- Industry average monitored 2x / year
- Centers must have a process for Corrective Action should they exceed Alert Limits

Source Plasma Qualified Donation Positivity Rates, 2001—2011

(Confirmed positives per 10⁶ donations)

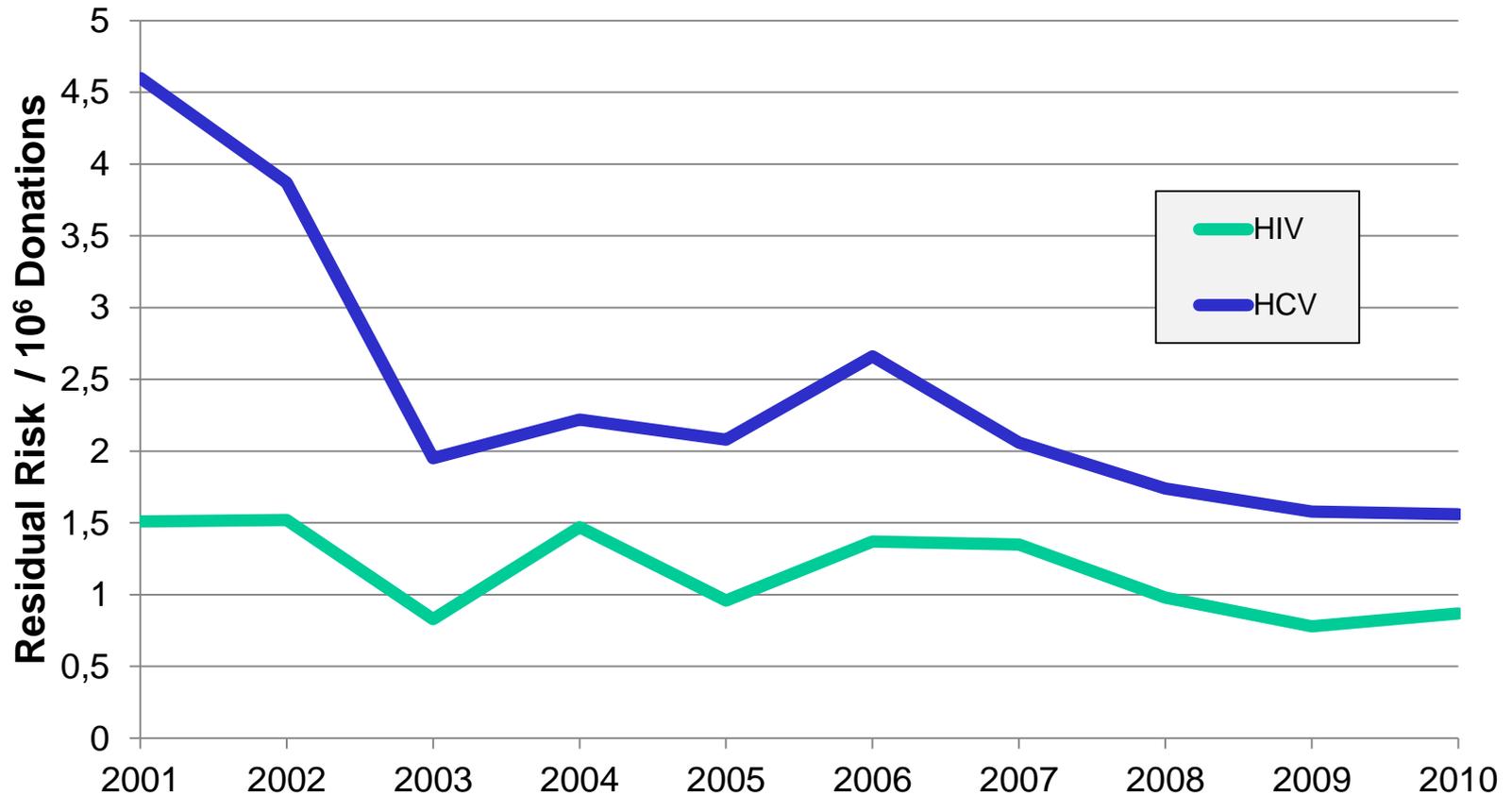
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
HIV Q+	1.14	0.91	0.62	0.95	0.69	0.94	1.01	0.75	0.63	0.59	0.56
HCV Q+	3.23	3.17	3.27	3.20	3.28	3.93	3.32	3.04	2.67	2.39	2.44
HBV Q+	3.28	3.23	2.30	2.01	1.72	1.95	2.45	2.69	2.36	2.18	1.83

