

PLASMA COLLECTION and PDMP SUPPLY in the CZECH REPUBLIC



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Blood Transfusion Service - CZ

population: 10.6 mil.

country size: 79 thds sqkm

hospitals: 188

- **69** blood-establishments (BE), hospital-based usually merged with blood bank
 - incl. 53 full-scope BEs + 16 collection centers (plasmapheresis is performed in large since 90's)
- **67** blood banks (BB) in hospitals without BE
- **48** independent (commercial) plasma-collection centers
 - source-plasma for fractionation only
 - dramatic increase in numbers in last 3-4 years

Rules and regulations (1)

- whole blood donations: men 5 / year; women 4/y
min. interval 8 weeks
- plasma donations:
 - min. interval 2 weeks
(since 2011, earlier min. 7 days)
 - 700 - 850 ml per donation incl. anticoagulant
(max. 650 ml if i.v. volume is not supplemented)
 - max. volume 25 litres/year (excl. anticoagulans)
- WB => plasma interval min. 4 weeks
(plasma => WB min. 2 days)

Rules and regulations (2)

Voluntary nonremunerated donation:

(nearly all donations in hospital-based BTS)

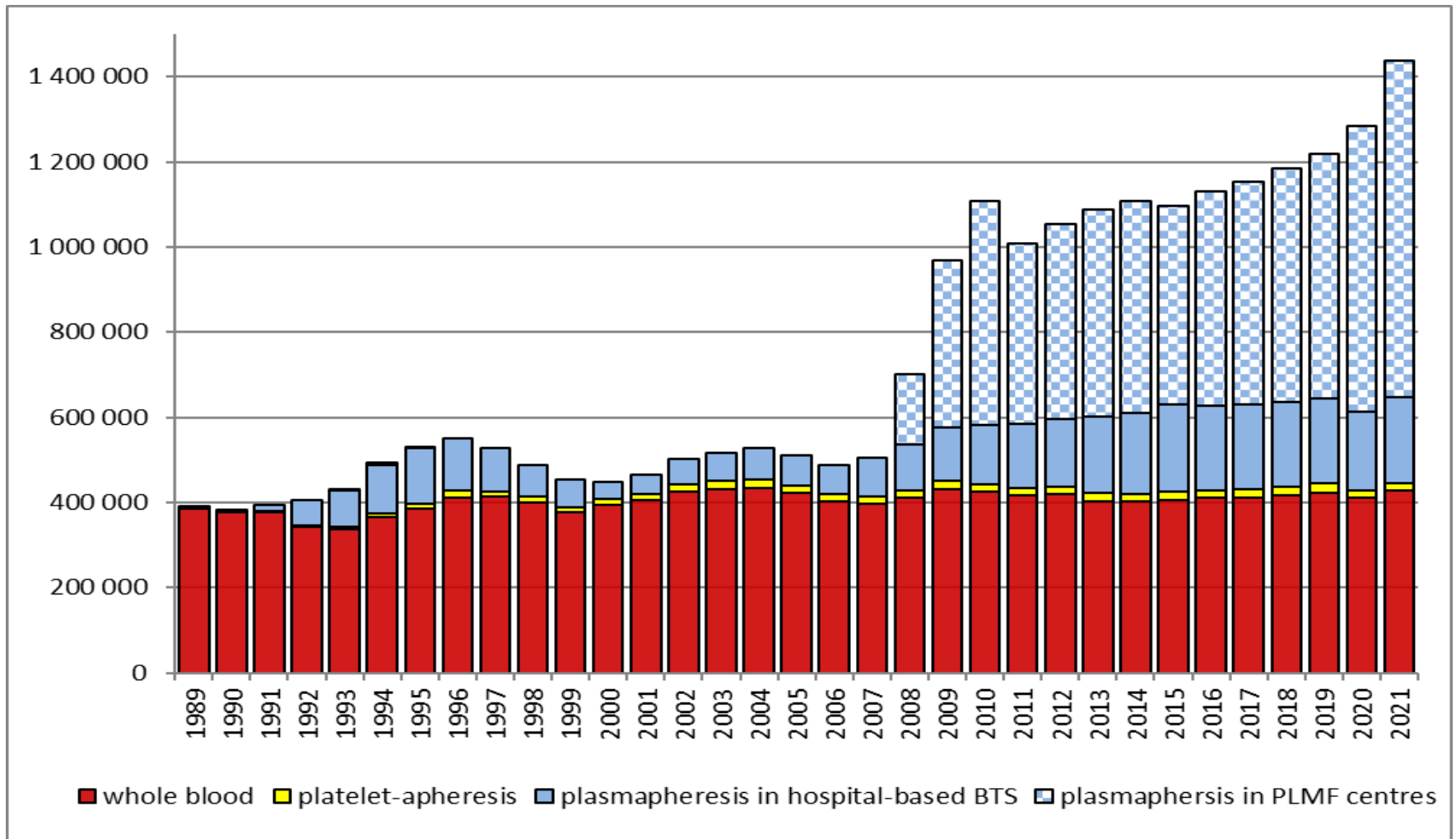
- reimbursement of travel expenses and direct costs
- small refreshment
- possible tax deduction

