

## Hospital at home for infants in Paris-Ile de France region

**C. Crenn Hebert\*, C. Menguy, E. Lebreton, C. Poulain, M. Martinowsky**

\*Maternity dept, CHU Louis Mourier, APHP, Perinat-ARS-IDF, France

# Outline

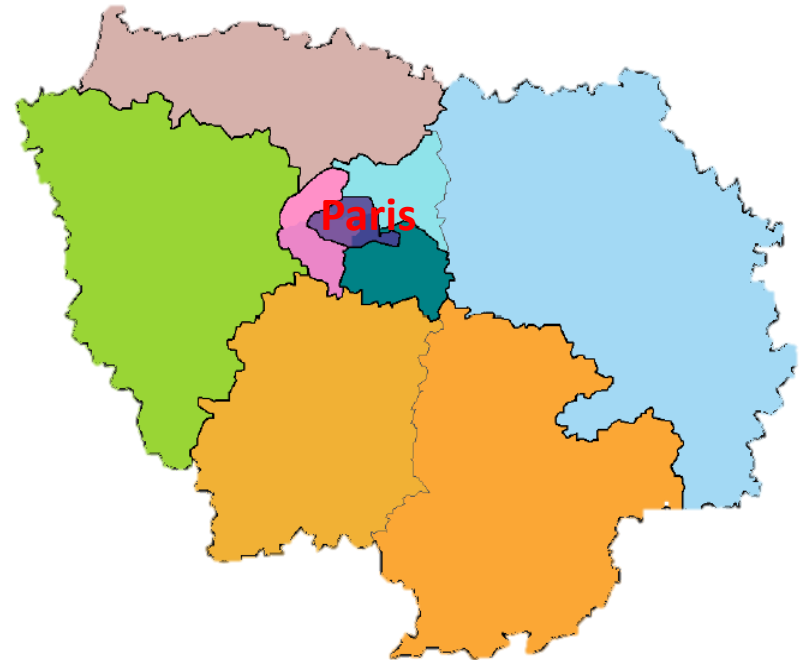
- Background
- Objectives
- Methods
- Results
- Discussion
- Conclusion

# Background

- IDF Regional health plan: inequalities reduction
- Better health system organisation ?
  - Shortened length of in-patient hospital stay after intensive care?
    - Hospital at home for extremely and very preterm infants: parents-child relationship → future cognitive and emotional balance improvement
    - Breast-feeding and preterm infants follow-up promotion



**Metropolitan France**  
**13 Regions**  
**760,000 births**



**Paris- Ile de France Région**  
**8 districts**  
**7 perinatal networks**  
**180,000 births (24%)**  
**30,000 hospitalized infants**  
**3,000 very preterm births**

