PRODUCTION OF PLASMA DERIVATIVES

WORKING FOR A NATIONAL PLAN IN SPAIN

ROME
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SPANISH COMMITTEE FOR BLOOD SAFETY

MINISTRY OF HEALTH

SPANISH BLOOD NETWORK.

17 Blood Establishments

(17 Regional Authorities Competent for Health and Blood issues)

FRACTIONATION OF SPANISH PLASMA 1985 – 2021
Summary of key points

1. Spanish Plasma Master File: Pharmacy Directorate / Spanish Medicines Agency
2. Individualized contracts by one (or a consortium when more than one)) Autonomous Community
3. Fractionator Company: Grifols
4. Origin of plasma: Whole blood donation (90%), Plasmapheresis (10%)
5. Products obtained: Albumin, Nonspecific Immunoglobulins, Factor VIII, Factor IX, Alpha 1-Antitrypsin, Antithrombin – III. Portfolio should be efficiently completed
6. Role of the BEs: Organization of public tenders, payment for the costs of fractionation and direct distribution to hospitals within their area of influence.
7. Fractionators : Grifols, Octapharma, CSL Behring,..... Product Registration!!!
8. Increased indications and challenge for sufficiency (Determining element: Non-specific immunoglobulins). Risk of more or less acute shortages
9. Increasing the source plasma availability by the consolidation of plasmapheresis programs is the only alternative to improve our PDMPs sufficiency (100% of plasma from WB is efficiently recovered)

Objective (2021-2025): Reduction of external dependence

EVOLUTION OF PLASMA AVAILABLE FOR FRACTIONATION IN PDMPs

	2015	2016	2017	2018	2019	% Variación 2018-2019
PFC (L)	373.055	373.376	370.336	377.224	389.379	3,22
PC (L)	0	0	0	0	0	0,00
Total	373.055	373.376	370.336	377.224	389.379	3,22

Tabla 7

8 kg / 1000 Population

Gráfico 8

EVOLUTION OF THE AVAILABILITY AND USE OF PDMPs IN SPAIN. SUFFICIENCY:

- **ALBUMIN: 71% - 59%**
- **IgG: 54% - 34%**
- **FVIII Plasma: 42 - 60%**

	2015	2016	2017	2018	2019	% Variación 2018-2019
Albúmina (Gr)	9.075.620	10.509.411	9.833.206	9.815.460	9.572.115	-2,48
Igs (Gr)	1.643.805	1.897.510	1.649.493	1.564.249	1.584.823	1,32
Factor VIII (UI)	34.484.391	41.764.000	36.831.500	31.739.489	46.322.251	45,95

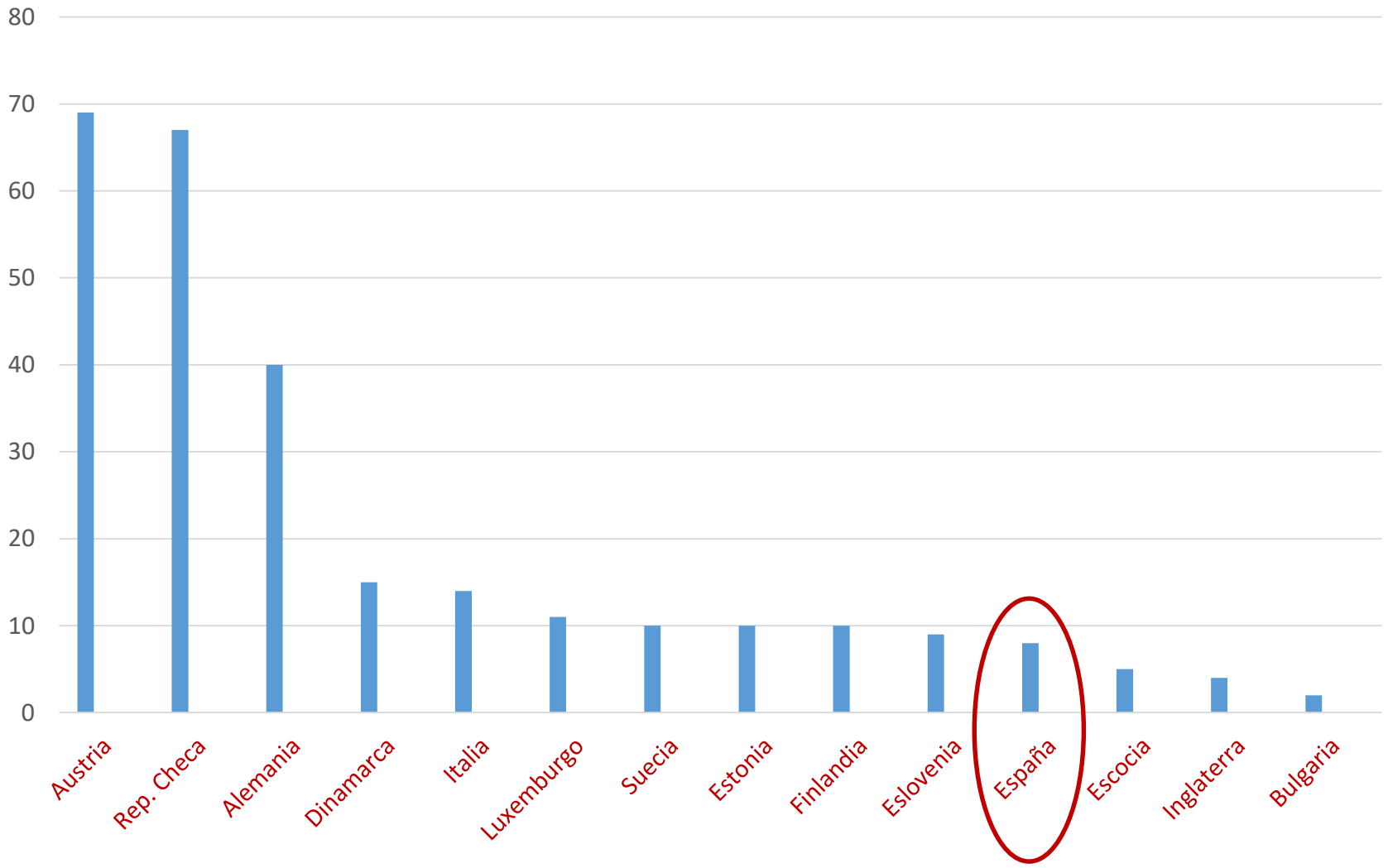
Tabla 8

	2015	2016	2017	2018	2019	% Variación 2018-2019
Albúmina (Gr)	12.794.929	14.107.298	14.036.407	15.711.792	16.111.873	2,55
Igs (Gr)	3.040.415	3.369.361	3.756.145	4.443.064	4.718.967	6,21
Factor VIII p (UI)	80.813.302	93.129.420	76.872.172	75.507.759	76.263.866	1,00
Albúmina (Gr por 1000 hab.)	276,62	304,70	302,74	338,88	347,51	
Igs (Gr por 1000 hab.)	65,73	72,77	81,01	95,83	101,78	
Factor VIII p (UI por 1000 hab)	1.747,17	2.011,49	1.658,01	1.628,58	1.644,89	