Compensated donation:

(vast majority of plasma collections in plasma-centres)

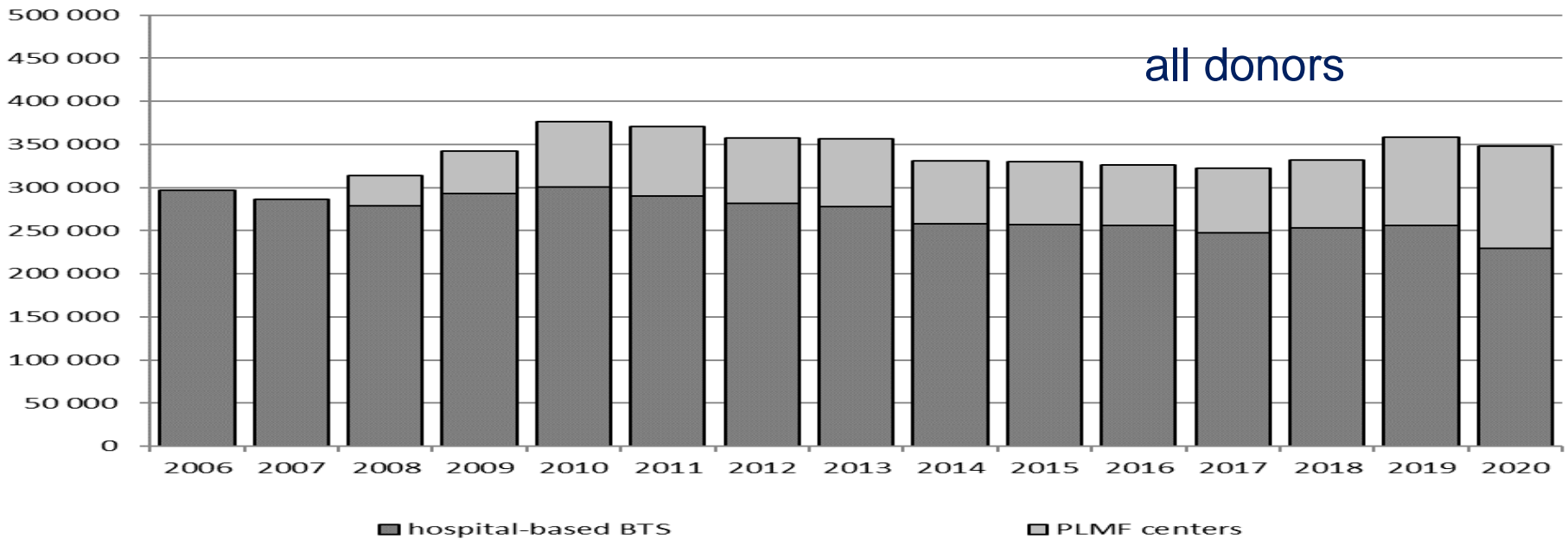
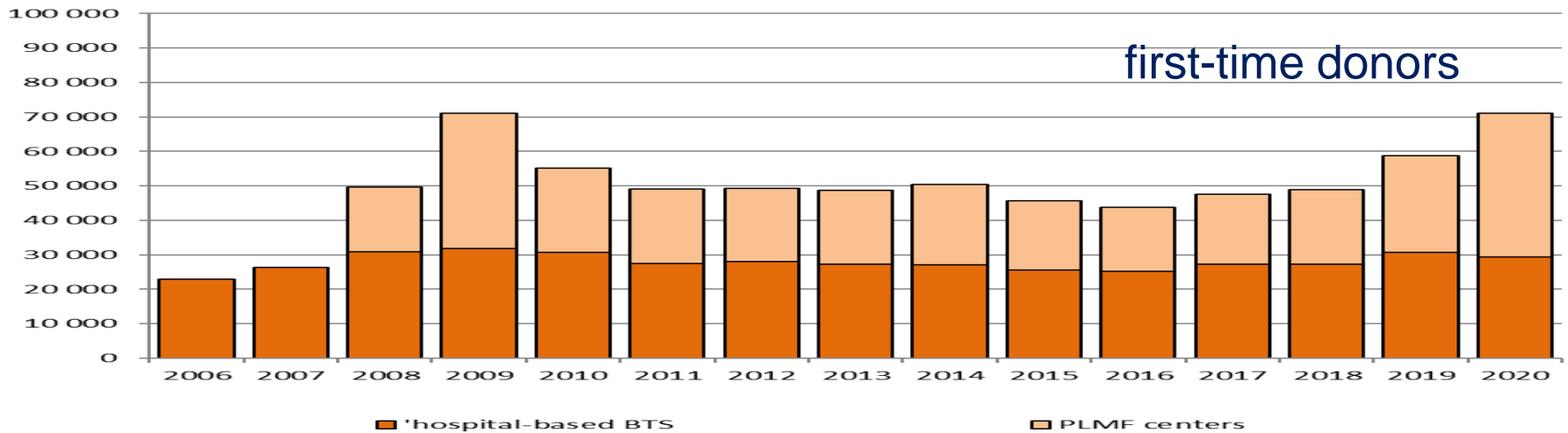
- compensation of time lost, inconvenience, travel expenses etc. - max. amount regulated by law (cca 25-30 Euros / plasma donation)
- small refreshment

