

A woman with dark hair, wearing a red sweater, is seated in a red medical chair. Her right arm is extended and secured with a white blood pressure cuff and a blue tube. She is holding a red ball in her right hand. In the foreground, a white tray holds a blood donation bag and other medical supplies. The background is a plain, light-colored wall.

BLOOD CENTERS

BY SYBILLE BECK

PLASMA CENTERS

Mutual Benefit

BLOOD AND PLASMA ARE HIGHLY VALUED starting materials for a wide range of transfusion products and plasma protein therapies. Consequently, donor recruitment is vital to the successful collection organization. One of the major points of conflict, on which we want to shed some light, is the assertion that plasma centers—in the countries with two independent sectors—disproportionately attracts potential donors and that as a consequence of that, the number of blood donations decreases and the supply of blood for transfusion is put at risk.

Do these allegations hold true?

What is the situation with regard to blood and plasma donations in the three European countries, where the “two sectors” co-exist?

Some general facts first:

- Both blood for transfusion and plasma for fractionation are scarce resources and both rely heavily on the commitment of healthy and engaged donors.
- 80 percent of the current global requirements for high quality plasma derivatives are covered by source plasma. The requirements, however, are defined by the population in the developed world that accounts for 20 percent of the world population, leaving 80 percent of the population (in transitional and developing countries) to be covered by only 20 percent of plasma for fractionation from recovered plasma.¹
- The ISBT recognizes that “access to sufficient safe plasma derivatives is heavily reliant on the availability of products manufactured from paid donor plasma.”²

In Austria, the Czech Republic and Germany there are over 90 privately or industry-owned plasma centers. That makes these three countries the top “net donor countries”

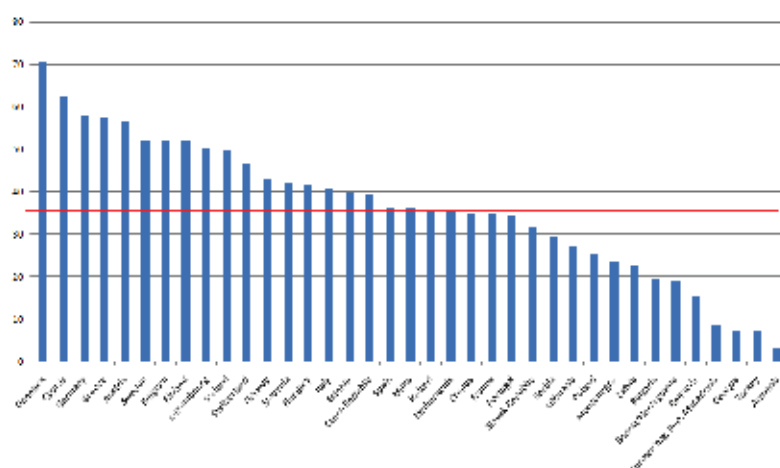
Does this success come at the expense of blood donations?

Looking at the recently published 2006 Report from the European Directorate for the Quality of Medicines and HealthCare (EDQM)³ it appears that Germany and Austria are among the top five countries in terms of whole blood collection (fig. 1):

To underpin the positive development of whole blood donations in Germany, the Paul-Ehrlich-Institut gives an overview⁴ of the developments between 2000 and 2009; the increase in total is 11 percent with some gaps in between. (fig. 2)

Talking about plasma collection programs and leaving out the U.S. would be a mistake; as recently as 2009, plasma centers in the U.S. collected more than 22 million donations. There is no

FIGURE 1—WB donations per 1,000 inhabitants*



country collecting and exporting more plasma for fractionation than the United States. The history of this successful program goes back to the 1970s and yet the U.S. is able to maintain an average of 45.946 whole blood donations per 1,000 inhabitants⁶, which would still be far above the average calculated by the EDQM.