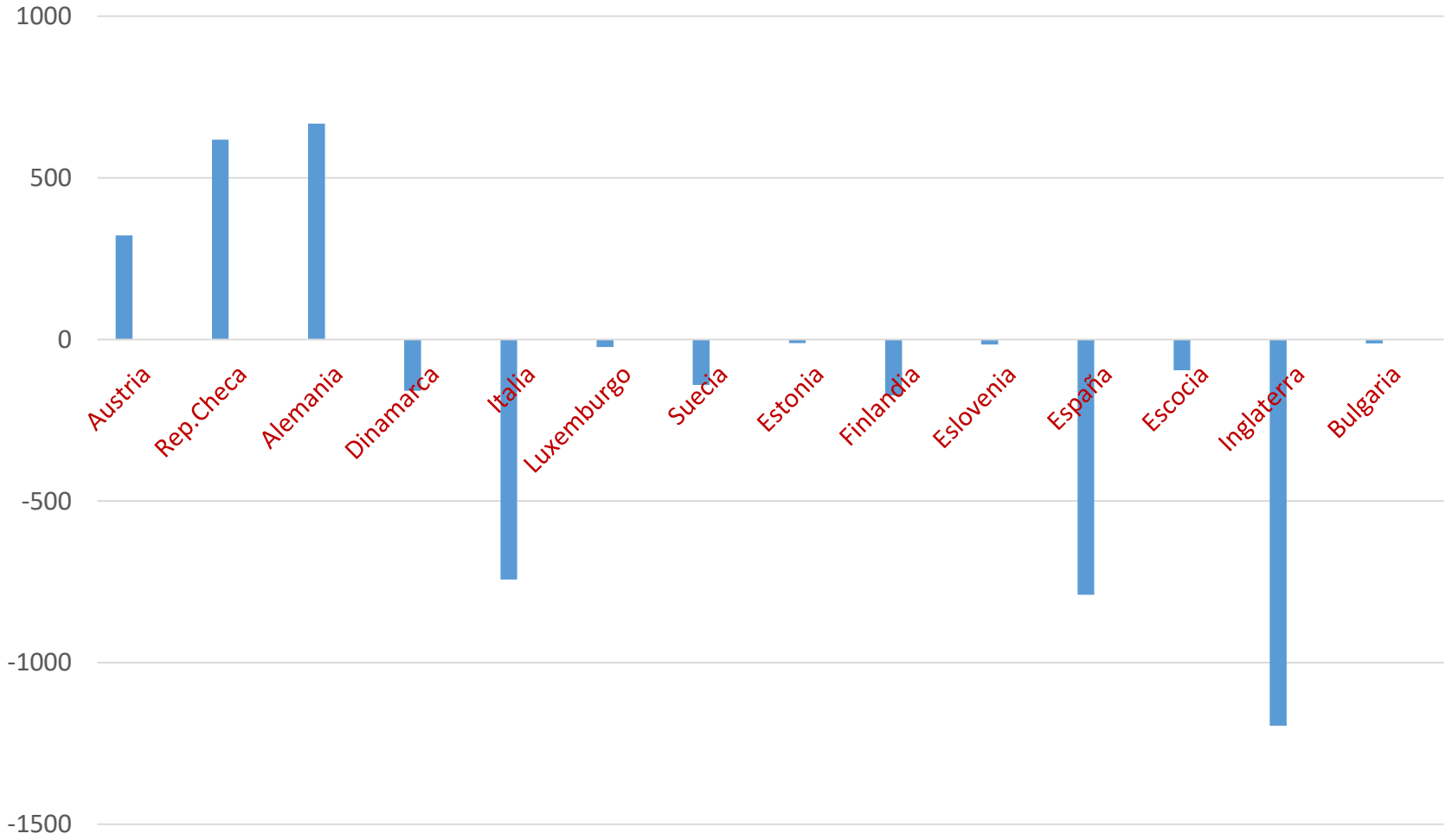
Tabla 9

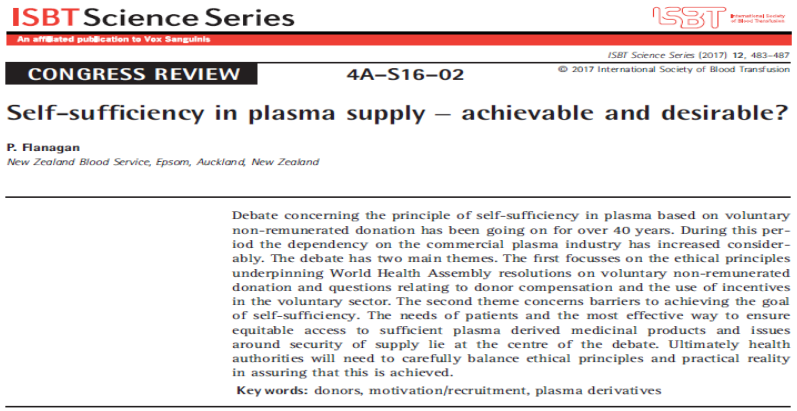
SPAIN. Key points for Sufficiency	ReferenCE: Iv IgG
• Current plasma available for fractionation	8 Kg / 1000 Pop.
• Use of Iv IgG	100gr / 1000 Pop
• National Deficit. Yield 4 gr/Kg	-790.371 Kg
• National Deficit. Yield 5 gr/Kg	-554.421 Kg
• Number of Plasmapheresis for Self-Sufficiency. Yield 4 gr/Kg	1.129.101
• Number of Plasmapheresis for Self-Sufficiency. Yield 5 gr/Kg	792.030

FRACCIONAMIENTO PLASMATICO. Kg / 1000 HABITANTES



SURPLUS AND / OR SHORTFALLS OF PLASMA FOR FRACIONATION : KG X 1000





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CONGRESS REVIEW 4A–S16–02

Self–sufficiency in plasma supply – achievable and desirable?

P. Flanagan
New Zealand Blood Service, Epsom, Auckland, New Zealand

Debate concerning the principle of self-sufficiency in plasma based on voluntary non-remunerated donation has been going on for over 40 years. During this period the dependency on the commercial plasma industry has increased considerably. The debate has two main themes. The first focusses on the ethical principles underpinning World Health Assembly resolutions on voluntary non-remunerated donation and questions relating to donor compensation and the use of incentives in the voluntary sector. The second theme concerns barriers to achieving the goal of self-sufficiency. The needs of patients and the most effective way to ensure equitable access to sufficient plasma derived medicinal products and issues around security of supply lie at the centre of the debate. Ultimately health authorities will need to carefully balance ethical principles and practical reality in assuring that this is achieved.

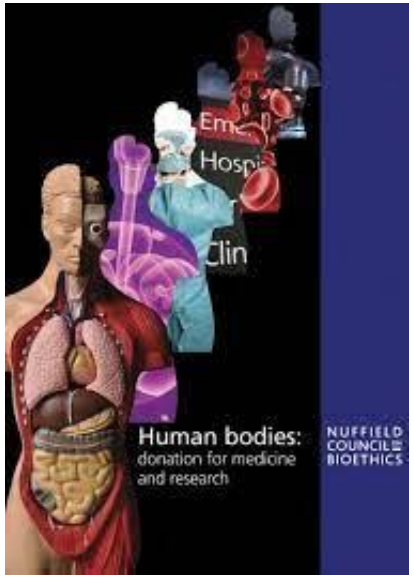
Key words: donors, motivation/recruitment, plasma derivatives

1. **Principle of DVNR.** Based on social cohesion, citizen participation, and avoiding the exploitation of the most disadvantaged and guaranteeing respect for the human body and its parts.
2. **Principle of Product Safety.** Consequence of the HIV pandemic. Current measures of inactivation or reduction of pathogens during plasma processing lighten this principle.
3. **Donor Security Principle.** Plasmapheresis repeated over time may not be safe for the donor, and his/her dignity must be protected. Ethical and safety aspects
4. **Principle of Competence for Donation.** The existence of two systems (DVNR for labile components, and financial compensation for plasma) could jeopardize the supply capacity of transfusion components. Sustainability and resilience of the supply of blood components and plasma derivatives

NOT ALTRUISTIC

6	ECONOMIC INCENTIVES that leave the donor in a better financial situation after the donation
5	INTERVENTIONS ASSOCIATED WITH BENEFITS to donate for people who did not plan to donate

The Principle of the Prohibition of Economic Gain
(DH-BIO Bioethics Committee)
Human Bodies: Donation for Medicines and Research
(Nuffield Council on Bioethics)



4	EXTRA STIMULUS INTERVENTIONS to donate for people who already planned to donate for altruistic reasons
3	INTERVENTIONS TO REMOVE BARRIERS to donate for people who already planned to donate for altruistic reasons
2	RECOGNITION for the donation through appropriate methods.
1	INFORMATION on the need to donate human material for the treatment of others or for research.