Blood / plasma donations



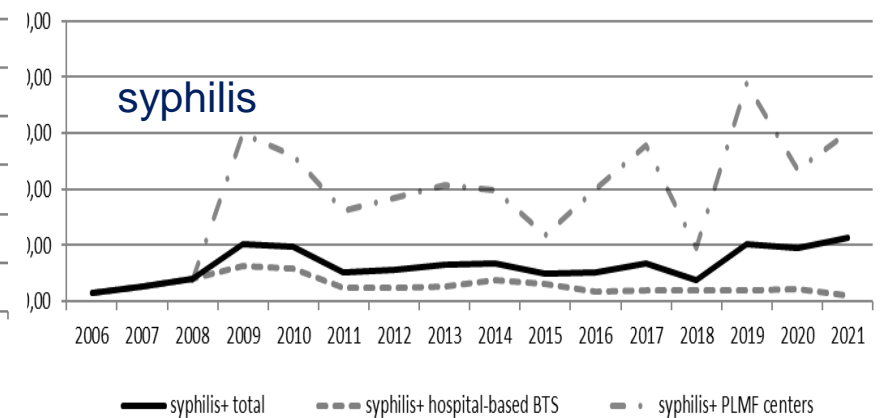
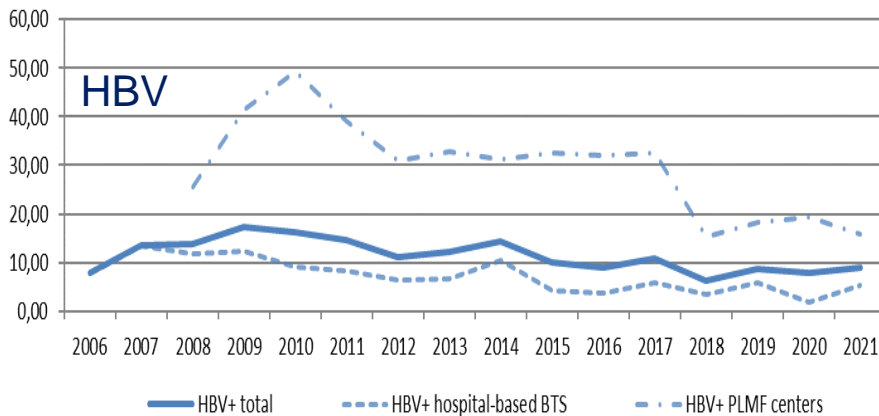
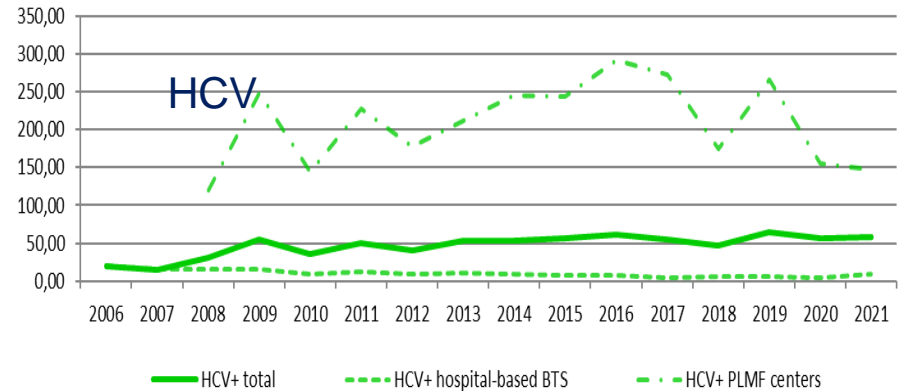
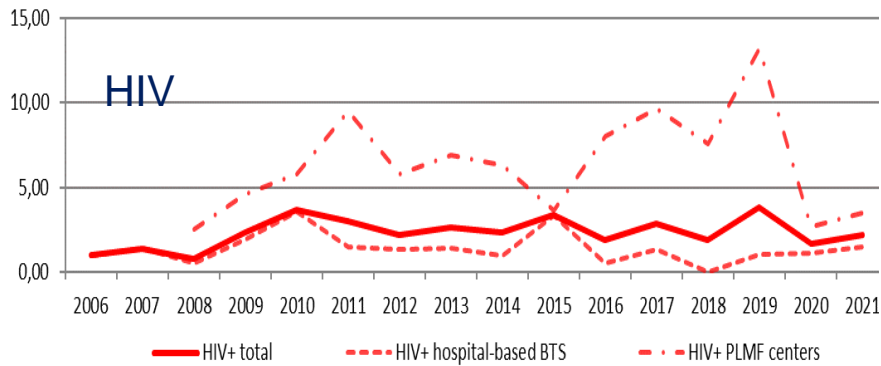
* 2021: preliminary data

Blood donors total / first time



* 2021 data not available yet

Infection rate in blood donors (positive donations / 100 000 donors)



Although general incidence / prevalence is low, it is remarkable higher in plasma-centers versus hospital-based BTS especially for HCV, HBV and syphilis

Distribution of CZ plasma for fractionation

in 2021*:

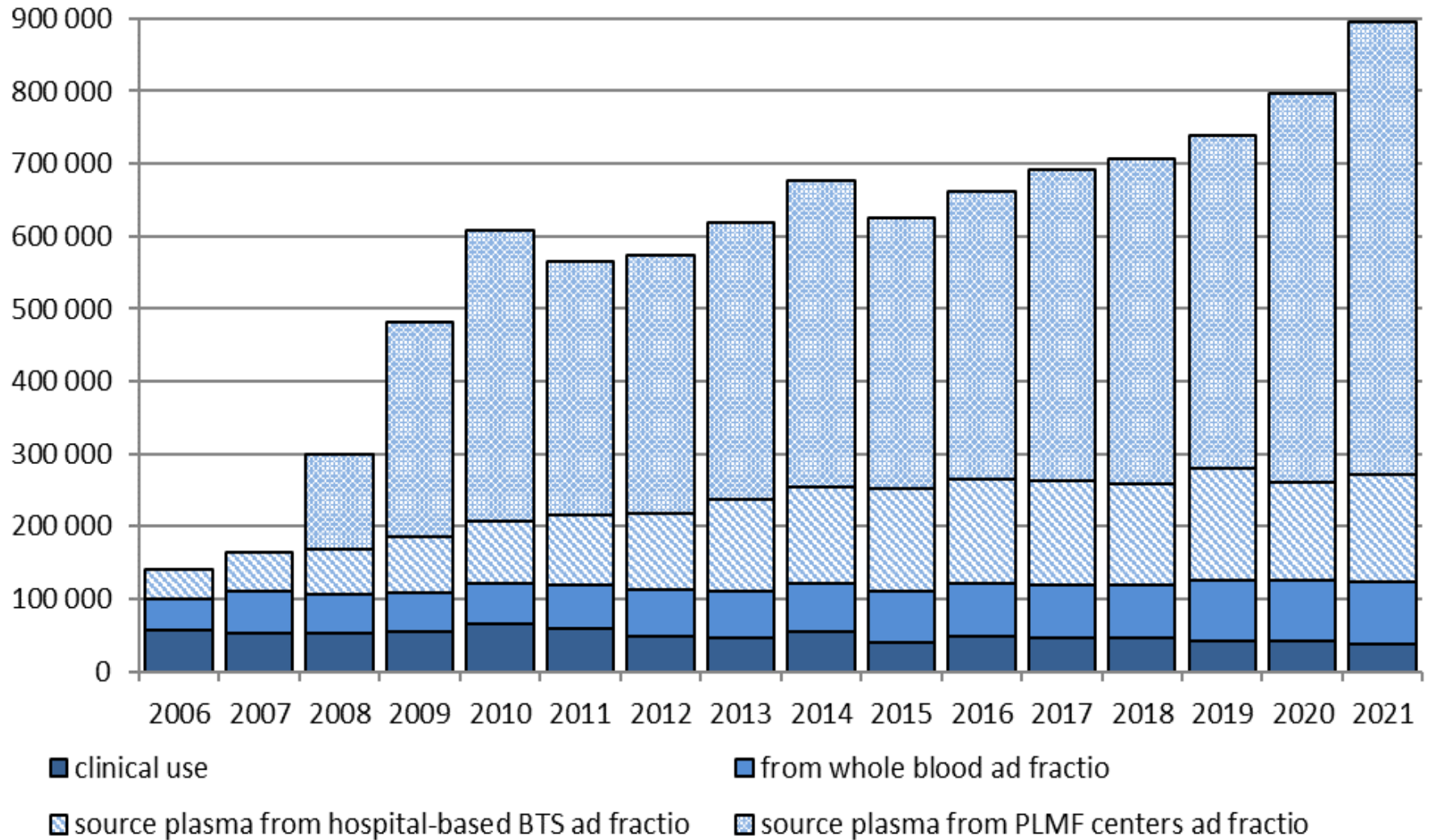
• WB derived plasma	85,9 thds. litres
• source plasma from BE's	148,0 thds. litres
• source from plasma-centers	623,6 thds. litres
Total	857,5 thds. litres

eg.