# Background

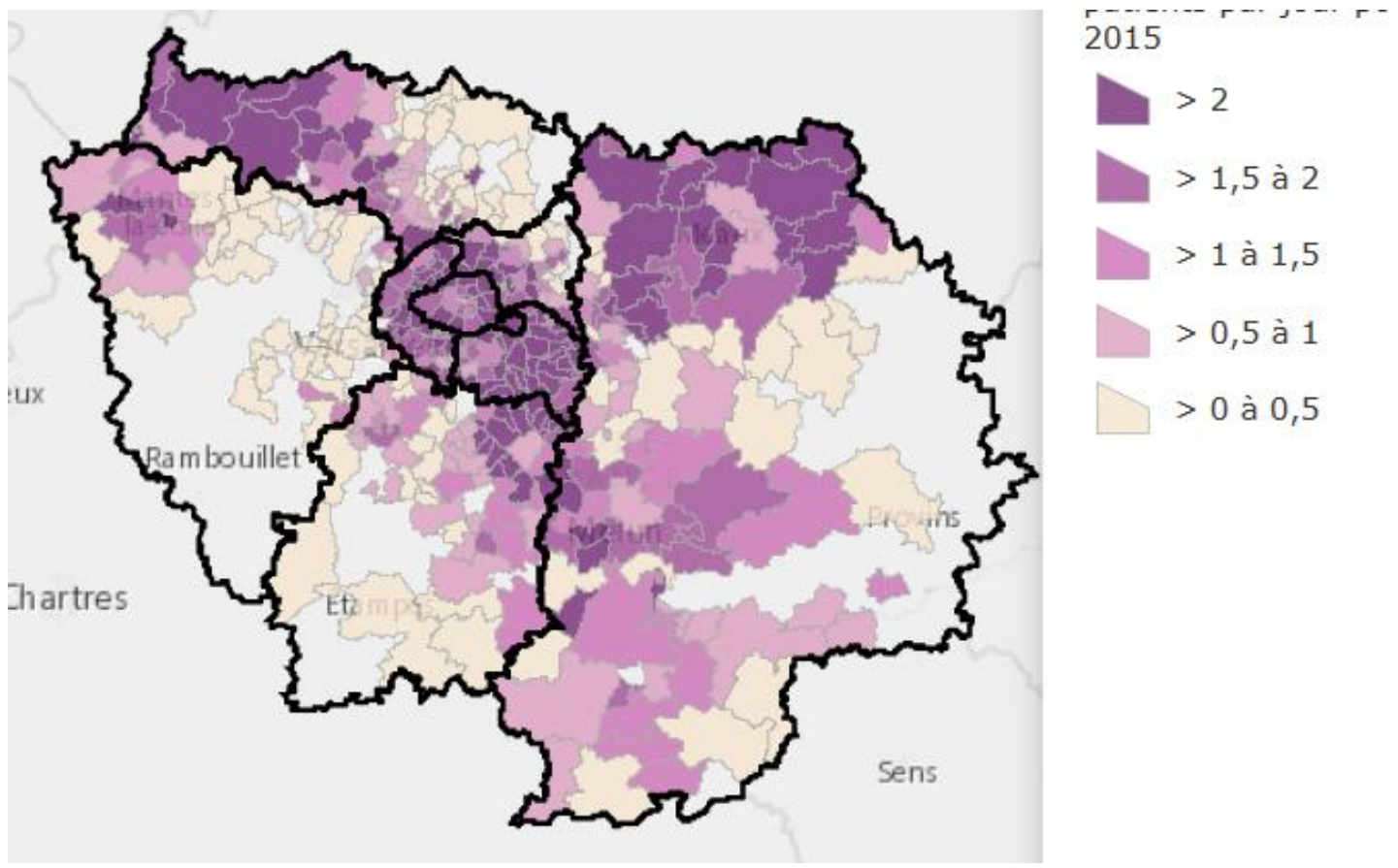
- Ambulatory shift and development of Hospital at home (HAH)
- Use rate 2016:
  - National : 20 patients/day /100 000 inhab (target 30-35)
    - Perinatal care related: 4%
  - **IDF region:** 22/ 100 000 inhab
    - Perinatal care related : 9% **High risk neonates : 1%**

# HAH criteria

HAH inclusion	HAH exclusion
<b>Complex status</b>	Simple dressing or only nursing (nurse at home)
Limited period	
<b>Pluriprofessionnal staff</b> , not available skills in pay-for-act system (technical procedures, ergotherapist, ..)	
Medical device or drug from hospital stock	
Care supervise or <b>education</b> > 2 hours, -> 4 times/day	
<b>Continuous care</b> with on demand duty by phone H24 and night nurse visit in case of emergency	<b>Familial or other help</b> at home <b>not H24</b> (to ensure safety / patient condition)
<b>Hospital- Community coordination</b>	

# Hospital At Home and all perinatal referrals (2015)

Use rate = nb patients /day /100 000 inhab



<https://www.iledefrance.ars.sante.fr/hospitalisation-domicile-annuaire-et-activite>