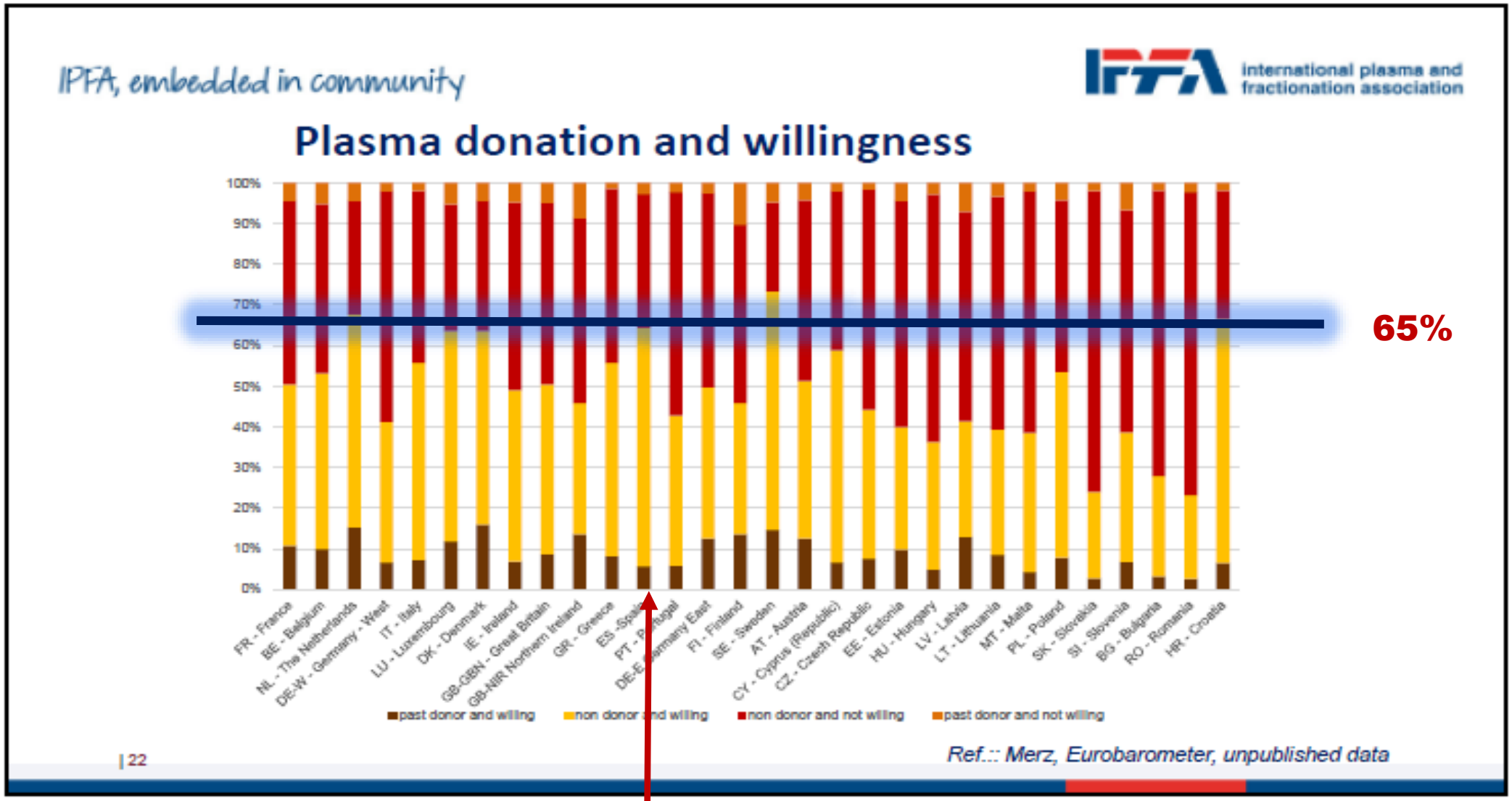
ALTRUISTIC

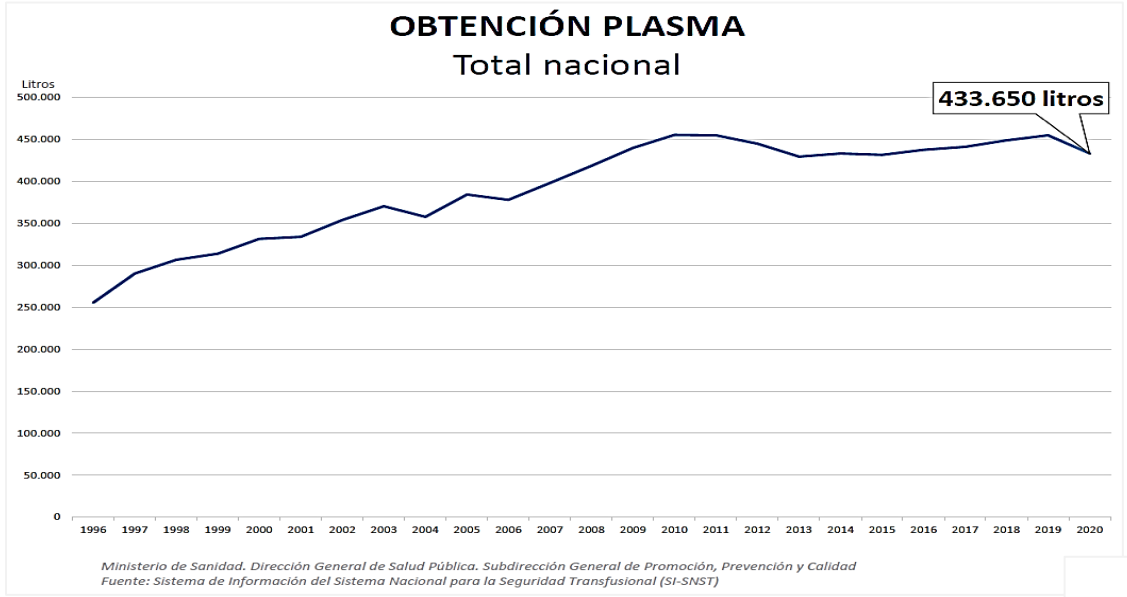
1. The use of PDMPs is mainly carried out in the **public sector**, **so the participation of BEs is paramount in the Public Health strategy** to allow equitable and sustainable access, and according to the standards of value-based health care.

2. According to EBA, **the availability of a larger and more diverse base of unpaid donors**, and a lower frequency of donation (< 12/year) reduces the individual "burden" of the donor, increases its security and the overall robustness of the blood supply and derivatives, providing a higher quality of plasma in relation to the IgG content.

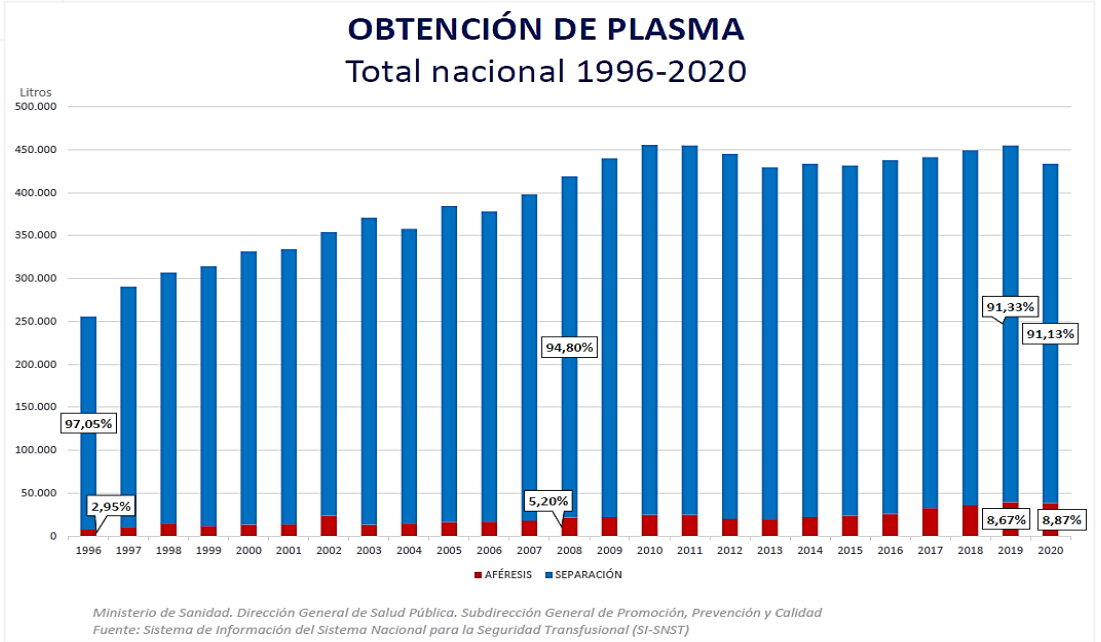
3. The **NRBD must be recognized as a strategic objective** that requires public intervention, and consider it as a Service of General Interest and that allows to modify the rules of competition and internal market if necessary to protect the access of citizens to basic services: EU4 Health Program 2021-2027 (European. Blood Alliance)