European (CoE) Repeat Donors

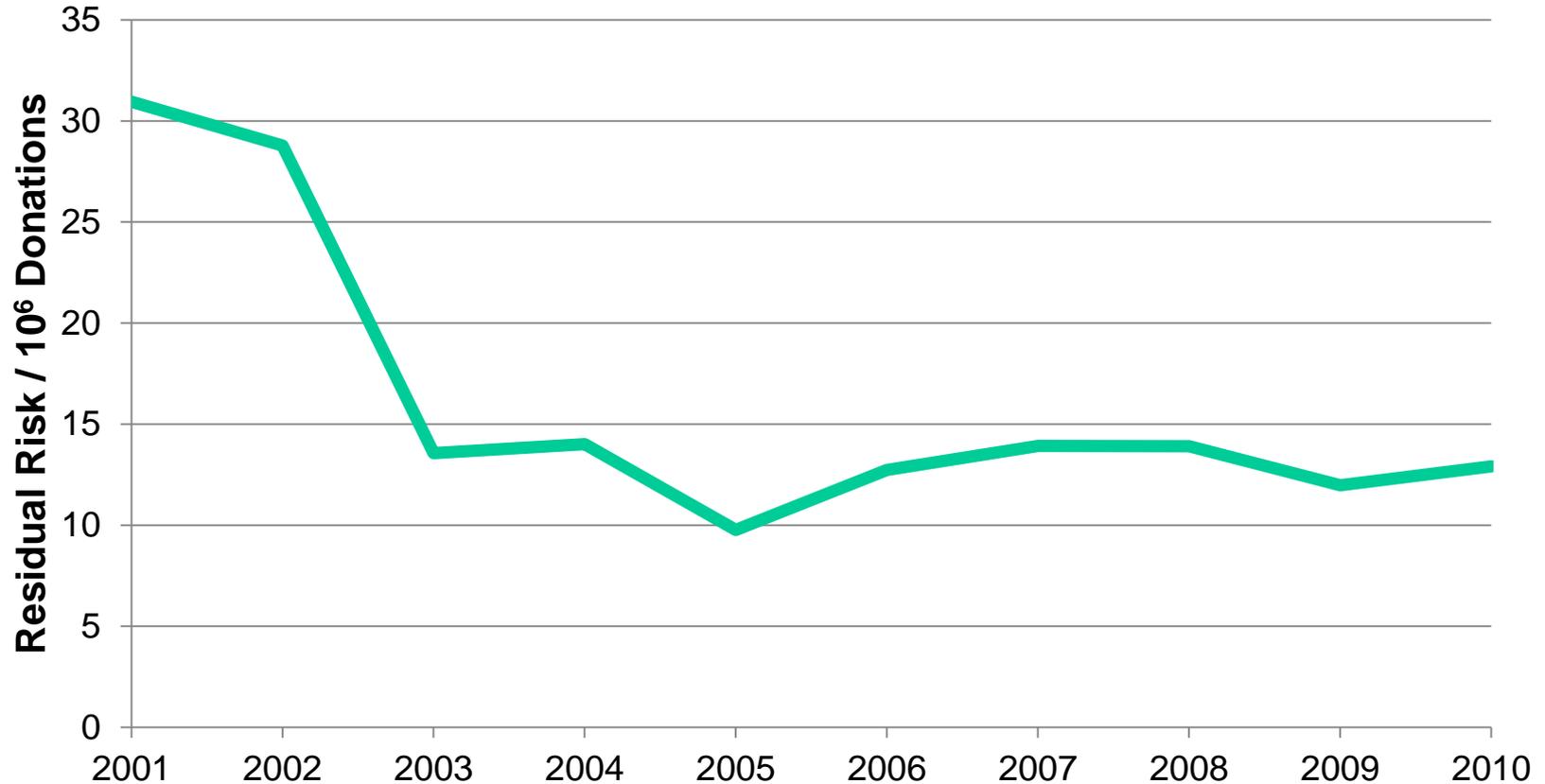
Incidence rate amongst 10⁵ repeat donors (Janssen EMEA W/S 2009)

HIV	2.0	3.0	3.5	4.5	4.5	5.0
HCV	10.0	8.0	7.0	10.0	7.0	6.0
HBV	11.0	7.5	5.0	5.5	5.0	3.0

HIV and HCV Residual Risk (x 10⁻⁶), 2001-2010



HBV Residual Risk ($\times 10^{-6}$), 2001-2010



- Facilities audited/ companies certified
- Certification of adherence to PPTA's voluntary standards
- 5 Companies are QSEAL Certified