Esri, HERE, Garmin, NGA, USGS/Esri HERE

# Objectives

- Describe « from birth to home » pathways in IDF territories
- Develop an assessment tool to monitor the place of hospital at home for high risk neonates care and pilot this activity



# Methods-1

## **A multiprofessional working group (2016):**

health authority representative and our team,

hospital neonatologists,

hospital at home nurse coordinator and

paediatrician,

regional and national encoding specialists:

- > defined research criteria,

- > checked results consistency

- > took part to the analysis

# Methods-2

**Population:** all newborns in IDF in 2015

## **Data Sources:**

In-patient Hospital discharge summary (HDS)2015

- medical informations
  - gestational age, birth weight, diagnostics (ICD10th), procedures,..

Hospital at home summary 2015-> June 2016

- 2 main reasons for referral
  - « patient or family education », « high risk neonate »...

Both contain place of residence

# Methods-3

## Pathway description by summaries **linkage**:

**Anonymous key** (social security number, sex, date of birth) allows linkage of:

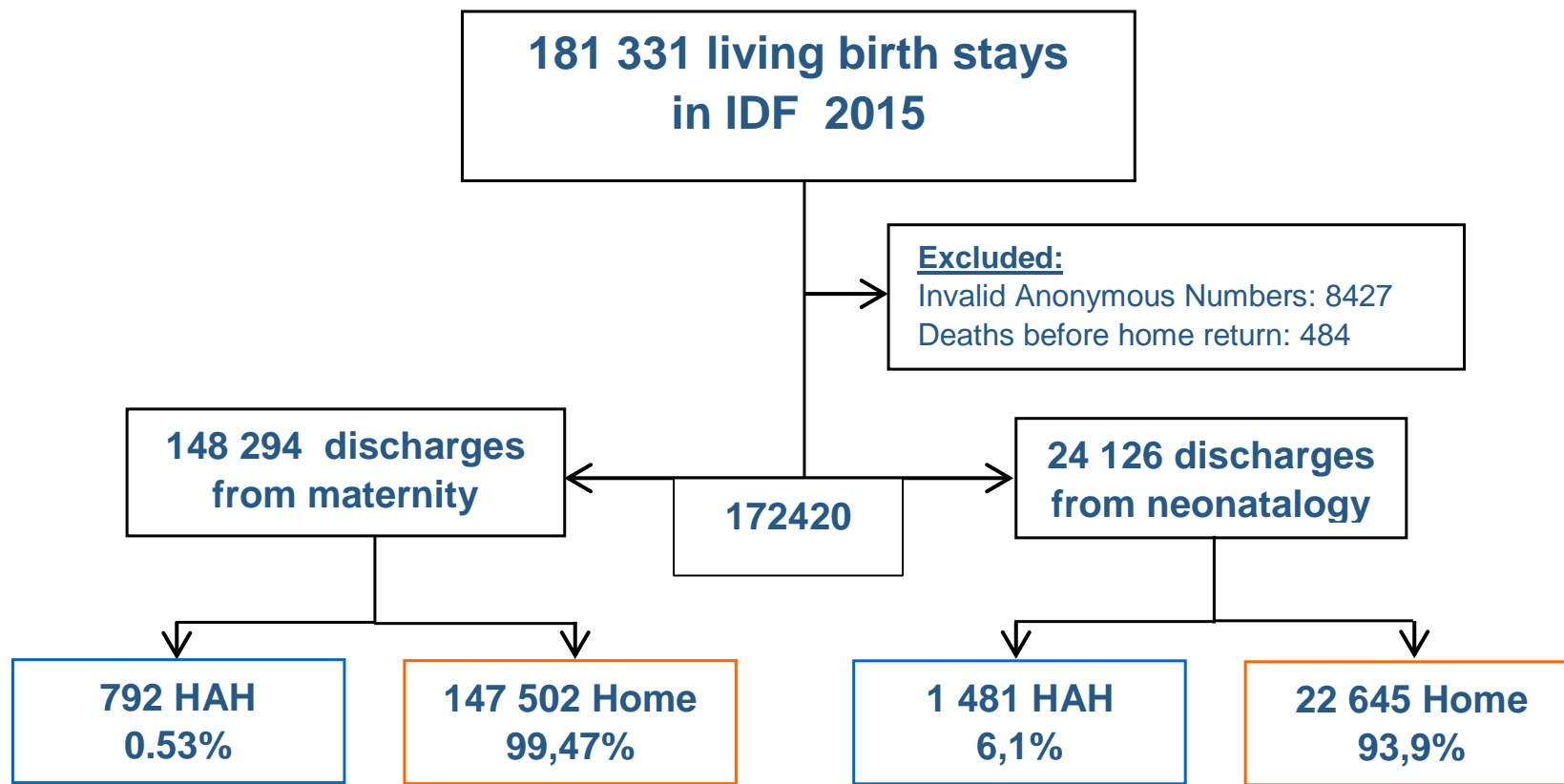
- in-patient postnatal stay to birth stay
- home care to in-patient hospital stay