• WB derived plasma	8,1 l / 1000 inhab.
• source plasma from BE's	14,0 l / 1000 inhab.
• source from plasma-centers	58,8 l / 1000 inhab.
Total	80,9 l / 1000 inhab.

Plasma is sent for fractionation abroad (there is no capacity within CZ)

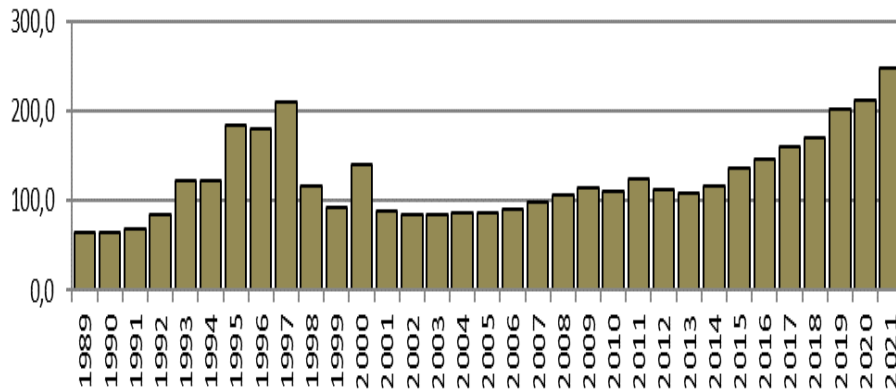
Plasma production / usage (litres)



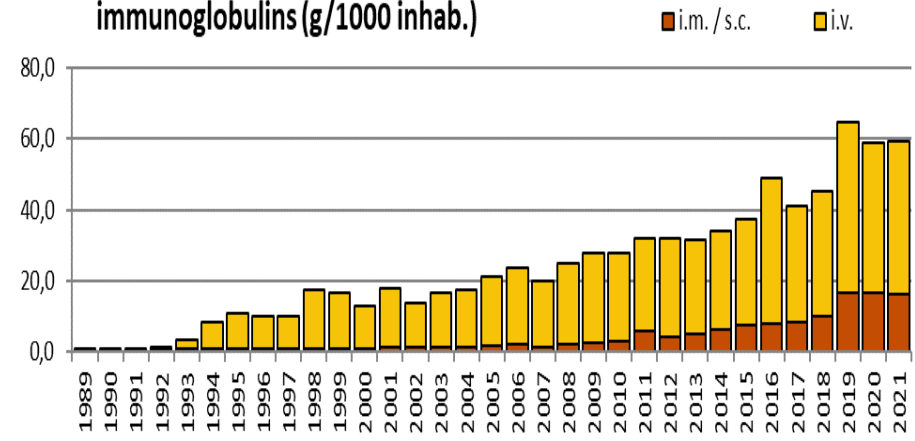
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Distribution of PDMP products in CZ

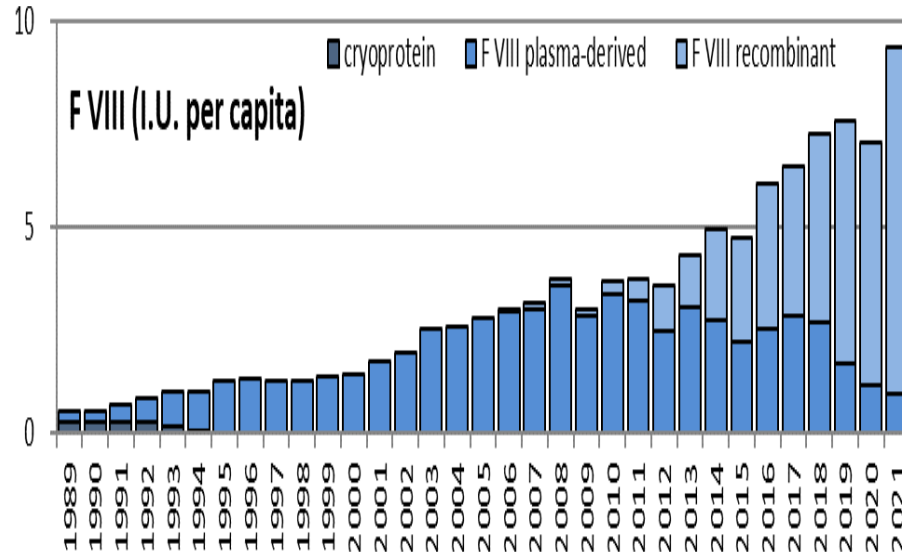
albumin (g/1000 inhab.)