Baxter

CSL Behring

GRIFOLS

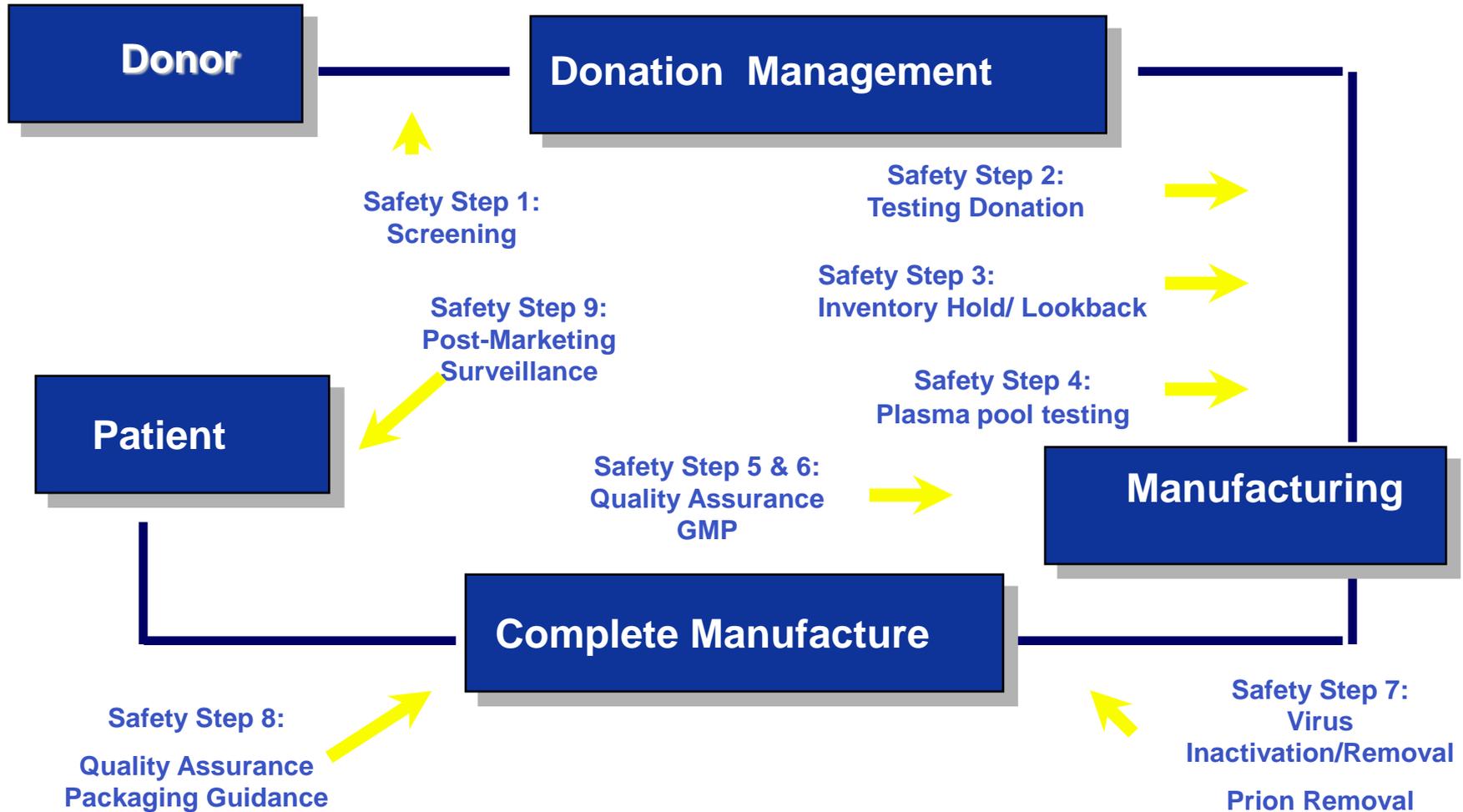
 **Biotest**

**K**
KEDRION

- Qualified plasma donor – same as IQPP
- 60 day inventory hold
- Viral marker standard – same as IQPP
- NAT for HIV, HCV, HBV and Parvovirus B19
- Fractionation pools below 10^5 IU parvovirus B19 DNA/ml
- Standards for intermediates

- Hold Source Plasma 60 Days following collection prior to pooling
 - Post-donation Information
 - Sero-conversion
- Managed by fractionation organization
- Audit includes site inspection







Baby A
X-linked agammaglobulinaemia
Small- but growing fast

Mrs C
Poor veins,
infusion rate very slow

Mrs B anti IgA antibodies-
previous reaction to ivig

Product	Concentration	Form	Storage	Vial sizes (g)	Stabiliser	Viral removal steps	IgA content (mg/ml)	Max infusion rate (mg/kg/hr)