**Manual linkage** for same sex twins with entrance day, birth weight and diagnostics.

# Results

1. Global pathways from maternity department or neonatology unit with Hospital At Home or not
2. Hospital At Home after neonatal stay
3. Very preterm infants distribution in IDF

# Global pathways with Hospital At Home (HAH) or home discharges



# Hospital At Home (HAH) after neonatal stays and residence

Residence (district code)	HAH		Home discharge without HAH	
	N=1481	%	N=22465	%
Paris (75)	298	8,9	3040	91,1
Seine et Marne (77)	362	14,5	2137	85,5
<b>Yvelines (78)</b>	<b>11</b>	<b>0,5</b>	2033	99,5
Essonne (91)	200	6,4	2906	93,6
Hauts de Seine (92)	248	8	2859	93,6
Seine St Denis (93)	133	3,4	3068	96,6
Val de Marne (94)	203	6,2	3068	93,8
<b>Val d'Oise (95)</b>	<b>8</b>	<b>0,4</b>	2059	99,6
Others	18	2,4	735	97,6

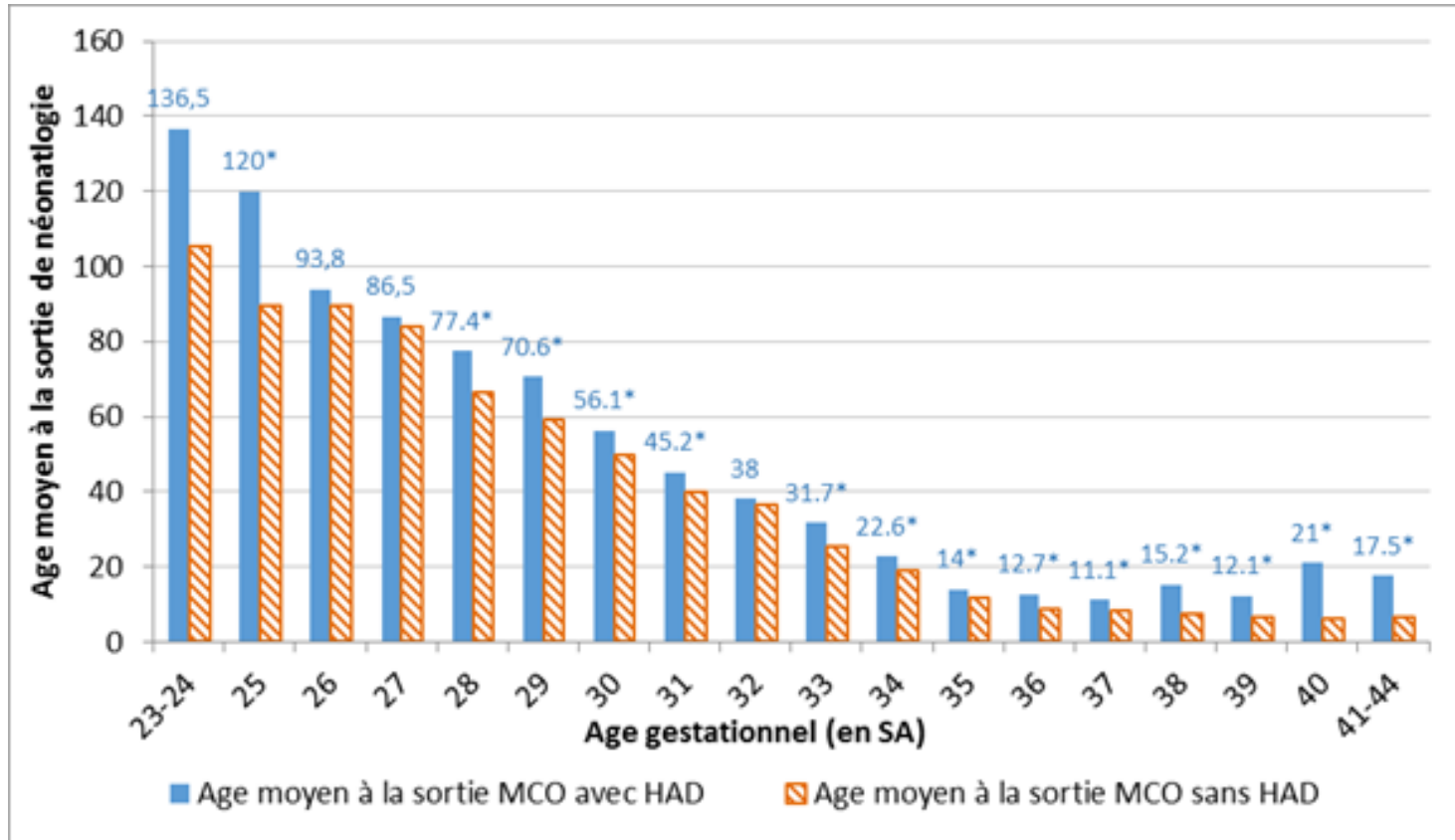
P value < 0,05

# Hospital At Home (HAH) and pathology during neonatal stay

ICD code	Pathology in Neonatology unit	HAH		Home discharge without HAH	
		n=1481	(%)	n=22645	(%)
	<b>Severe respiratory diseases</b>				
P220	Infant Respiratory distress Syndrom	398	26,9	2287	10,1
P271	Broncho-pulmonary dysplasia	182	13,0	457	2,0
	<b>Severe digestive diseases</b>	26	1,8	136	0,6
P77	Necrotizing ulcerocilitis	26	1,8	136	0,6
P780, P781	Perinatal Intestinal perforation, other peritonitis	228	15,4	1625	7,2
	<b>Severe neurological troubles</b>	99	6,7	442	2,0
P52	Intra-cranial bleedings	99	6,7	442	2,0

