ETABLISSEMENT FRANÇAIS DU SANG

IPFA/EBA Workshop on plasma collection 14-15 January 2020 AMSTERDAM

MANAGEMENT OF BLOOD AND PLASMA COLLECTION

Dr Frédéric Bigey – EFS Centre – Pays de la Loire

BACKGROUND

The plasma sector in France :

Etablissement Français du Sang (EFS) : monopolistic position for collection and distribution of labile blood products in France, including plasma for fractionation.

Laboratoire du Fractionnement et des Biotechnologies
Private plasma fractionator with 100% public funds, has the obligation to fractionate the plasma collected by EFS.

Increase of LFB demand since 2014

Self-sufficiency for immunoglobulines in France : **35%**

THE SOURCES OF PLASMA

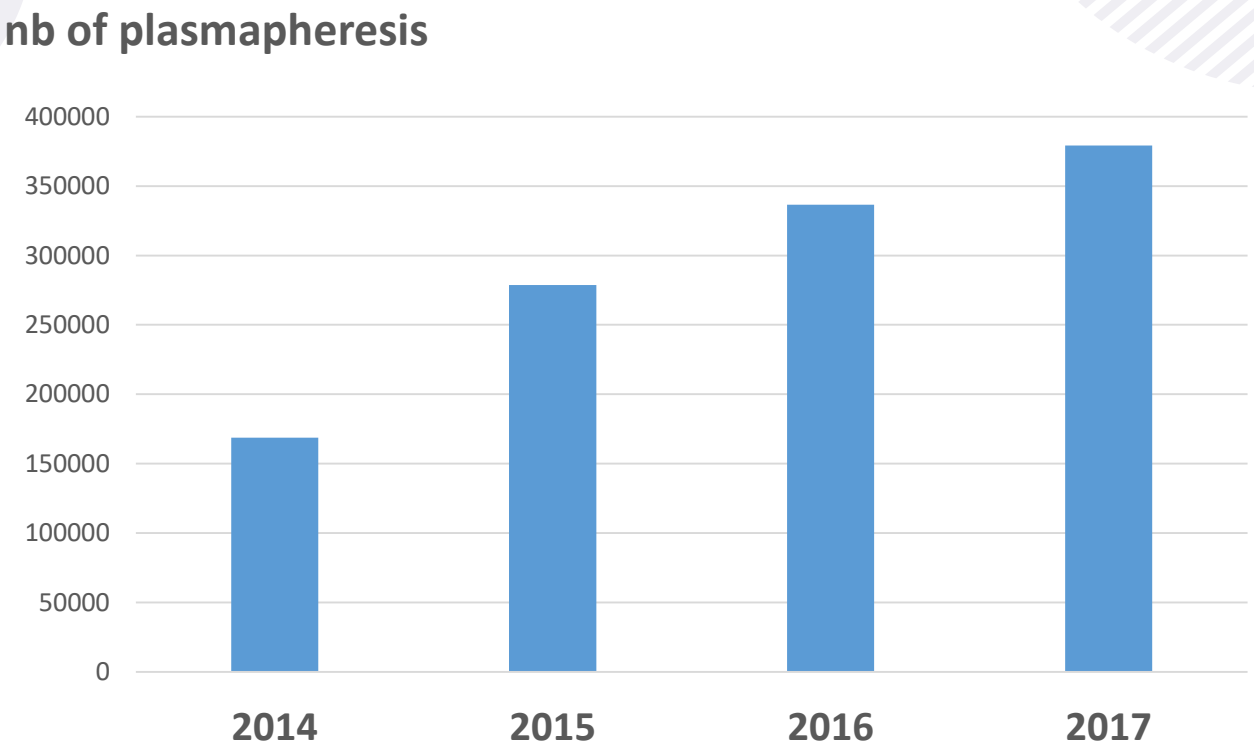
- **Recovered** plasma : WB 22% on fixed sites
  - 92% for **fractionation** (PFF)
  - 8% for **therapeutic** use, main source, secured by quarantine
- **Apheresis** plasma : 100% on fixed sites
  - 96% for **fractionation**
  - 4% for **therapeutic** use, additional source for **B** and **AB** groups,