Flebogamm				0.5, 2.5, 5,	Sorbitol	Pasteurisation	<0.05	3.5
Gammagard SD				1, 2.5, 5, 10	Glycine, glucose, albumin	Solvent/ detergent	0.0022	3.3/13.3
Kiovig	10%		4 °C or 25 °C	1, 2.5, 5, 10, 20	Glycine	1.Solvent/	0.03	13.3
Octagam	5%			5, 10	M...			2.5/4.2
Sandoglobulin NF	12%	Liquid	25 °C	6, 12	Nicotinamide, L-proline, L-isoleucin	1.Nanofiltration 2.Low pH/pepsin	<0.015	2.0
Vigam	5%	Liquid	4 °C or 25 °C	2.5, 5, 10	Sucrose, glycine, albumin	1.Solvent/ detergent 2.Low pH incubation	<0.01	2.5



Government perspective

Clinical perspective

Patient perspective

Industry perspective



Another roadblock

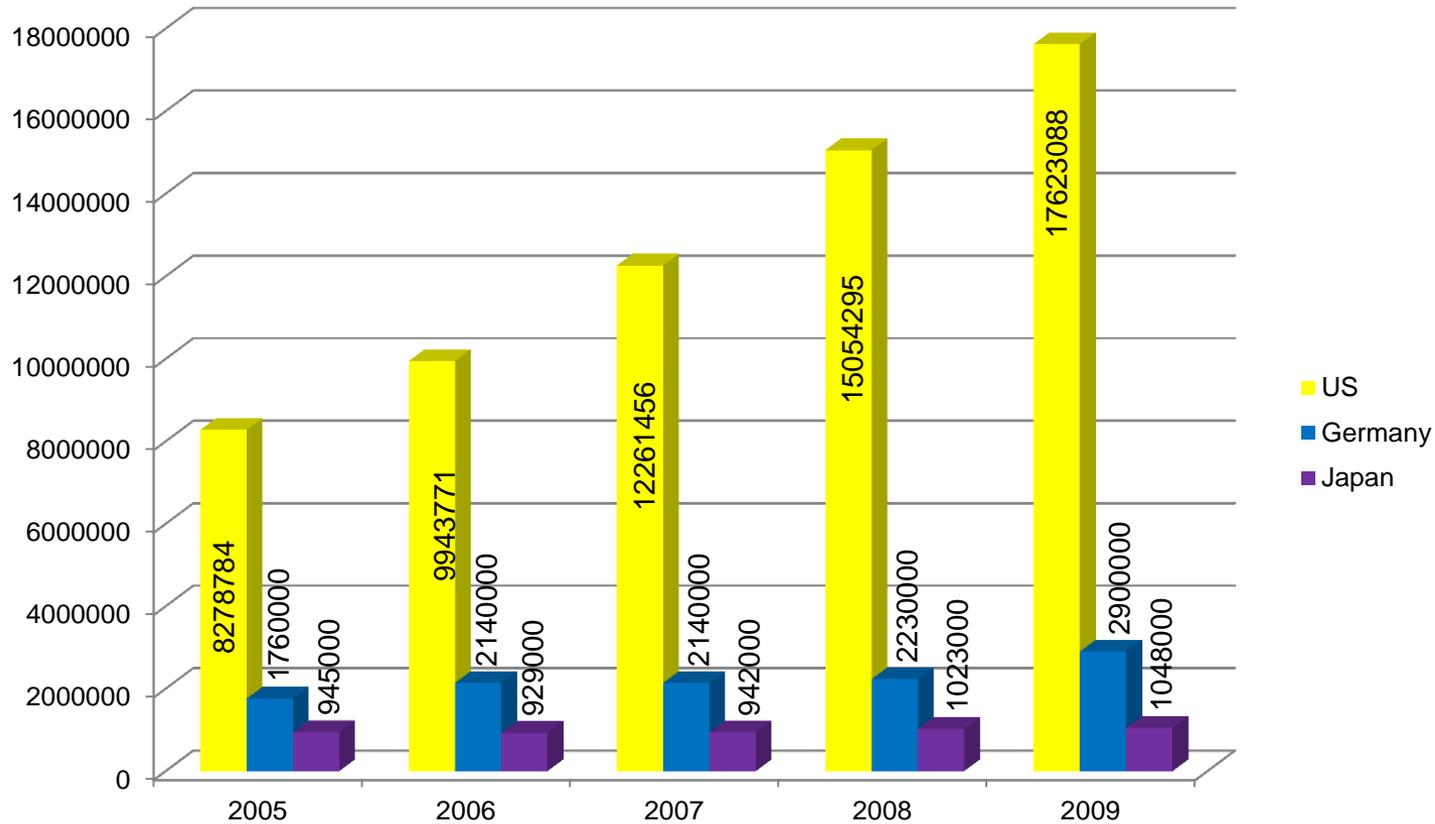
Stable supply of plasma protein therapies in Japan