The Czech example

While we draw our conclusion, that the co-existence of two sectors in Germany and Austria is not harmful to whole blood collections on the simple fact that the levels of donations are among the highest in Europe and the experience that increased awareness for whatever donation (blood or plasma) leads to a beneficial spillover effect to the other donation, the Czech Republic offers an interesting snapshot of how donations develop when plasma centers are newly established. The first independent plasma centers in the Czech Republic only opened at the end of 2007 offering an observation period of two years based on the

FIGURE 2—WB donations in Germany 2000–2011

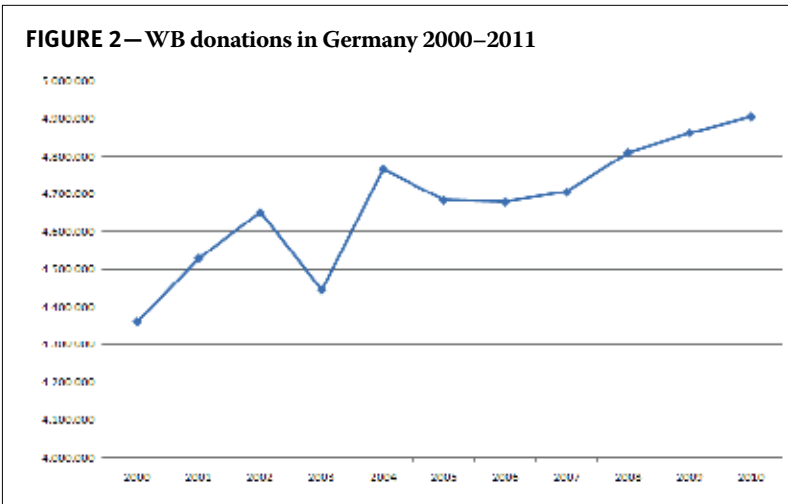
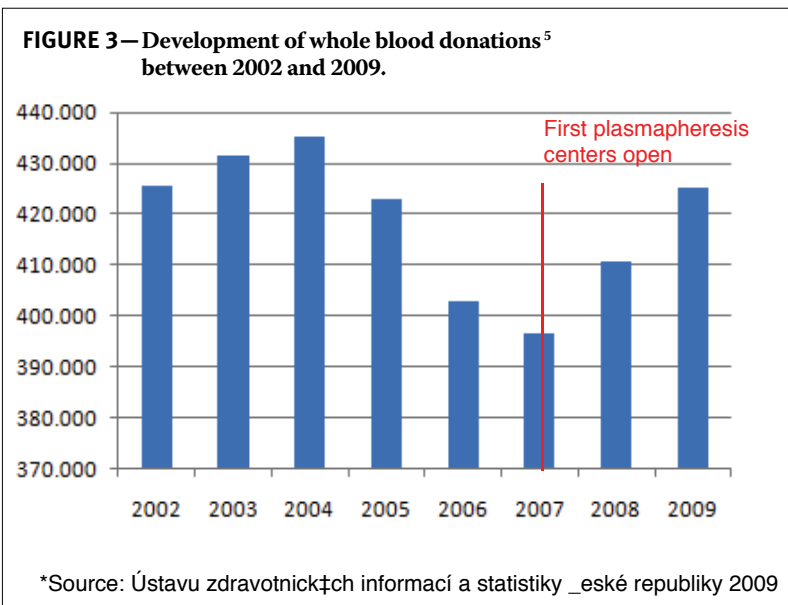


FIGURE 3—Development of whole blood donations⁵ between 2002 and 2009.