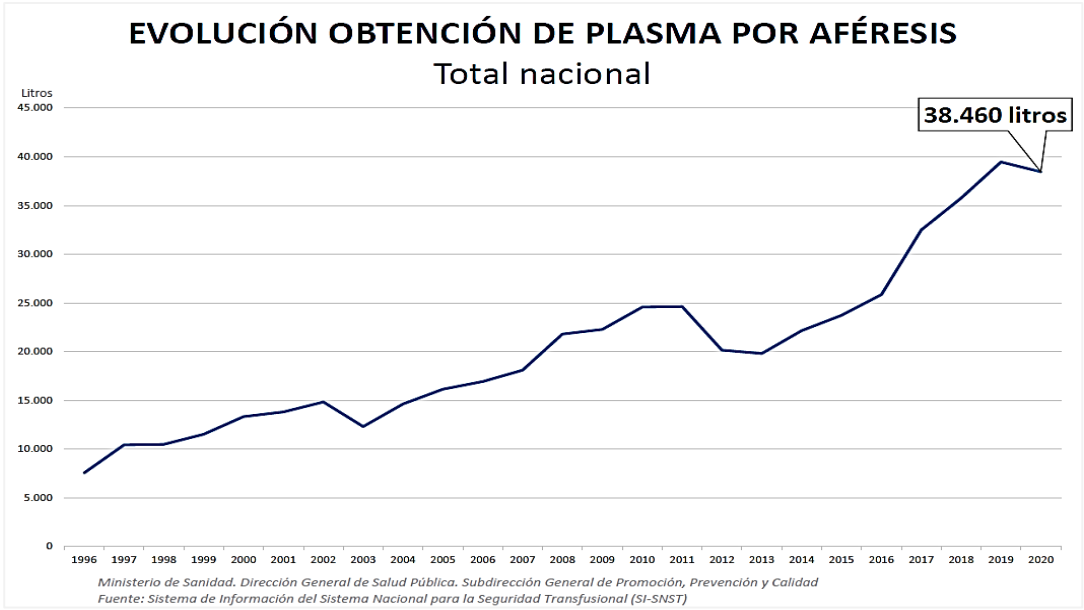
AVAILABILITY OF THE SPANISH POPULATION TO DONATE PLASMA





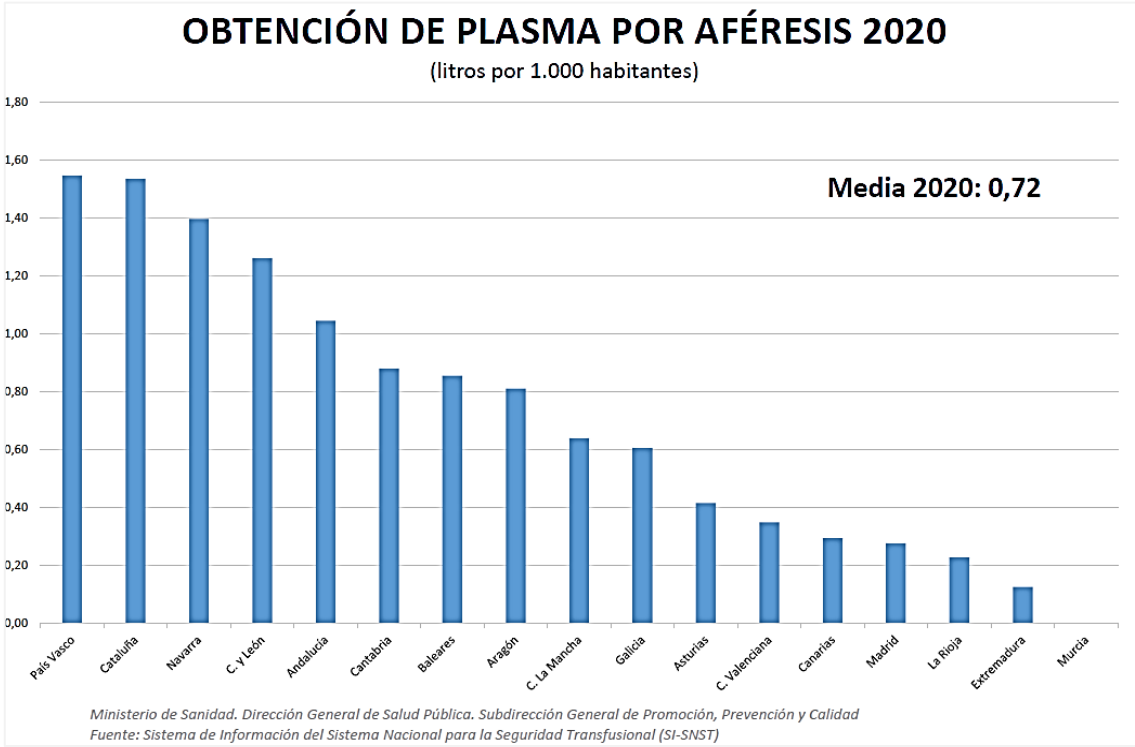
Plasma availability 1996-2020

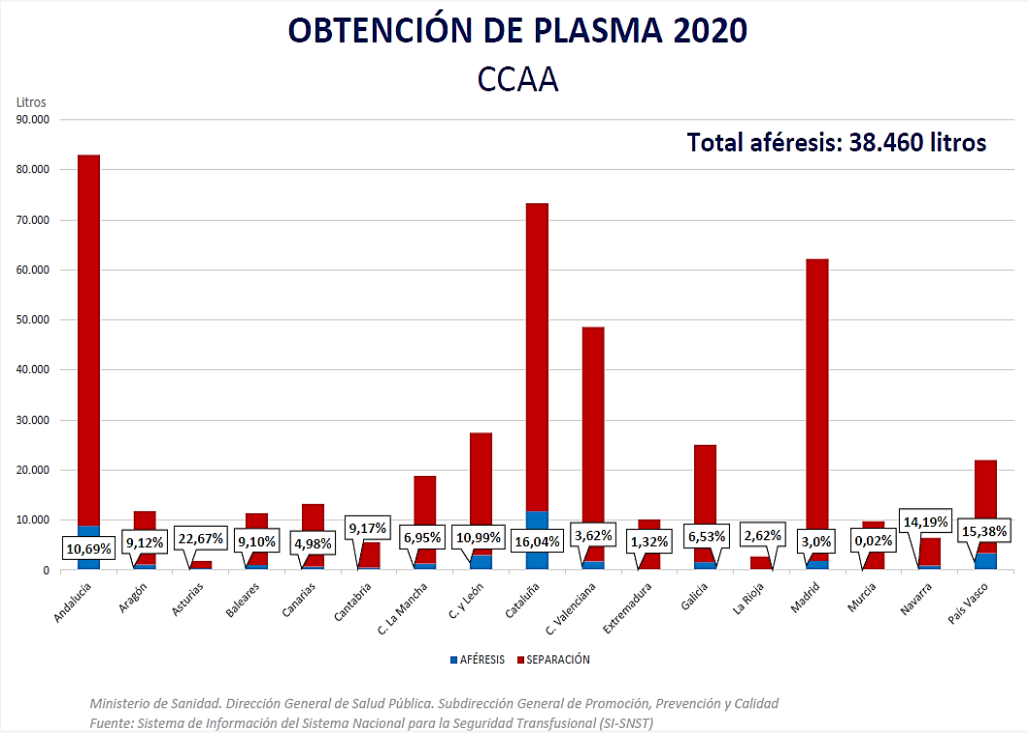




Source Plasma 1996-2020:

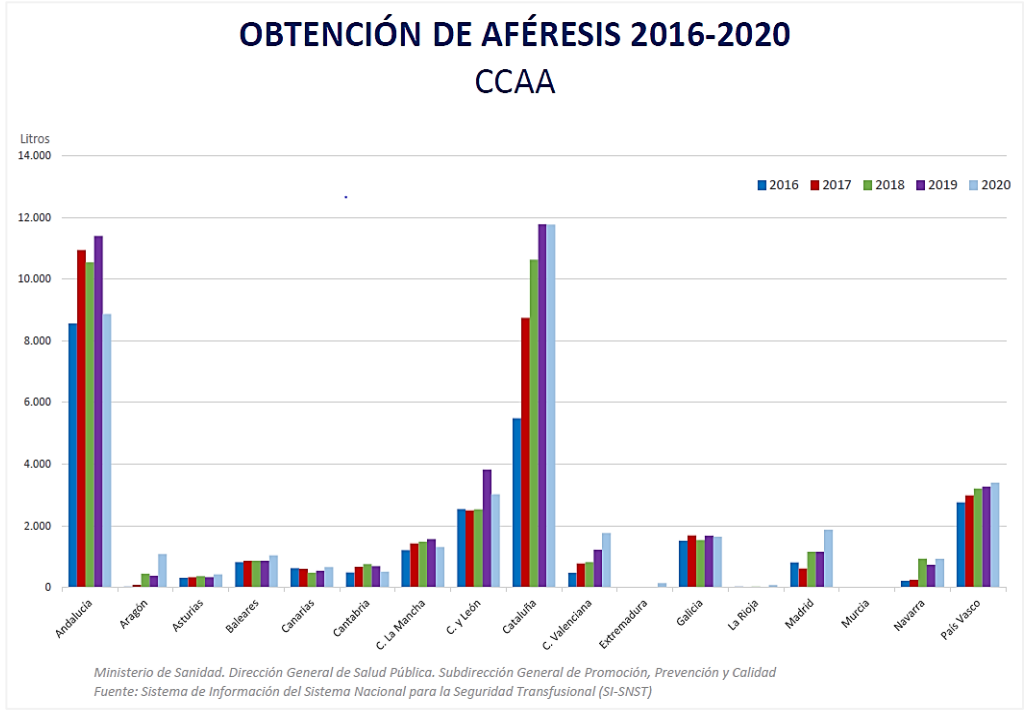
- Global National
- Regional differences