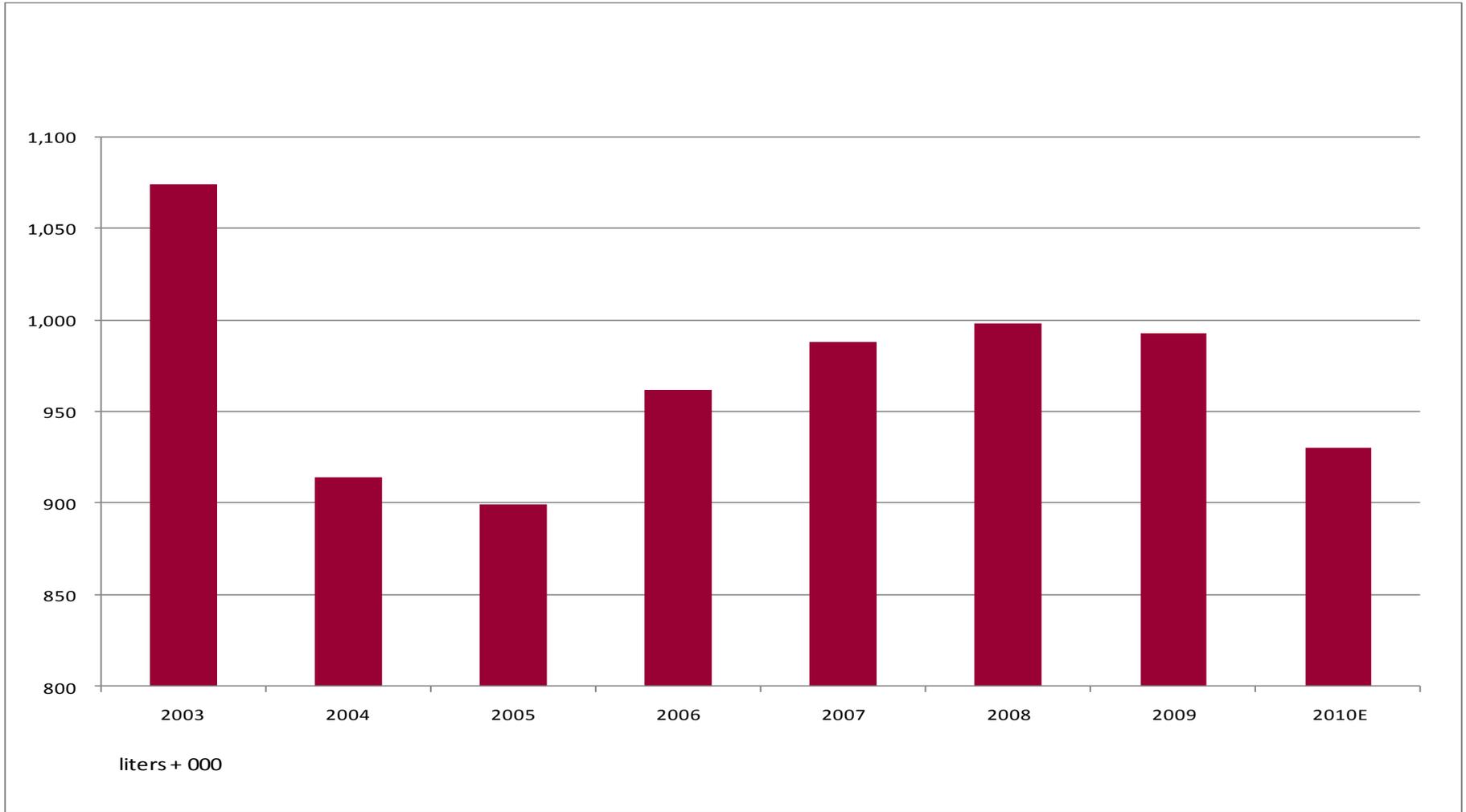
A PPTA perspective

Jan M. Bult
President & CEO

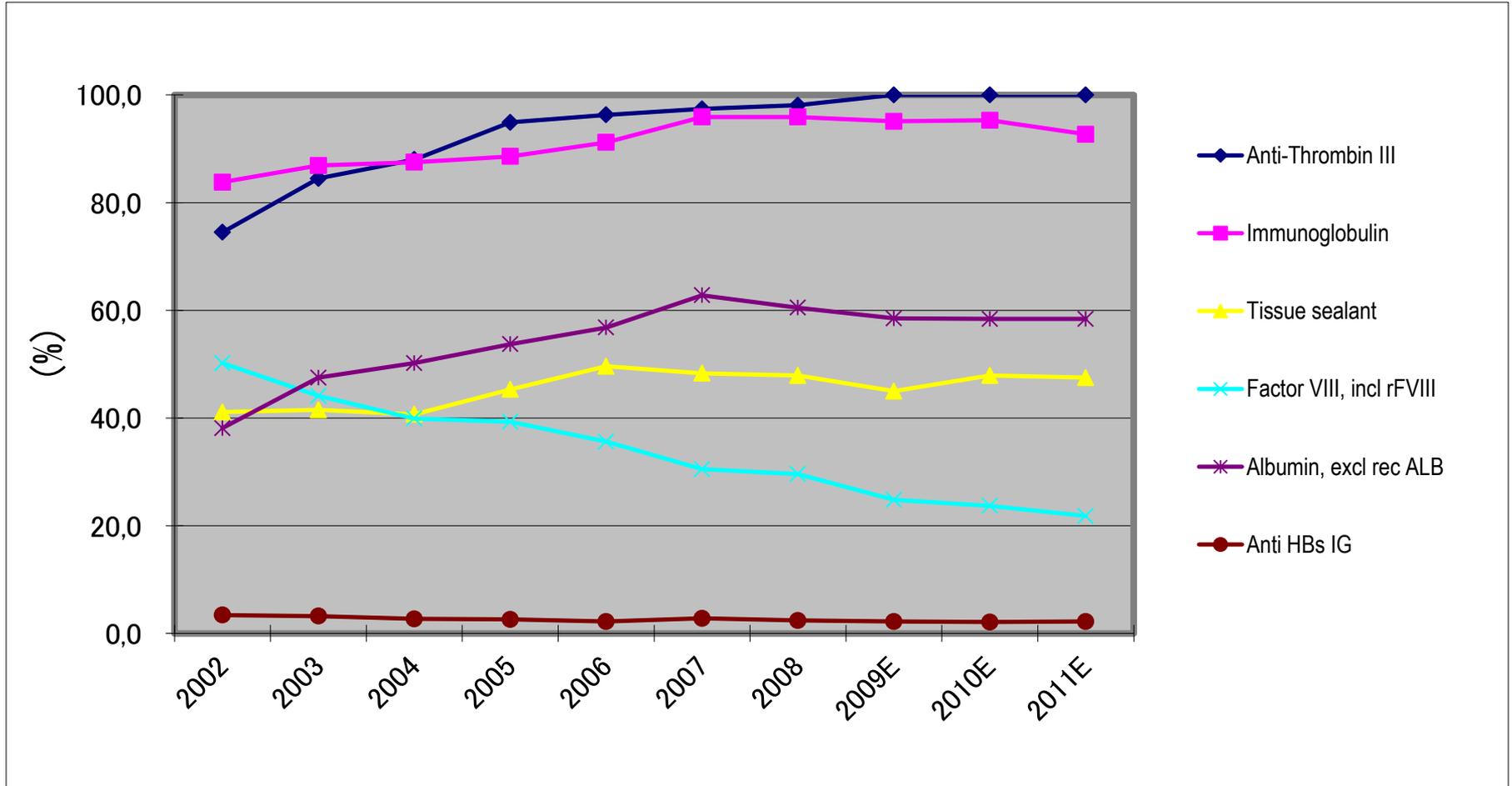
Tokyo, February 7, 2011

Plasma for Fractionation





Self Sufficiency Ratios - Japan





PPTA

SELF-SUFFICIENCY: KEY ASSUMPTIONS AND OUTCOME

Plasma Protein Therapeutics Association

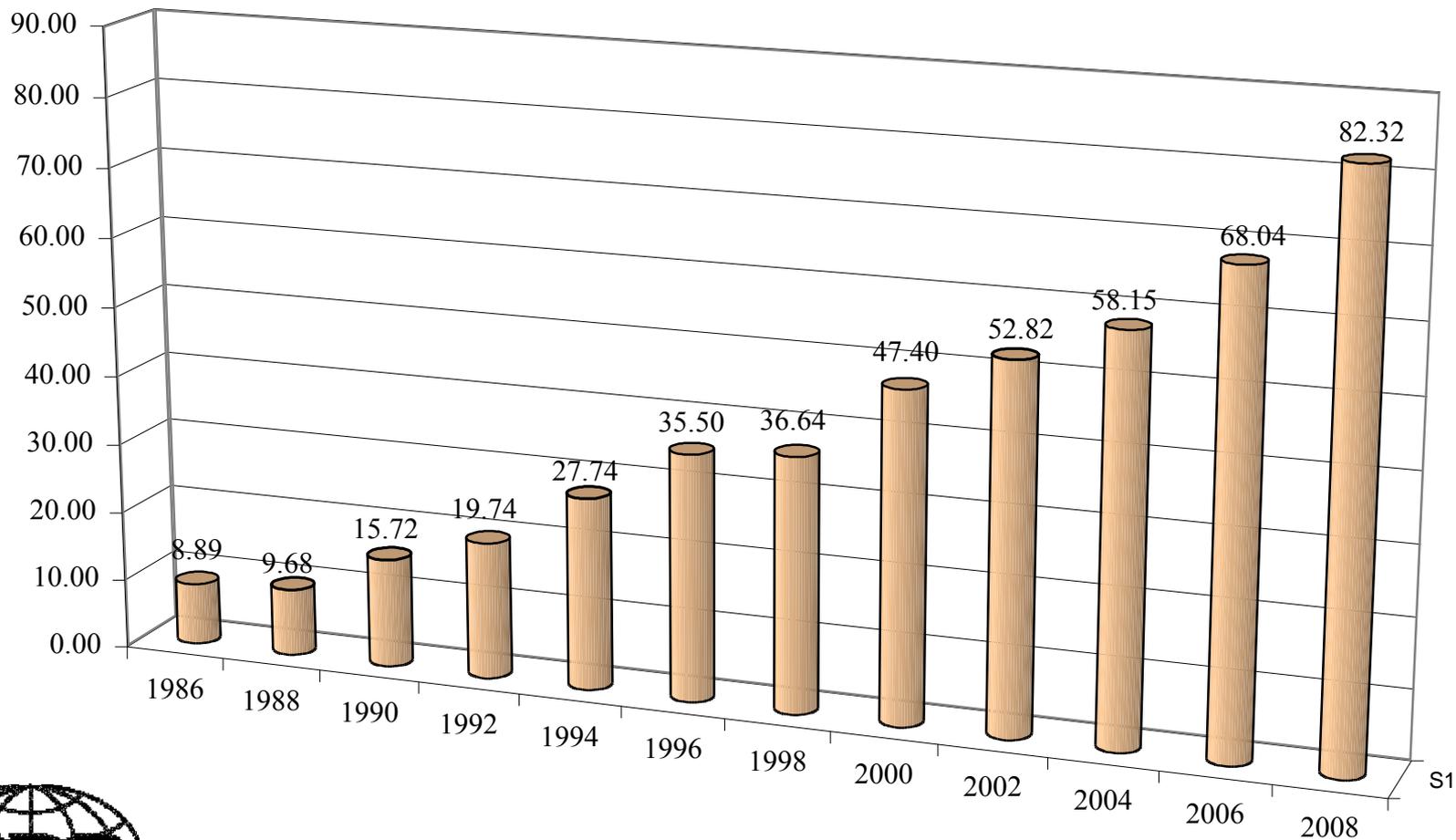
Country	Population (million)	Plasma for Fractionation Liters (000)	IVIG/Subcu. Kilograms (Market data)	Plasma Volume required Liters (000) 3 grams/Liter	Degree of Self-sufficiency Percent 3 grams/Liter
Argentina	41.200	105	288	96	110%
Austria	8.344	470	630	210	224%
Brazil	192.500	150	1,020	340	44%
Canada	33.700	250	3,807	1,269	20%
China	1,324.700	3,200	10,000	3,333	96%
Czech Republic	10.429	350	220	73	477%
France	59.400	1,020	4,323	1,441	71%
Germany	82.360	2,600	2,690	897	290%
Greece	11.200	30	610	203	15%
Hungary	10.130	80	95	32	253%
India	1,149.300	60	680	227	26%
Italy	58.100	690	3,015	1,005	69%
Japan	127.500	1,040	3,302	1,101	94%
Norway	4.769	55	124	41	133%
Poland	38.500	190	430	143	133%
Russia	141.800	240	540	180	133%
Spain	39.300	340	2,445	815	42%
Sweden	9.221	150	505	168	89%
Switzerland	7.600	90	370	123	73%
United States	306.700	20,300	37,025	12,342	164%

