

# UNMET NEEDS IN MATERNAL DIAGNOSIS AND TREATMENT FOR CONGENITAL CMV IN FRANCE

DATA FROM THE FRENCH “CONGENITAL CMV DECLARATION PLATFORM”  
OF THE NATIONAL REFERENCE CENTER FOR HERPESVIRUSES



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# INTRODUCTION

- **Due to absence of maternal CMV infection screening :**



Heterogeneity of congenital CMV (cCMV) diagnosis time points  
Secondary prevention difficult

- **However, maternal therapeutic possibilities exist:**

- To prevent newborn sequelae due to CMV:

- Leruez-Ville et al (Am J Obstet Gynecol, 2016): **valaciclovir**

- To prevent vertical transmission of CMV:

- Shahr-Nissan et al (The Lancet, 2020): **valaciclovir**
    - Kagan et al (Ultrasound in Obstetrics & Gynecology, 2021): **hyperimmunoglobulins**





Effective for **early** infections with **early** diagnosis (i.e. before 2nd trimester)

# OBJECTIVES

- **Identify the unmet needs in maternal diagnosis and treatment for cCMV in France**

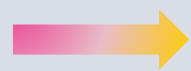
 Maternal diagnosis context in France

 Eligibility and access to maternal treatment

 Fetus/newborn symptomatology

# METHODS

- **cCMV database of the French National Reference Center for Herpesviruses :**



declaration since 2006



online declaration since 2016



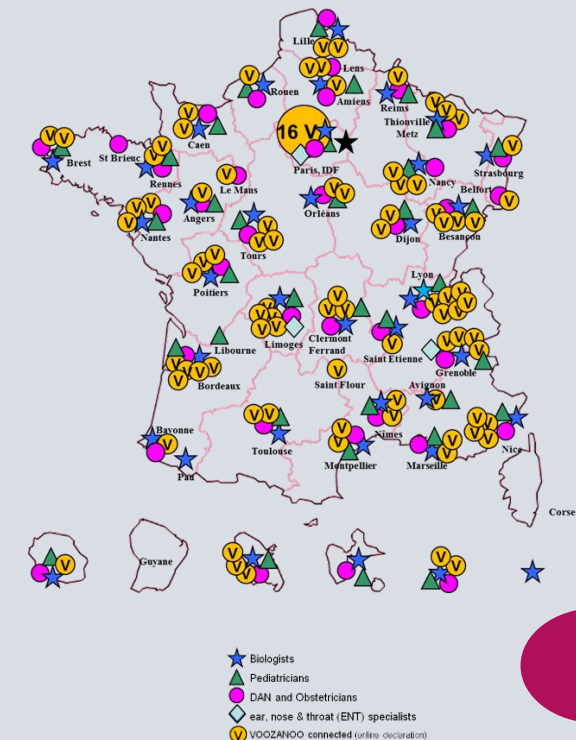
French “cCMV declaration platform”