*Source: Ústavu zdravotnických informací a statistiky České republiky 2009

TABLE 1—Regions in the Czech Republic and number of plasma centers

Region	Number of plasma centers
HL. m. Praha	2
St_edo_esk	0
Jiho_esk	1
Plze_sk	1
Karlovarsk	0
Ústeck	1
Liberecky	1
Královéhradeck	0
Pardubick	1
Vyso_ina	0
Jihomoravsk	1
Olomouck	1
Zlinskí	1
Morayskoslezsk	1

excellent reports complied by the Czech authorities. Much more interesting in terms of the effects of the coexistence of blood banks and source plasma centers in close proximity are the regional data provided: In four out of the 14 regions there are no plasma centers, with the 11 plasma centers spread over 10 regions. Fig. 4 shows the developments of whole blood donations in all regions and it is clear that in 2009 all regions with a plasma center documented increased whole blood donations, with the largest increase in the Prague area where two centers are located. Conversely, in three out of four regions where there are no plasma centers, the number of blood donations actually declined.

Conclusions

Many seem to have the impression that it is a law of nature that the opening of a plasma center means that blood donors stop donating blood and choose to donate plasma instead. Clearly, in the Czech Republic this is not the case. Blood donations increased after the opening of plasma centers and also following a period of decreasing blood donations.

Experience consistently shows that an active plasma donation program based on voluntary compensated donors is not a threat to the collection of blood for transfusion. On the contrary, based on the experiences cited above, countries with established plasma donation programs (Austria, Germany and the

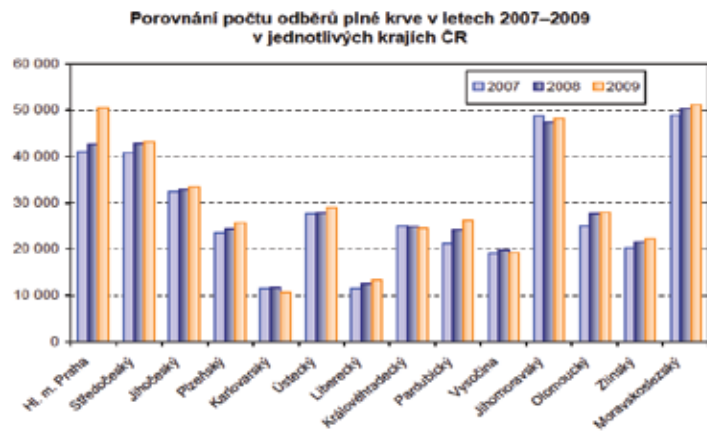
U.S.) and a country that is having its first experiences with voluntary, compensated plasma donors, the level of blood donations actually increases. The two sectors can legitimately be said to be mutually beneficial.

Unfounded generalizations are unhelpful and might lead to decisions based on perceptions rather than real evidence and data, which can limit the availability of scarce materials to the detriment of patients in need.

Considering the large number of under-treated and untreated people needing plasma protein therapies this must be good news and it should not be seen as a threat to blood donation programs.

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FIGURE 4—Regions with/without plasma centers



- 1 Emmanuel JC, Global Access To Plasma Therapeutic Products,- Understanding The Void ; presented at International Plasma Protein Congress, Lisbon, March 2011
- 2 P.Flanagan, ISBT Board response to the Dublin consensus statement, Vox Sang (2011) 100 (2), 250–251
- 3 van der Poel CL, Janssen MP, Behr-Gross ME, The Collection, Testing and Use of Blood and Blood Components in Europe - 2006 Report, available at http://www.edqm.eu/medias/fichiers/The_Collection_Testing_and_Use_of_Blood_and_Blood_1.pdf

- 4 Paul-Ehrlich-Institut, Berichte nach § 21 Transfusionsgesetz (TFG), 2010 report available at http://www.pei.de/cdn_101/nn_156172/SharedDocs/Downloads/21tfg/tabellen-abbildungen-tfg21-10,templateId=raw,property=publicationFile.zip/tabellen-abbildungen-tfg21-10.zip
- 5 Ústavu zdravotnických informací a statistiky České republiky 2009
- 6 Cruz JR, Pérez-Rosales MD, Availability, safety, and quality of blood for transfusion in the Americas, Rev Panam Salud Publica/Pan Am J Public Health 13(2/3), 2003

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