Average yield: 3.0 grams per liter of plasma

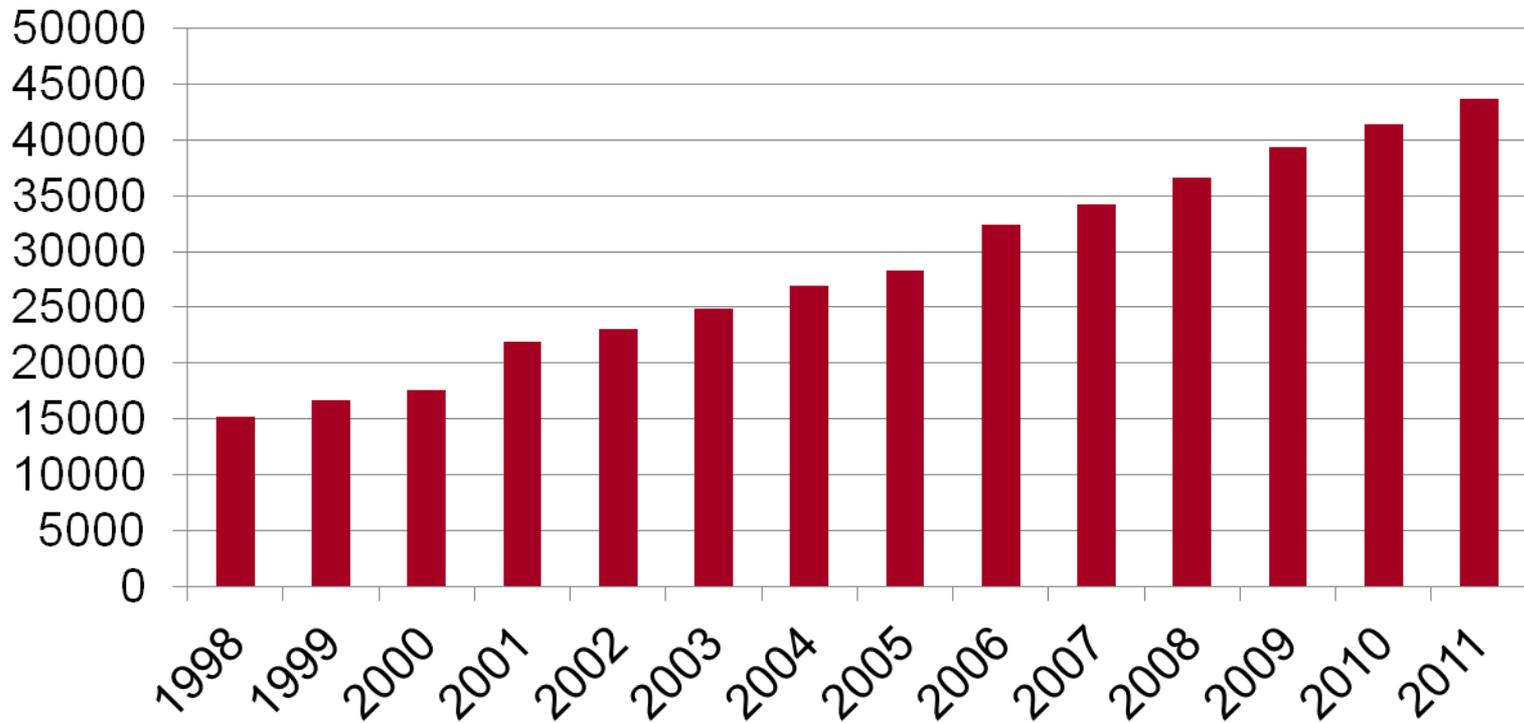


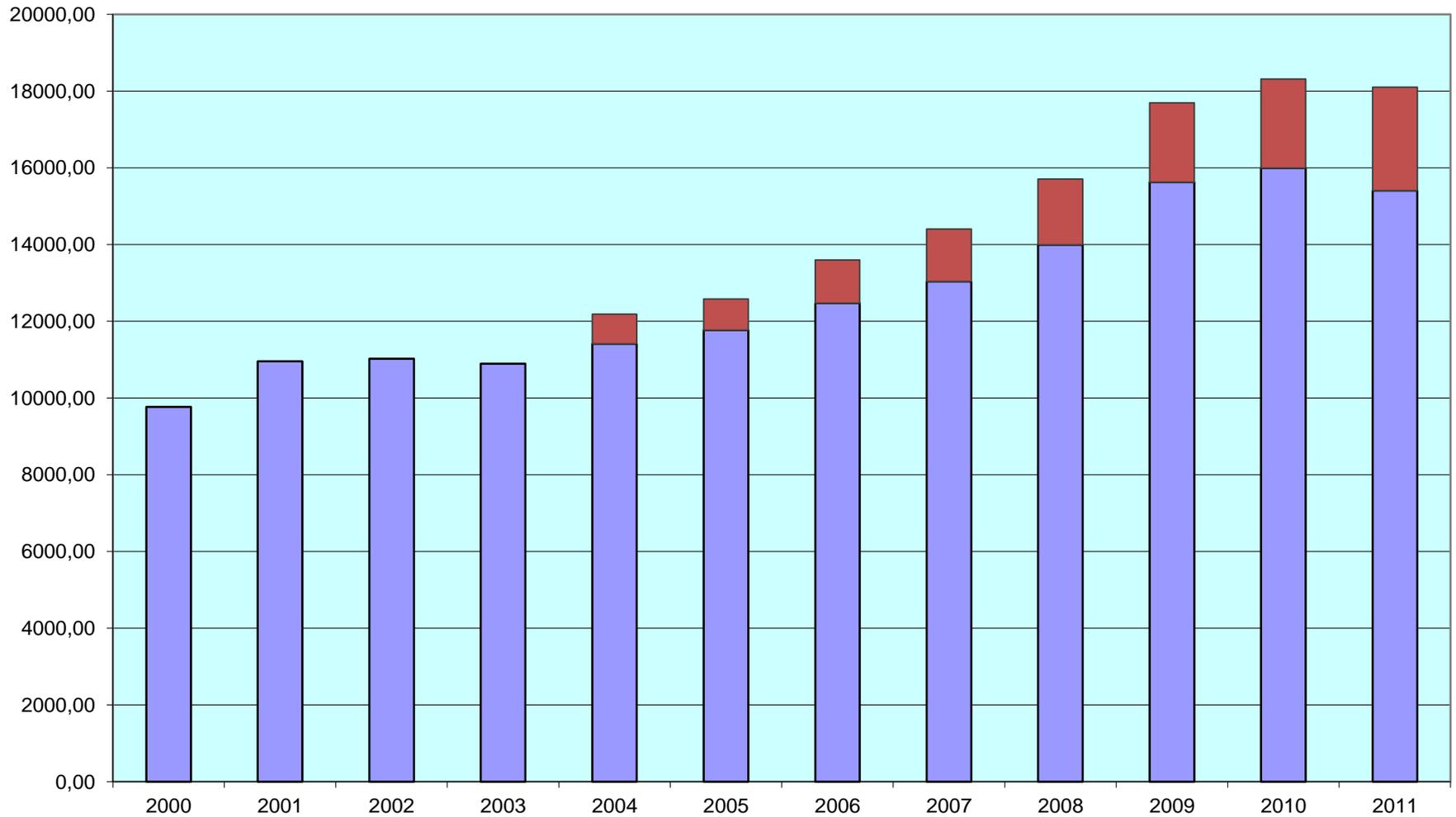
www.ppta.org

GLOBAL DEMAND FOR POLYVALENT INTRAVENOUS IMMUNE GLOBULIN (IVIG) 1986 - 2008 (Metric Tons)



IVIG (kg)