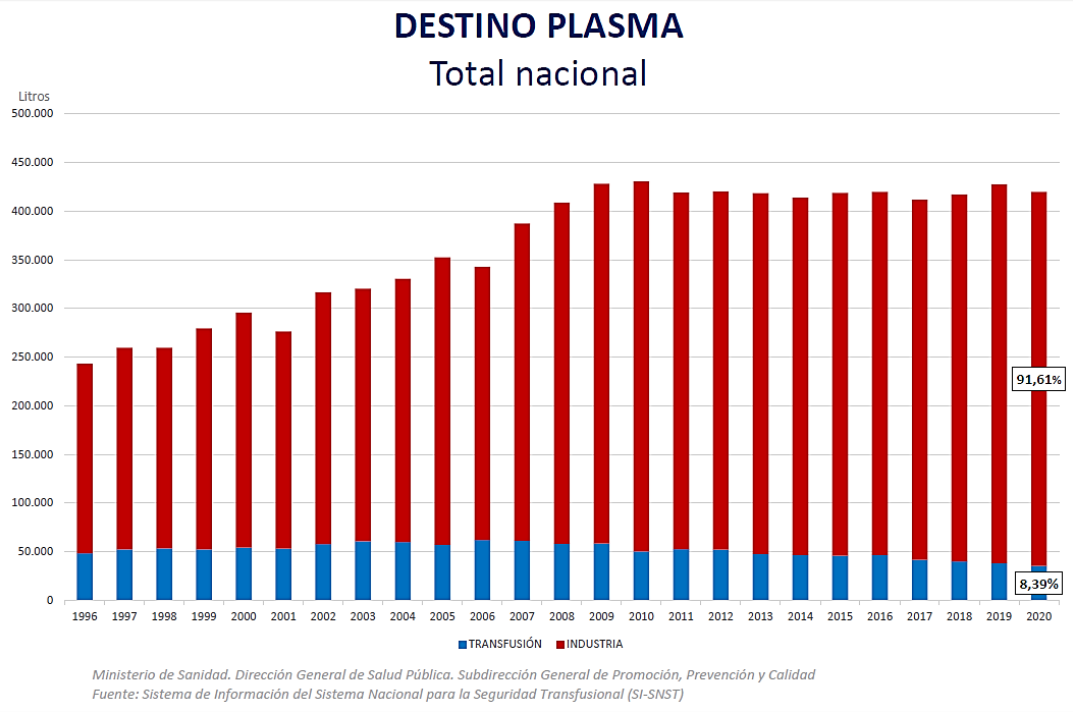




Source Plasma 2016-2020:

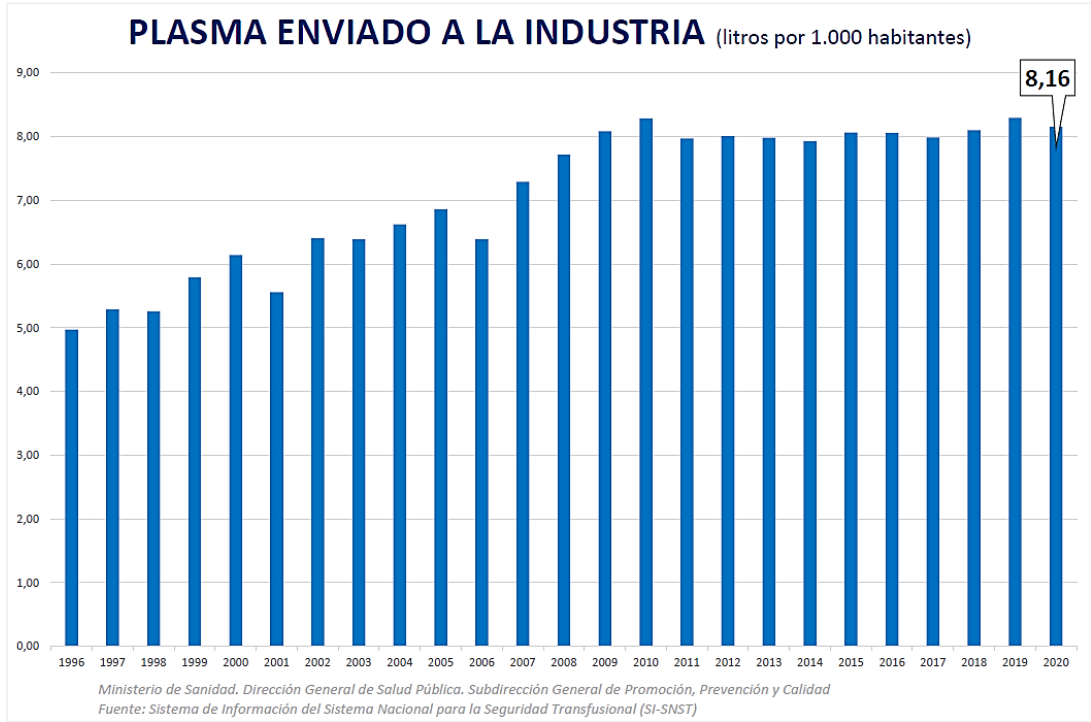
- **Global Regional**

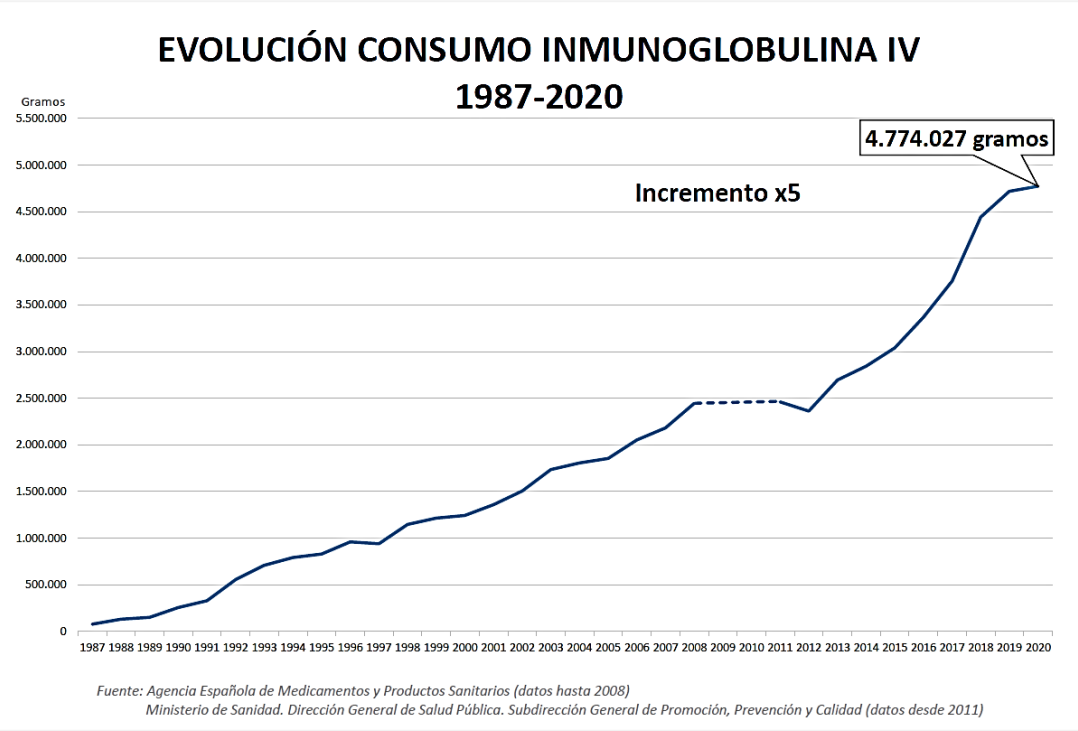


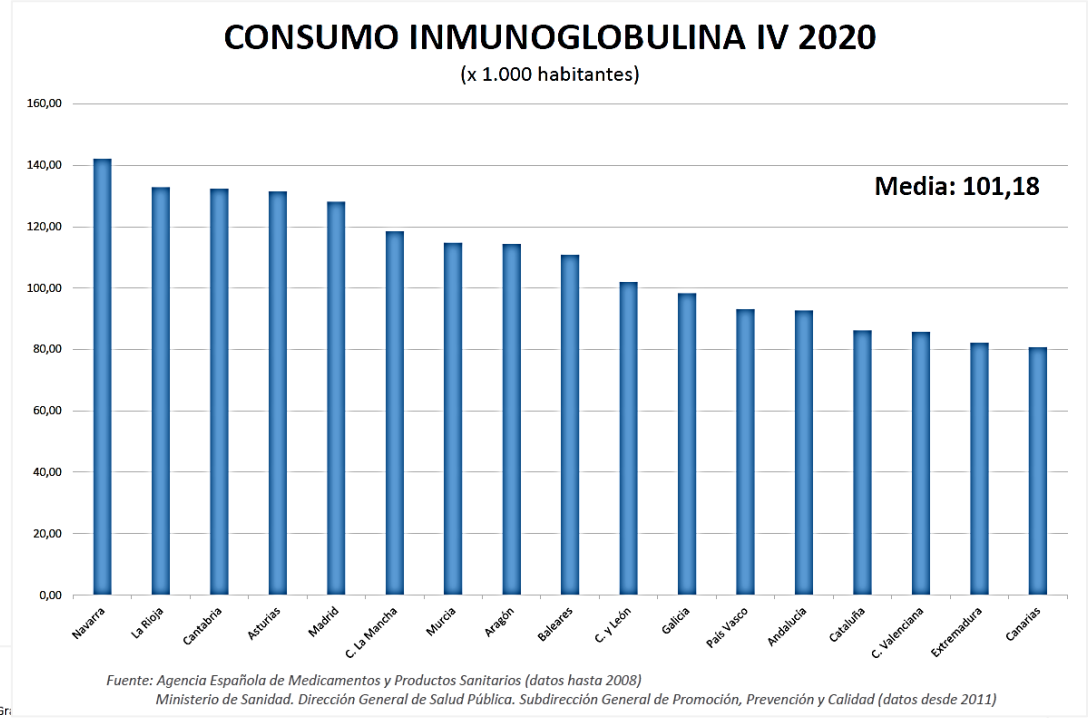


Plasma Final destination:

- **Transfusion: 8%**
- **Fractionation: 92%**

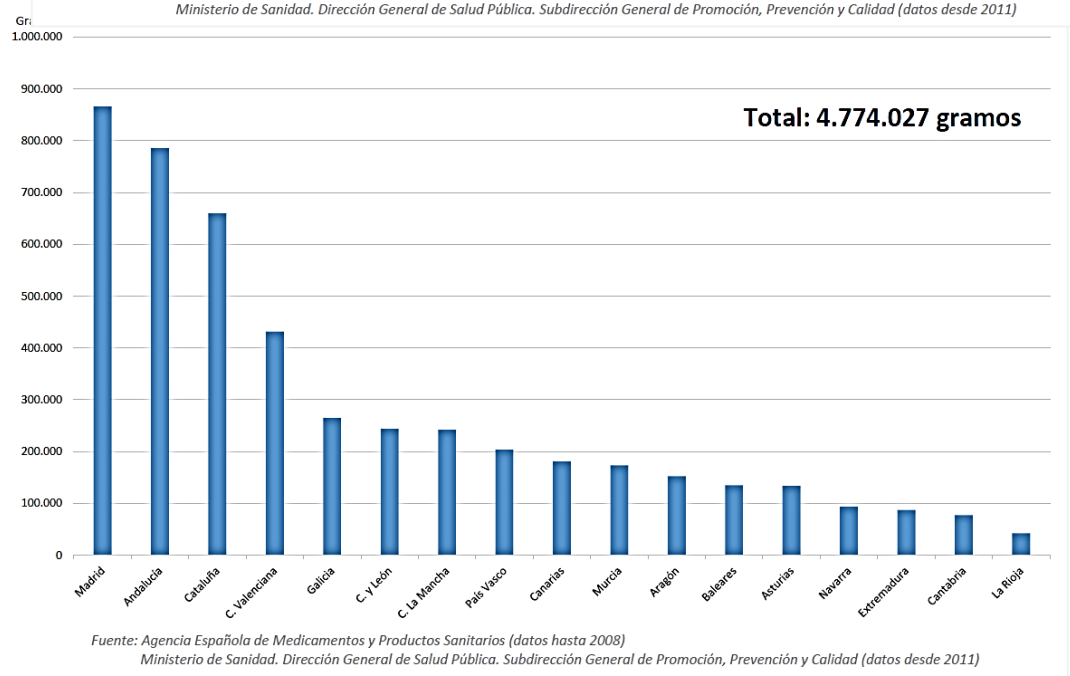


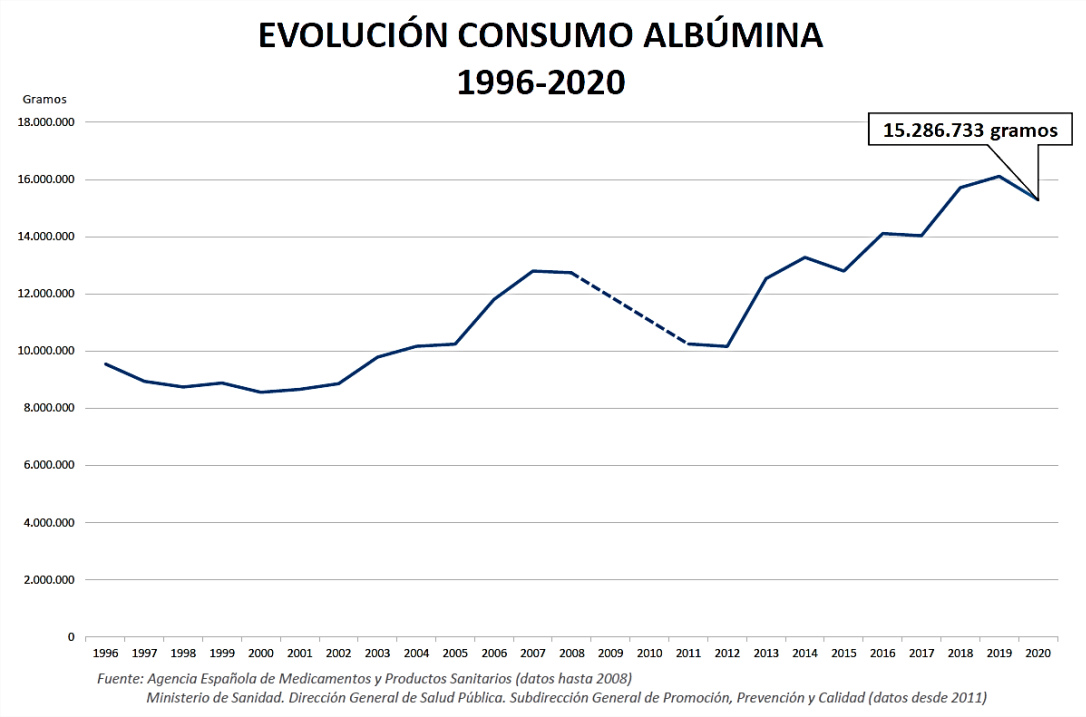


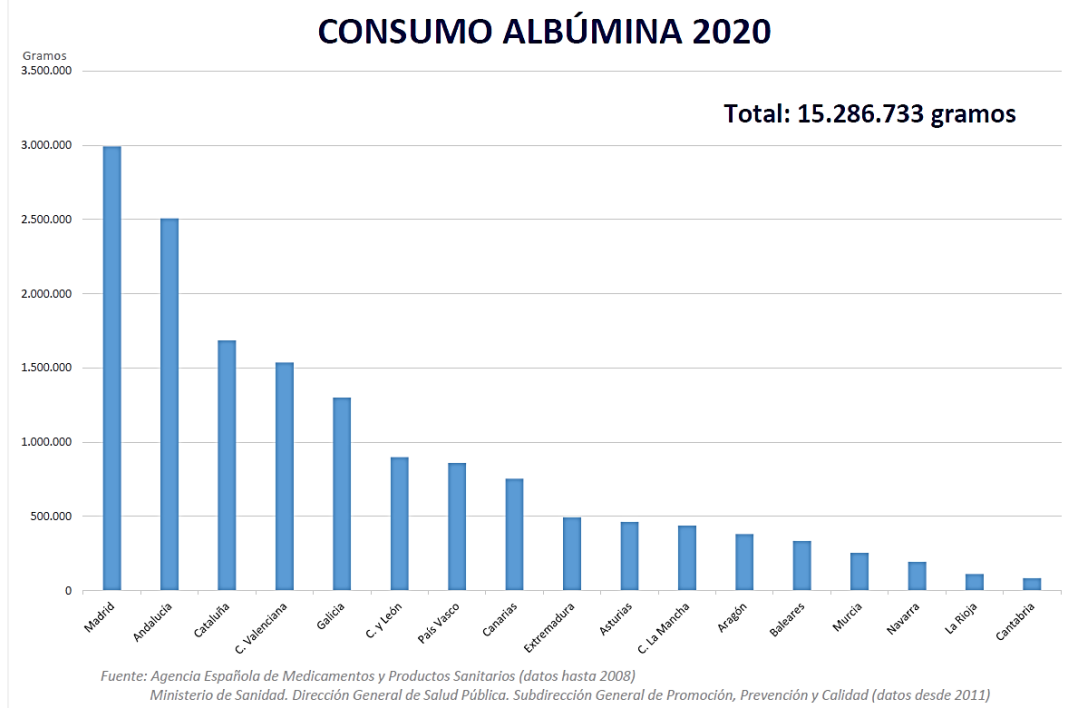


Iv IgG Use 1987-2020:

- **Global National**
- **Regional differences**

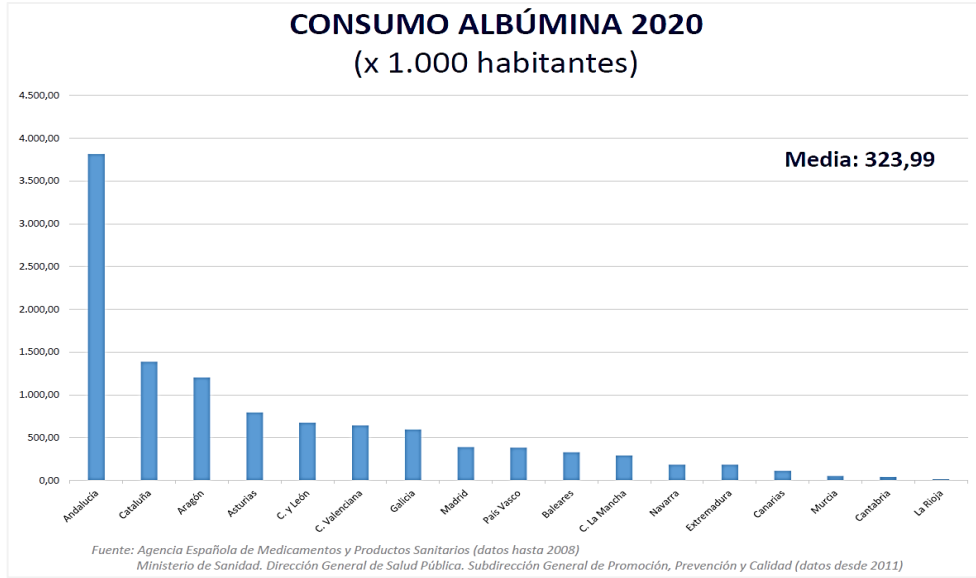


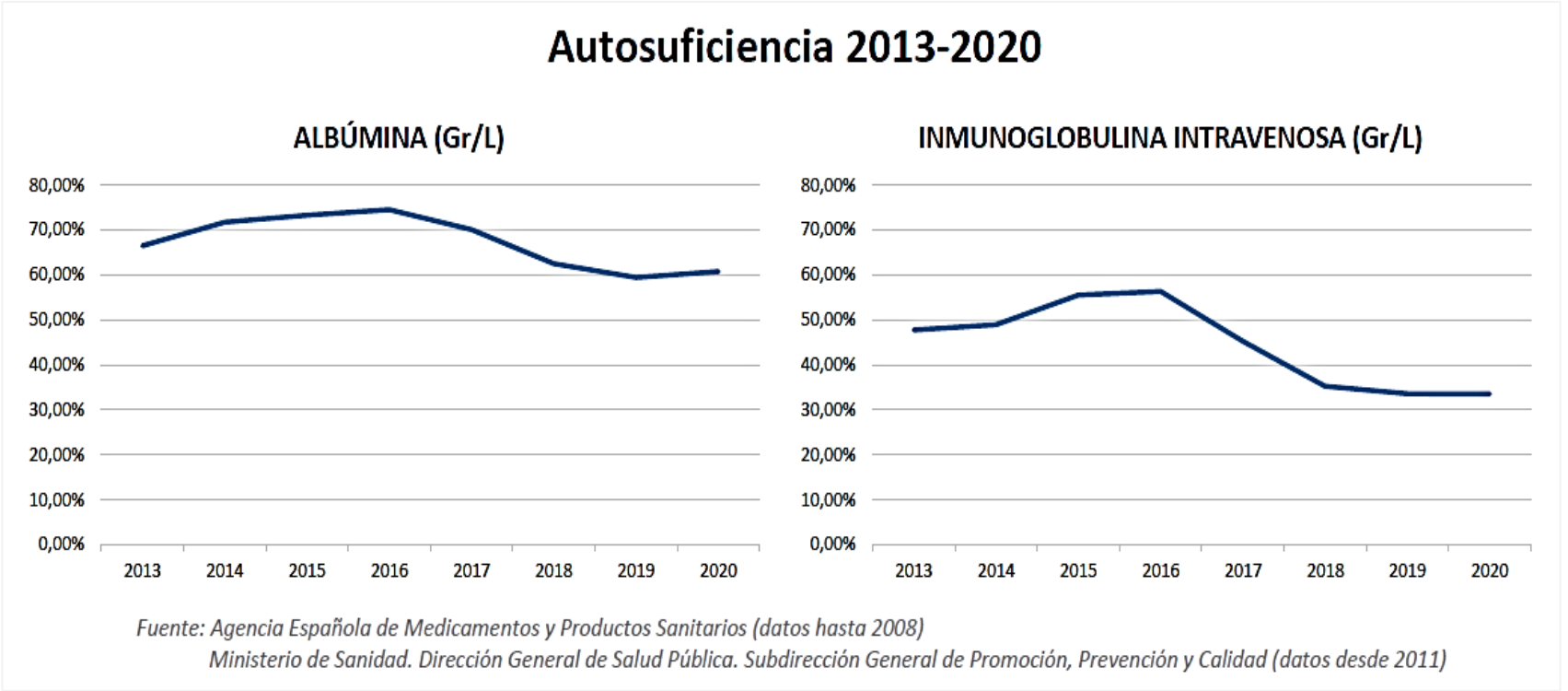




Albumin use 1996-2020:

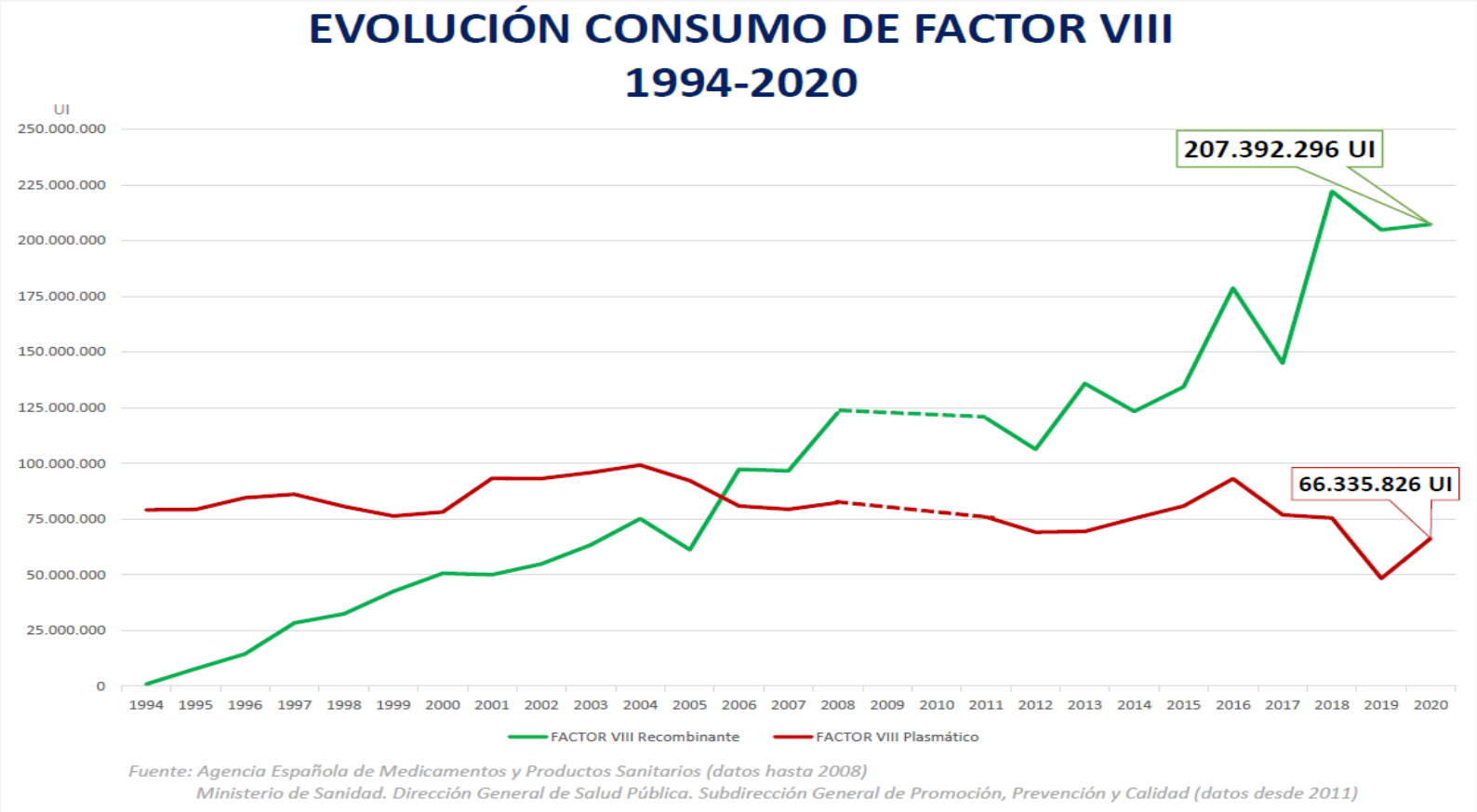
- Global National
- Regional differences