PFF sources distribution : ca. **900,000 L** of PFF/year last 2 years

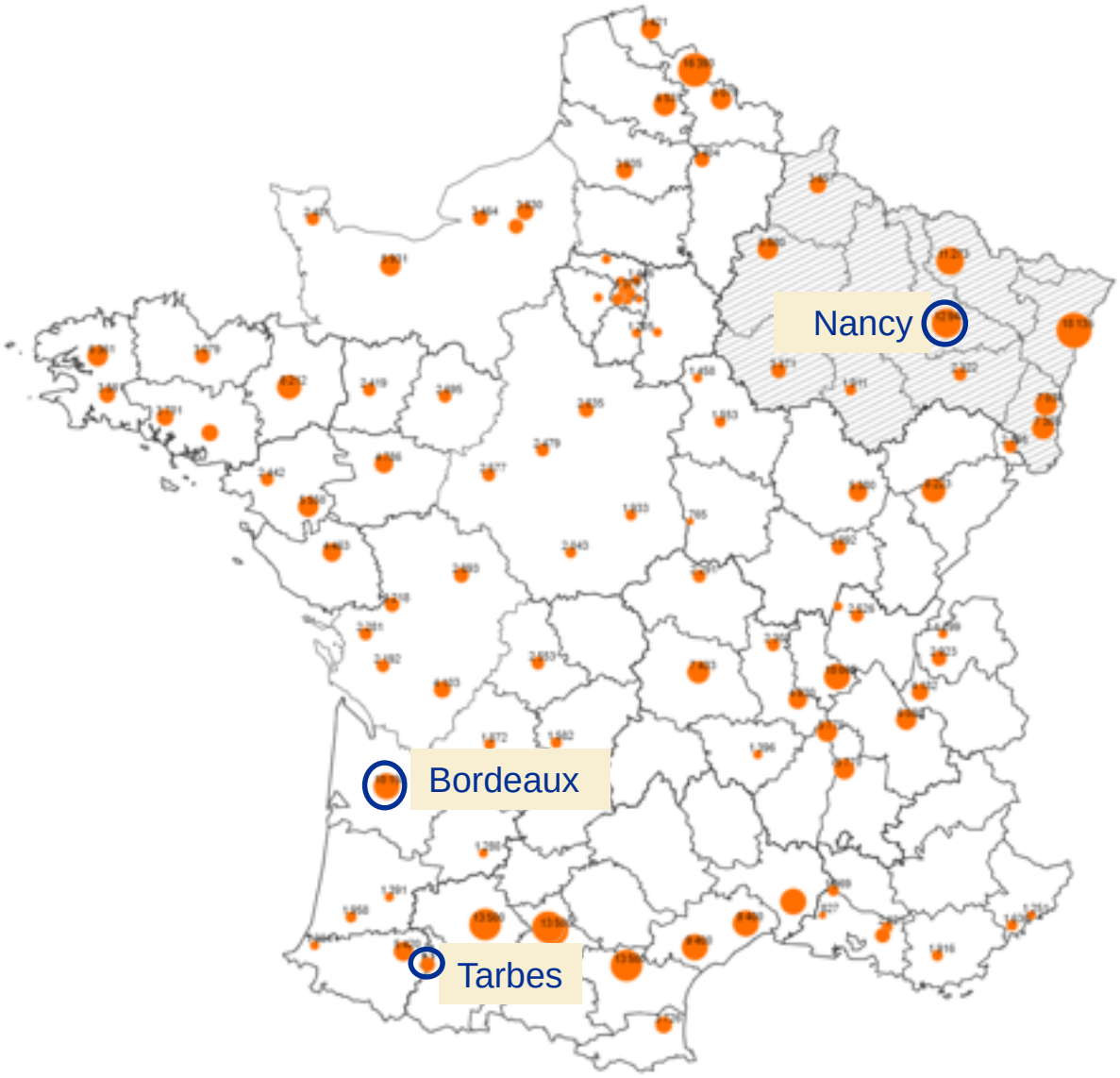
Whole Blood		Apheresis		Total
Recovered for LFB	Quarantine failure	plasmapheresis	platelets apheresis	
61%	4%	33%	2%	100%