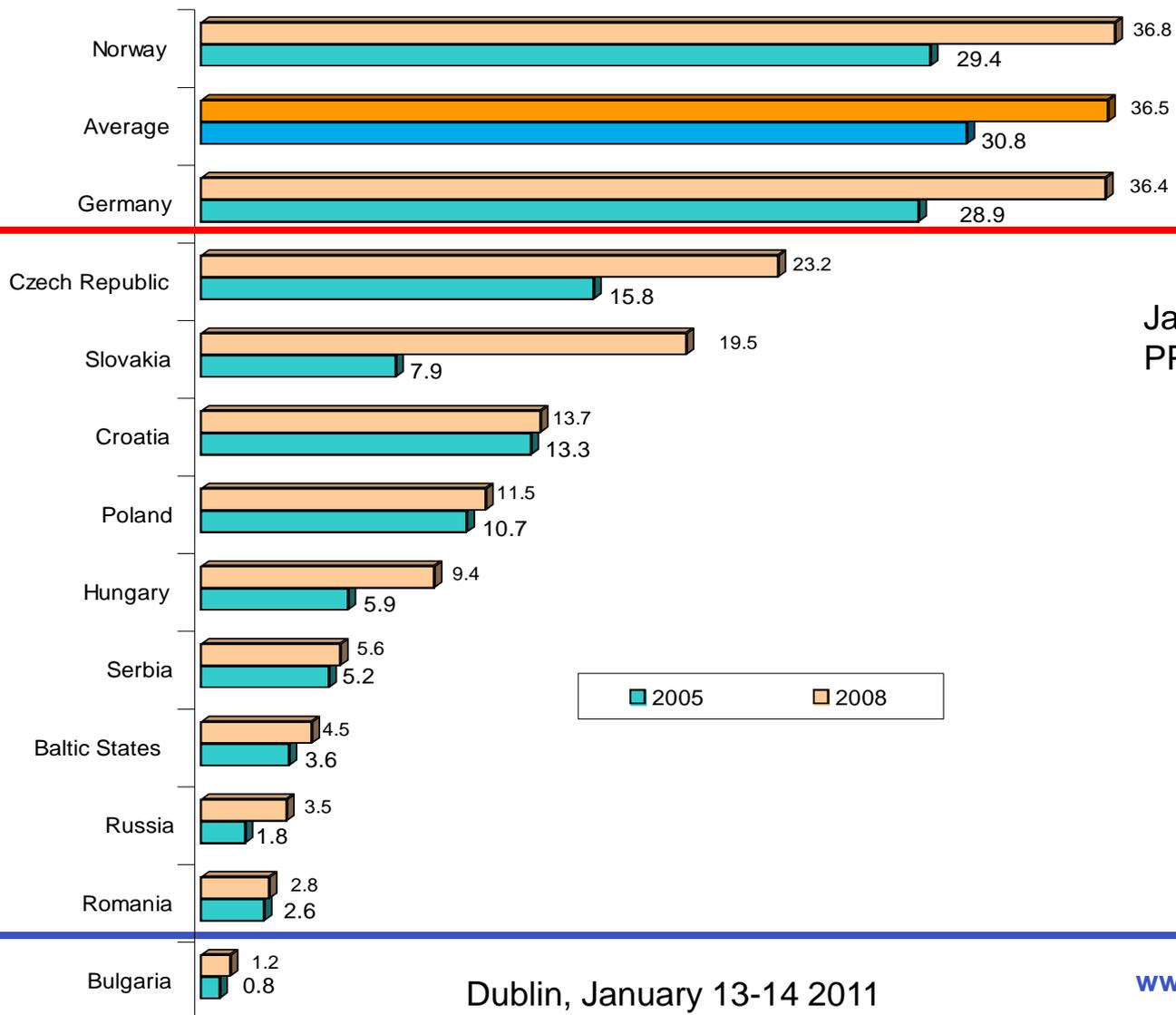




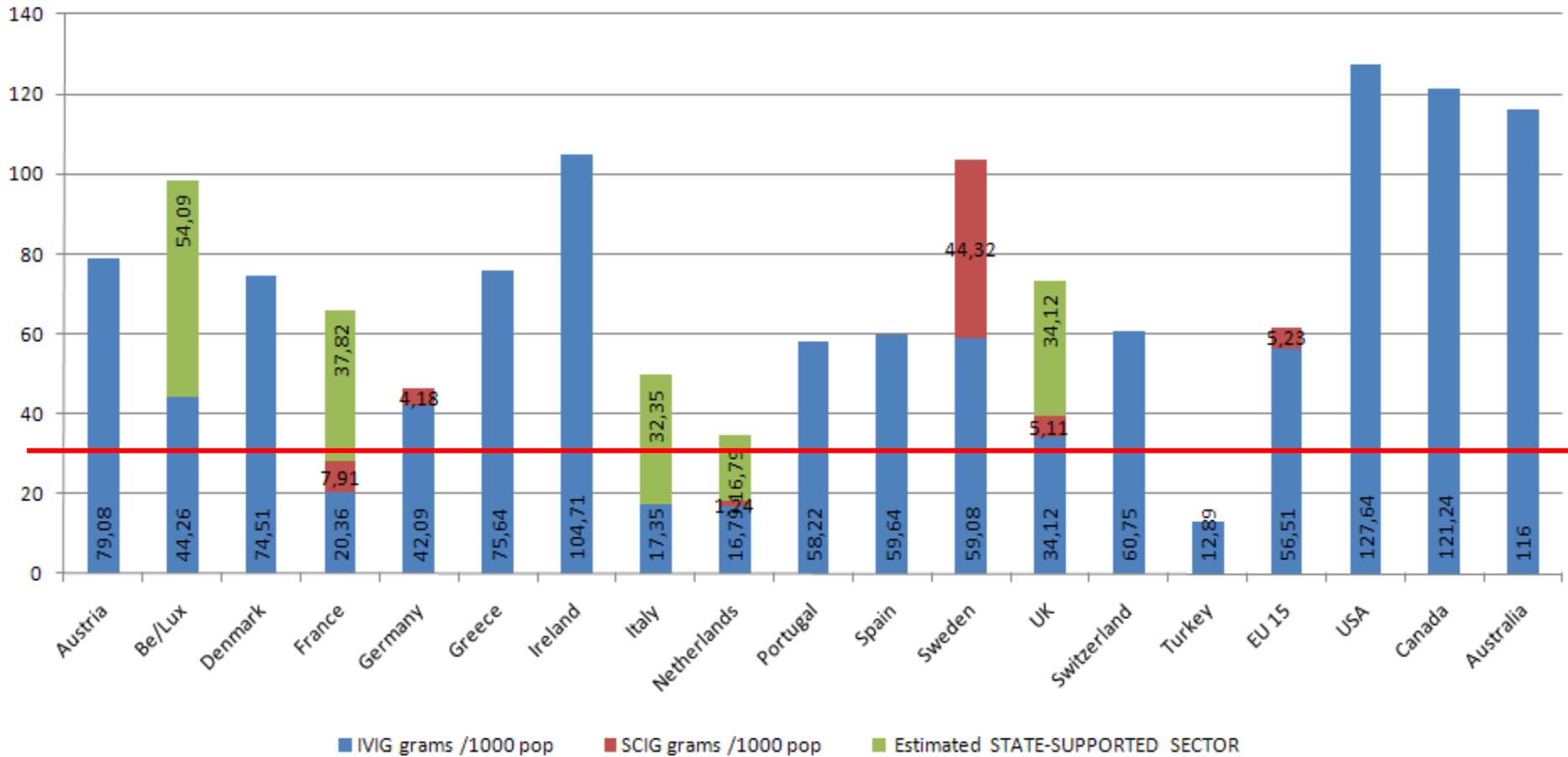
IVIG CONSUMPTION PER CAPITA IN EUROPE 2005 & 2008

(Continued)

(Grams per thousand population)


 Japan
PPTA comment


2009 IgG Consumption per capita



Data Sources:

Australia: National Blood Authority Australia – Annual Report 2008-2009

Canada: Canadian Blood Service (2008/2009 - IVIG + SCIG) & Hema-Quebec (2008-2009 Annual Report)

Europe & USA: PPTA Data - 2009

- 2008: Den Bosch
PPTA and JMF convenes a meeting with German PID experts
- 2009: Q1 Concept proposed (Wahn / Niehues)
Q2 FIND-ID Steering Committee confirmed
- Wahn, Niehues, Zepp paediatricians
 - Farnke, Schmidt, Warnatz adults
 - Grundl dsai
 - Herborg observer
- 2010 Medical coordinator appointed