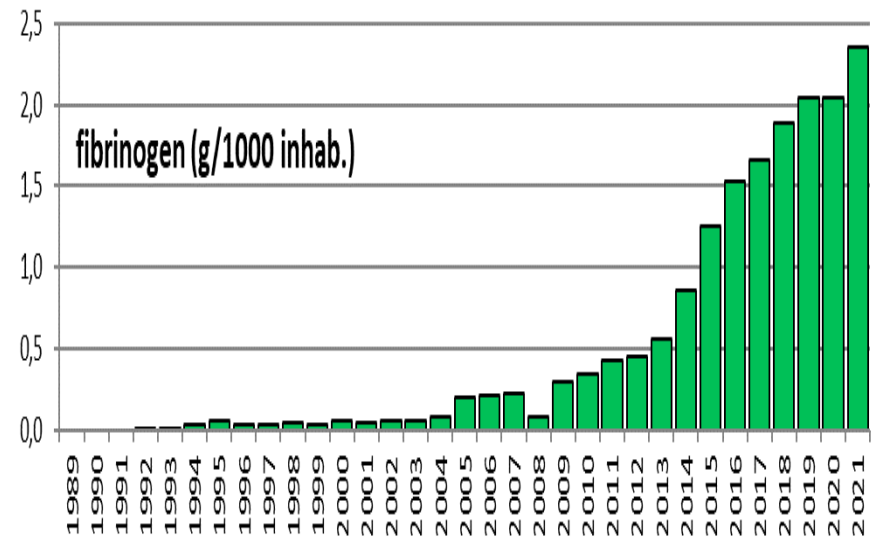
immunoglobulins (g/1000 inhab.)



F VIII (I.U. per capita)



fibrinogen (g/1000 inhab.)



What is necessary and medically justifiable consumption of PDMP?

Need of plasma for fractionation in CZ

in 2021:

- albumin 240 g / 1000 inhab.
- FVIII (plasma derived) 1 IU / inhab.
- immunoglobulins 60 g / 1000 inhab.

eg. as „plasma needed“:

- albumin (yield 20-25 g/l) < 12 litres / 1000 inhab.
- FVIII (yield 180-200 IU/l) < 6 litres / 1000 inhab.
- immunoglobulins (yield 3-5 g/l) < 15 litres / 1000 inhab.

CZ currently produces 3-times more plasma than needed for self-sufficiency

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- over 80 liters of plasma / 1000 inhab. are collected respecting CoE limits for donation frequency / volume
- nearly 25 liters of plasma for fractionation / 1000 inhab. (plus 4 litres / 1000 inhab. for clinical use) are collected from voluntary non-remunerated donors in hospital-based BEs

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- is an intensive regimen of plasma collection needed and safe for everybody?
- what instruments should the Government keep for regulation of plasma donation in case of shortage in blood components?
- how to guarantee sufficiency in immunoglobulins in open-market / business environment?

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(registry of donors excluded for positivity of infectious markers; check for donation frequency ...)

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- cooperation of blood transfusion centers and plasma-collection centers is advisable
(registry of donors excluded for positivity of infectious markers; check for donation frequency ...)
- national self-sufficiency in production of plasma is a prerequisite for EU self-sufficiency

THANK YOU FOR YOUR ATTENTION!