PLASMAPHERESIS ACTIVITY

Evolution of plasmapheresis 2014 - 2017



PLASMAPHERESIS SITES



109 sites

From 800 to 18,000 plasmapheresis per year, average 5,000

343,300 plasmapheresis in 2018

EXAMPLE OF EFFICIENT SITES

3 efficient sites, different features

2018	NANCY	BORDEAUX	TARBES	
Urban area population	435,000	1,215,000	116,000	
Number of beds	8	12	4	
Nb of plasmapheresis	12,600	9,800	2950	
Max. capacity	22,000	18,500	3000	with no heavy investment
Performance indicators (30km perimeter)				
Loyalty rate	2.97	2.25	3.17	average number of donations per donor/year
Conversion rate	26.4	15,6	15,4	number of plasma donors/100 WB donors
Plasma generosity rate	1.13	0.57	0.73	number of donors/population 18-65
% plasma donors	86%	91%	87%	proportion of plasma donors living in the area

Efficiency depends on

- Collection **offer**
- **Donor** population/marketing
- Local **management**

LEVERS OF EFFICIENCY

- **collection offer** :

  opening time : 8 to 12 hours a day, Mo to Fr, and Sa morning

  number of **beds** : multiples of 4

  staff sizing : 1 nurse/ 4 beds

  Appointment **schedule** : 75 minutes

- **donor potential** and **marketing** :

  population size (18-65 y.o.) in the area,

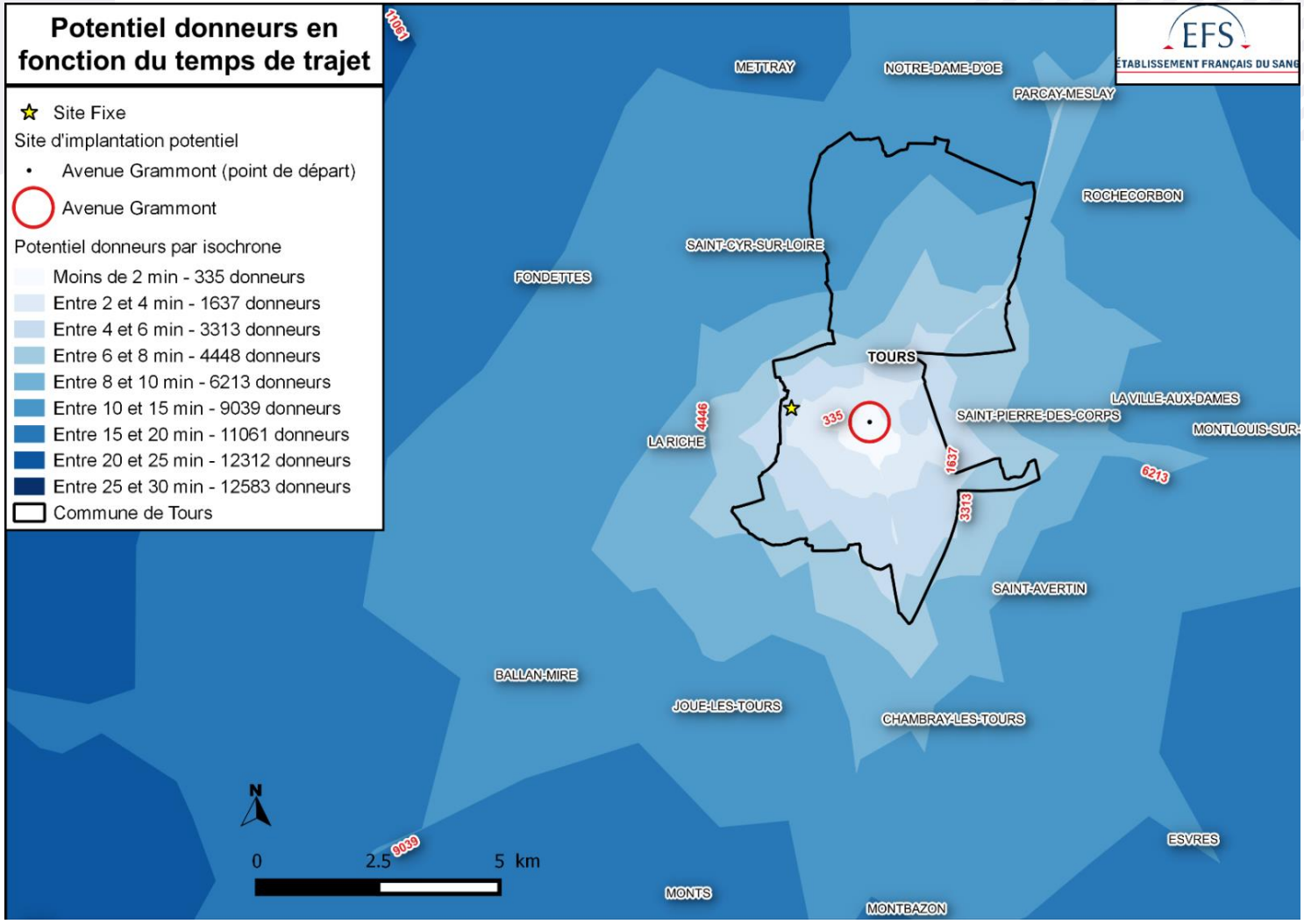
  conversion of WB donors, **loyalty** programs, call centers