# Neonatal unit length of stay with HAH or not

Length of stay or mean age at discharge



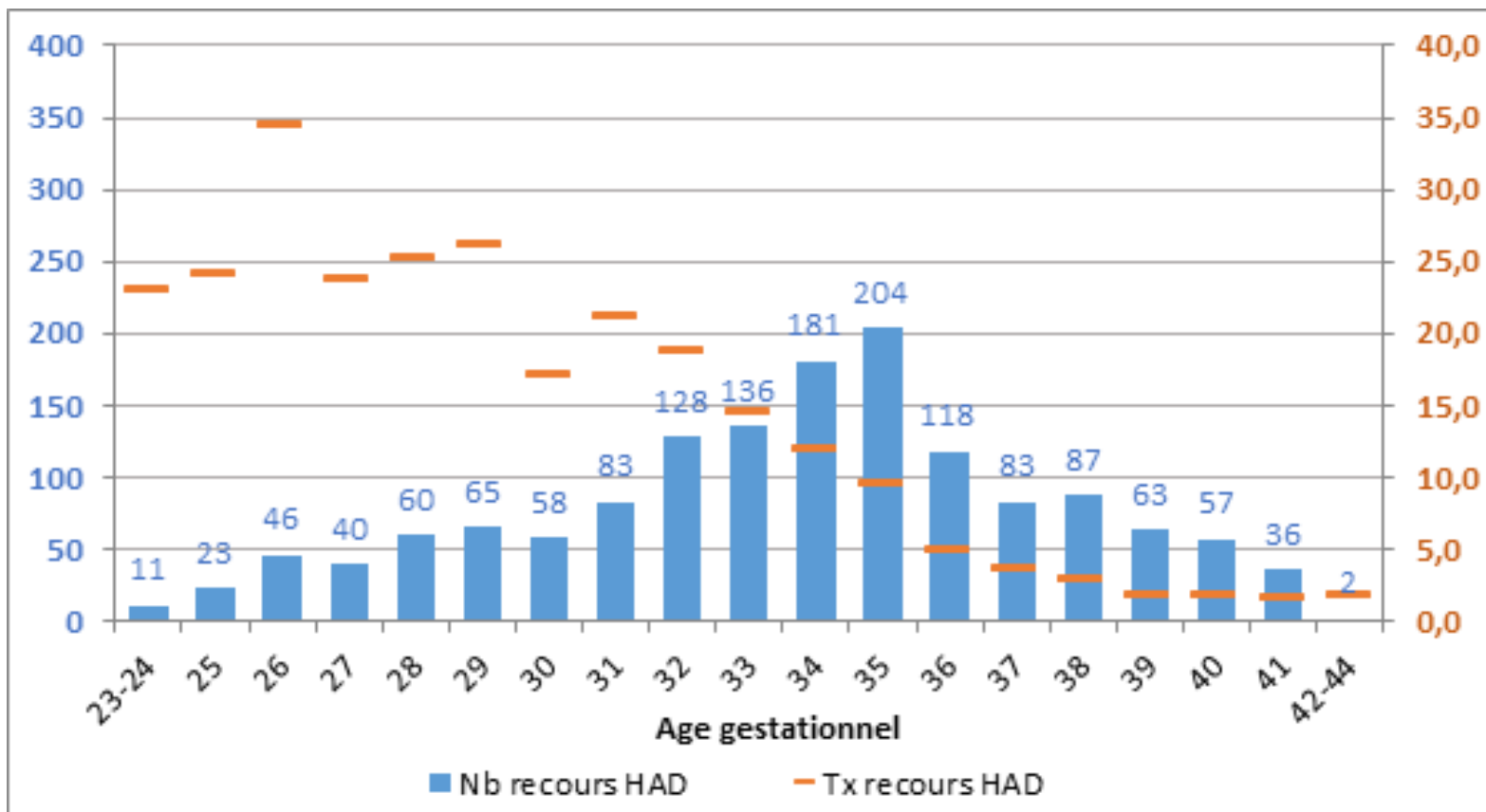
\*p < 0,05

Discharge age toward HAH

Discharge age without HAH



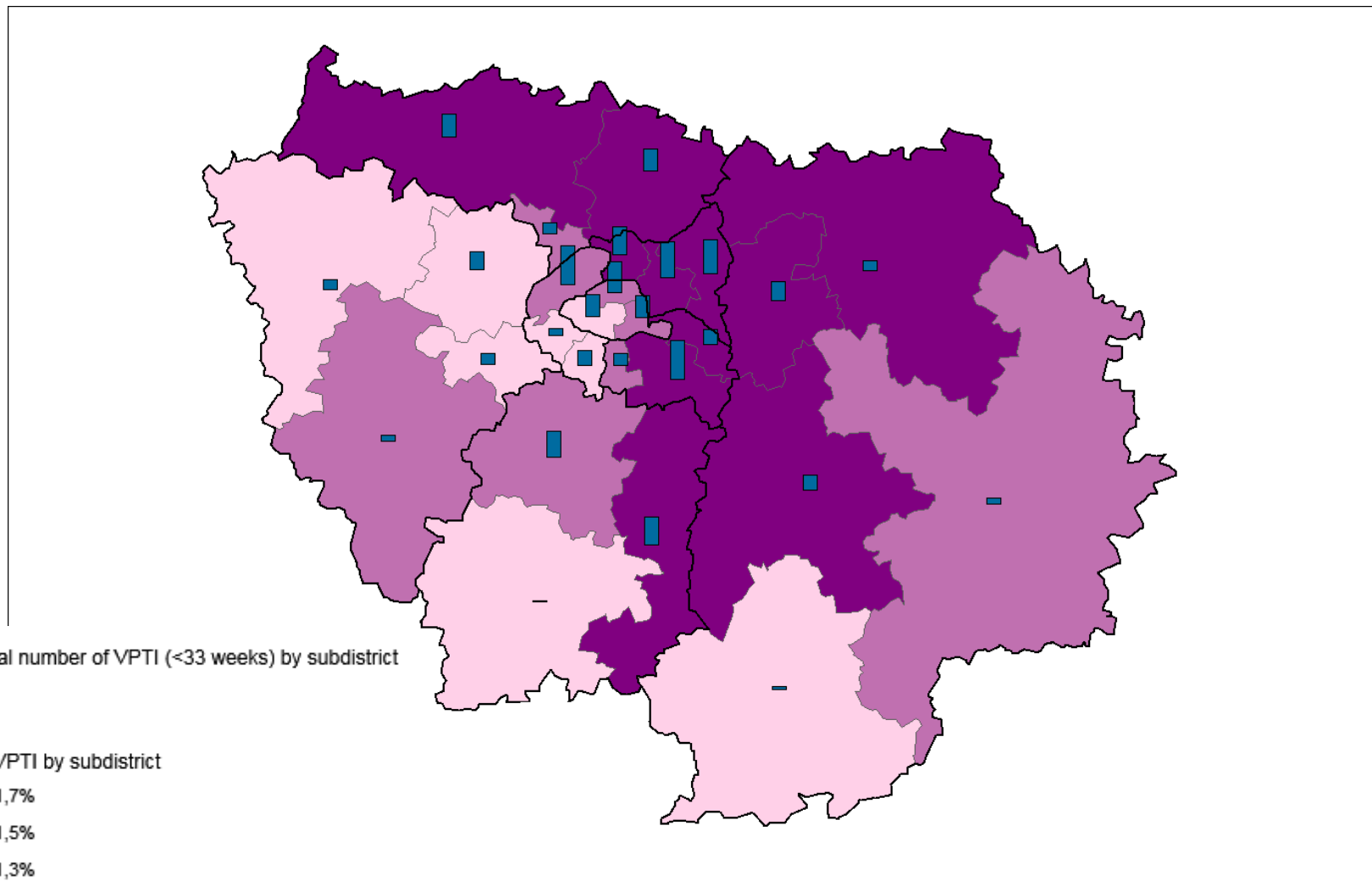
# Hospital At Home according to gestational age at birth



Number of hospital at home

Hospital at home rate

# Very preterm infants residence distribution (HDS 2014-2016)



# Discussion

- No decrease in length of stay with HAH but heavier pathology and higher care level
- Heterogeneity of HAH use among districts not always explained by very preterm infant volume
- Impact of different neonatology units practices?

# Conclusion

Only linkage between in-patient hospitalisation and hospital at home allows perinatal pathways description.

Regional disparities in health system organisation for very preterm infants is highlighted.

This study will be used to monitor regional health plan.

Future: Linkage with vulnerable infants follow-up database.