Sufficiency level:

- **Albumin**
- **Iv IgG**



FVIII Use:

- **Recombinant (80%)**
- **Plasma (20%)**

DERIVADOS PLASMÁTICOS

PRODUCTO	PRESENTACIÓN	RENDIMIENTO MÍNIMO GARANTIZADO		PRECIO/LITRO*
		Donación de sangre	Plasmaféresis	
Albúmina Humana al 20%	10 g 20 g	26 g/L	26 g/L	24,46 €
Albúmina Humana al 5%	12,5 g 25 g			
Factor VIII	500 UI 1.000 UI	120 UI/L	300 UI/L	18,72 €
Inmunoglobulina Intravenosa	5 g 10 g	3,6 g/L	5 g/L	64,03 €
Alfa-1-antitripsina	0,5 g 1 g	0,10 g/L	0,20 g/L	17,95 g
Factor IX	500 UI 1.000 UI	105 UI/L	180 UI/L	27,46 €
Antitrombina III	500 UI 1.000 UI	50 UI/L	-	7,58 €

Acuerdo marco para el fraccionamiento industrial del plasma procedente de la red de centros de transfusión

CLINICAL INDICATIONS FOR IV IgG (National Monitoring):

1. Authorized clinical indications
2. Clinical indications not authorized but supported by studies
3. Clinical indications not authorised or sufficiently endorsed
4. Clinical indications not recommended

RESULTADOS

PARTICIPANTES

HOSPITALES: 104

91 Públicos
13 Privados

17 CC.AA.

- 2. 953 pacientes

HISTORIAS CLÍNICAS REVISADAS

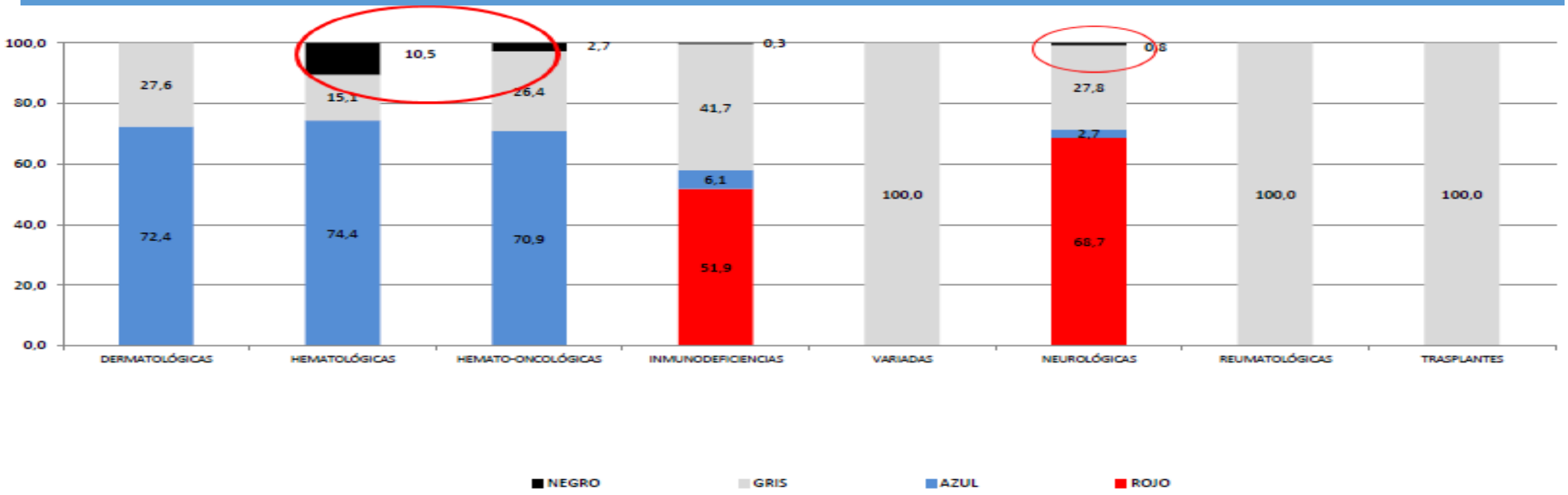
- TIPOS DE INDICACIONES

Número de pacientes

• **ROJO**	1.150
• **AZUL**	666
• **GRIS**	1.095
• **NEGRO**	42

OK

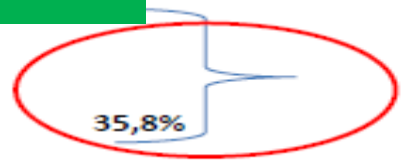
USE OF IV IgG BY HOSPITAL SERVICES AND MEDICAL SPECIALTIES

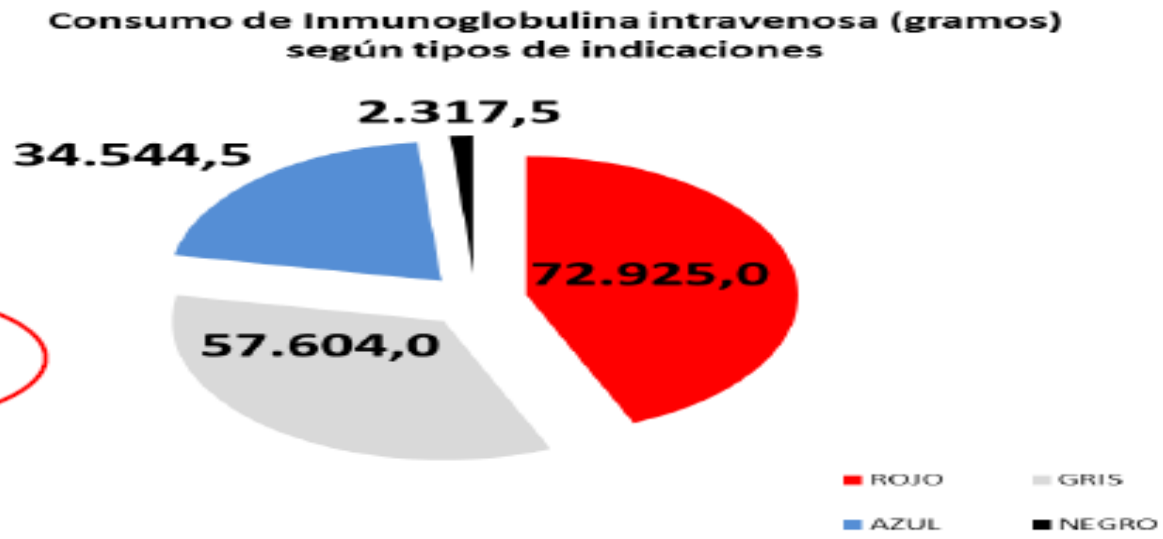


USE OF IV IgG BY TYPE OF CLINICAL INDICATION

- ROJO: 43,6%
- AZUL: 20,6%
- GRIS: 34,4%
- NEGRO: 1,4%

OK





STRATEGIC PLAN FOR SPANISH PLASMA SELF-SUFFICIENCY:

1. Emergency Plan 2021-2025
2. Approval by the Ministry of Health and by the Regional Authorities.
3. Additional funding from the Ministry of Health (2021: €4,000,000) to increase the number of plasmapheresis
4. A National Campaign to stimulate and make visible plasmapheresis will be launched by the second semester of 2022

SPAIN: PLASMA COLLECTION STRATEGY 2021-2025.

1. **Commitment of local and national authorities. Consideration of plasma as a strategic product. Ensure the use of PDMPs of National origin.**
2. **Follow-up of recommendations established by EBA**
3. **Financing Plan: Local, National and European?**
4. **Visibility of Plasmapheresis as a specific donation line with exclusive personalized and evidence-based selection criteria.**
5. **Commitment of BEs in the prioritization of plasmapheresis in their objectives**
6. **Establishment of objectives of progressive sufficiency levels according to the state of the science. Possible target for 2025-27: 75% of IgG IV consumption, equivalent to an additional 600,000 plasmapheresis.**
7. **In case of assessment of possible compensation systems will always be based on the Nuffield Bioethics Council and within the framework of the DVNR**
8. **Broaden donor base to ensure equity, avoid exploitation, and move away from the need for any compensation debate.**
9. **Definition of criteria for use and their levels of evidence. Monitoring of prescriptions to ensuring the availability in all cases for established indications.**
10. **Preparation of a Contingency Plan, as well as the regulatory scenario that guarantees the use of PDMPs of national origin within the national territory.**

THANK YOU VERY MUCH !!