  donor **experience** : wellness, venues, accessibility…

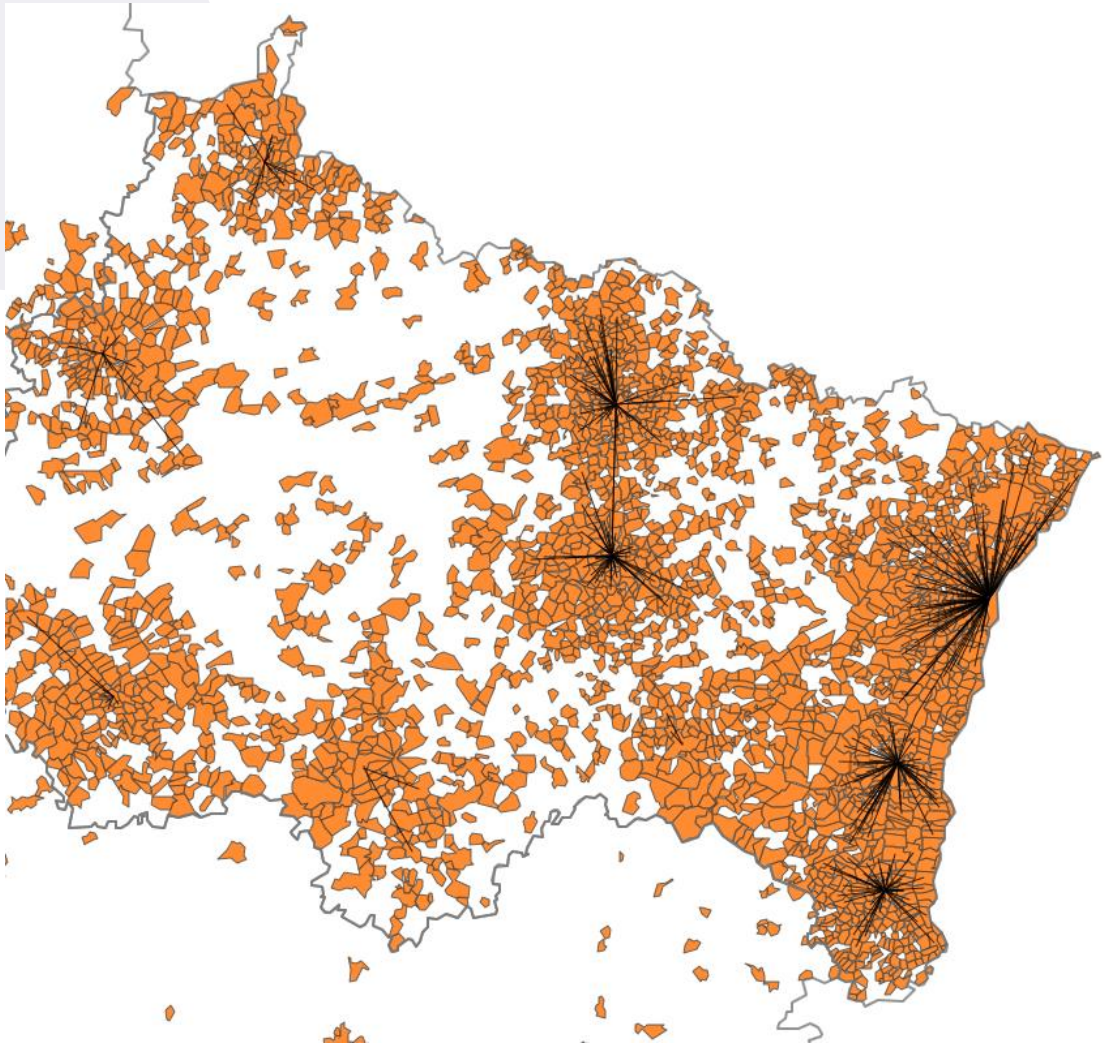
- **local management** : activities monitoring, occupancy rates follow-up

CONTRIBUTION OF GEOBUSINESS MARKETING

Isochronous mapping of donor potential around a plasmapheresis site



CONTRIBUTION OF GEOBUSINESS MARKETING



High density of plasma donor (orange)

Main flows of donors to the plasmapheresis sites

Tool for decision making for marketing targets

MODELLING THE DONOR POTENTIAL

The theoretical **donor potential** can be estimated as follow :

- **(P) population** of the urban area, may be extended by an « outreach factor»
- **(GR) generosity** rate (ex.: 5%)
- **(CR) conversion** rate PL/WB (up to 30%)
- **(LR) Loyalty** rate (ex. 3.5)

Expected annual number of **donations** = **P** * **GR** * **CR** * **LR**

PLASMA COLLECTION PERFORMANCE

Recovered plasma : mean volume **290 mL**

- **WB volumes** : mean **468 mL**

  3 targets according to BMI of donors : 420, 450 and 480 mL.
  → follow-up of application of the rules

- **Extraction rates** after processing **60 to 64%**
  - **Top and Bottom** bags : **8 to 10 mL** lower plasma volume

    but reduced need for apheresis platelets → more plasmapheresis
  - **Sex-ratio** : males **15 to 17 mL** lower plasma volume

PLASMA COLLECTION PERFORMANCE

Sourced plasma

- Plasmapheresis collected **volumes** according to tables of weight, height and sex of donors, for each type of separator.
- Mean **760mL**

  → follow-up of application of the rules

- Influence of **sex ratio**

  Females : **lower** volumes but **shorter** procedures

PERSPECTIVES : « PLASMA PLAN »

- **Increasing capacity / reducing cost** of plasmapheresis
  - standard method for **cost** and **productivity** evaluation per site
  - **best practices** to be implemented in every sites
  - Adjust **sizing** of facilities
  - **staff** adjustment (nurse at pre-donation interview)
  - **Volumes** optimisation

- **Geo-business intelligence** in routine
  - decision support for **new sites** locations
  - **donor capacity** calculation
  - definition of marketing **targets**

CONCLUSIONS

- A national blood service has the capacity to **increase significantly** plasma supply from **VNRD**
- **Increasing plasma** supply in a **voluntary unpaid** donation system needs to act on **multiple levers :** collection **offer,** target **population,** local **management,** technical **performance** optimisation
- Collecting both **recovered** and **sourced** plasma is a characteristic of **public systems,** and a **powerfull lever**
- This allows to **share the costs** between the 2 kinds of collection **sectors**
- **Cost control** is an **absolute necessity** for the **sustainability** of the **model**

Thank you for your attention !



Contact : frederic.bigey@efs.sante.fr