**VOOZANOO**

- **Network:**

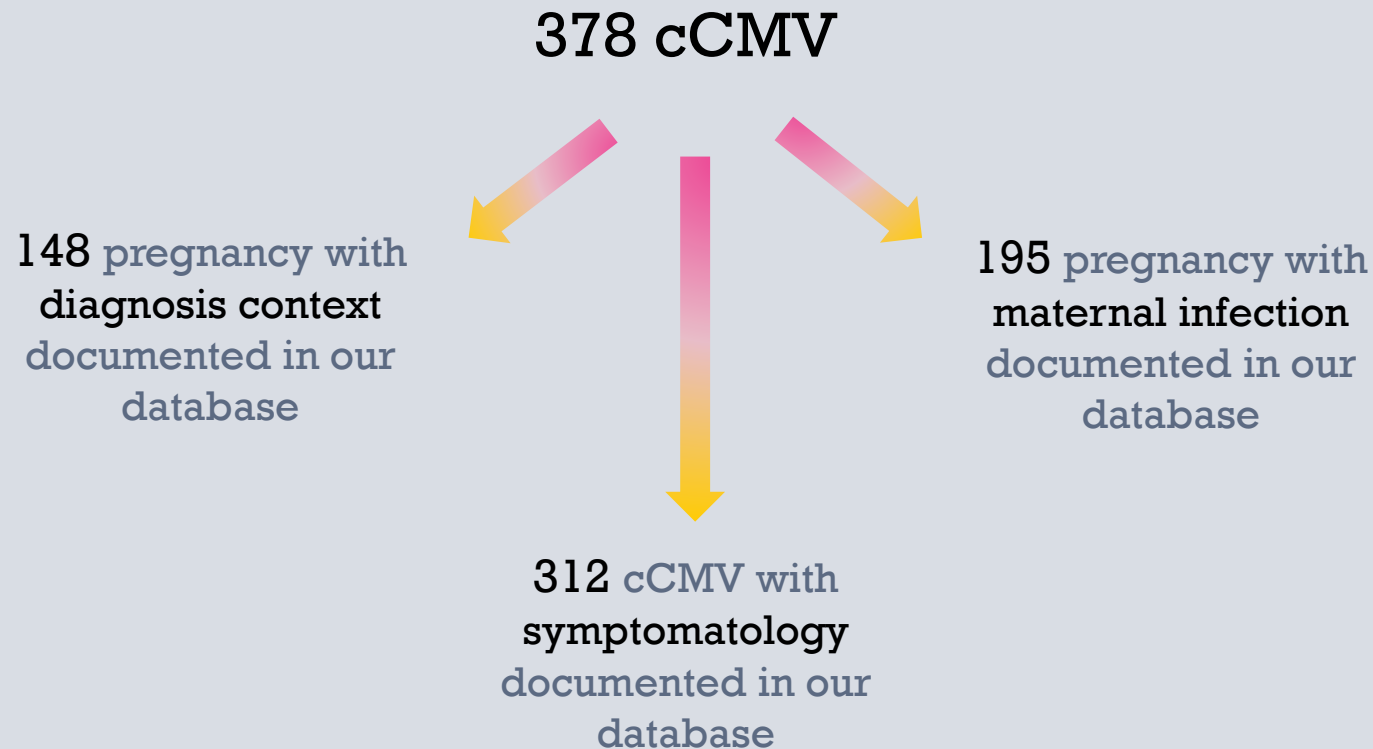
- 43 metropolitans
- several overseas regions (covering quite all the French territory)
  - ✓ 54 prenatal diagnosis centers and obstetricians,
  - ✓ 52 virology laboratories,
  - ✓ 61 neonatal pediatric,
  - ✓ 3 oto-rhino-laryngologist pediatrics.

- **1395 cCMV cases**



# METHODS

- **Focus on 378 documented cCMV cases between 2018 and 2020**



# METHODS

## ○ cCMV case

Presence of CMV in : amniotic fluid (fetus),  
urine, saliva (newborns)...

## ○ Fetus/newborn symptomatology

### ASYMPTOMATIC

- Absence of sonographic or clinical symptoms
- Absence of biological signs, or one isolated biological sign
- IUGR or prematurity (w/o other clinical sign)

### SYMPTOMATIC

## ○ **Mild** (only since 2018): extra-neurological symptoms

Presence of 1 or 2 of the following clinical signs: petechiae, hepatomegaly, enterocolitis, hepatitis or biological signs, mild deafness.

## ○ **Moderate**: extra-neurological symptoms

- biological sign (s) associated with at least 2 of the following clinical signs: splenomegaly, petechiae, respiratory distress, hepatomegaly, pneumopathy, enterocolitis, hepatitis, fever.
- more than two clinical signs among the following: splenomegaly, petechiae, respiratory distress, hepatomegaly, pneumopathy, enterocolitis, hepatitis, fever.

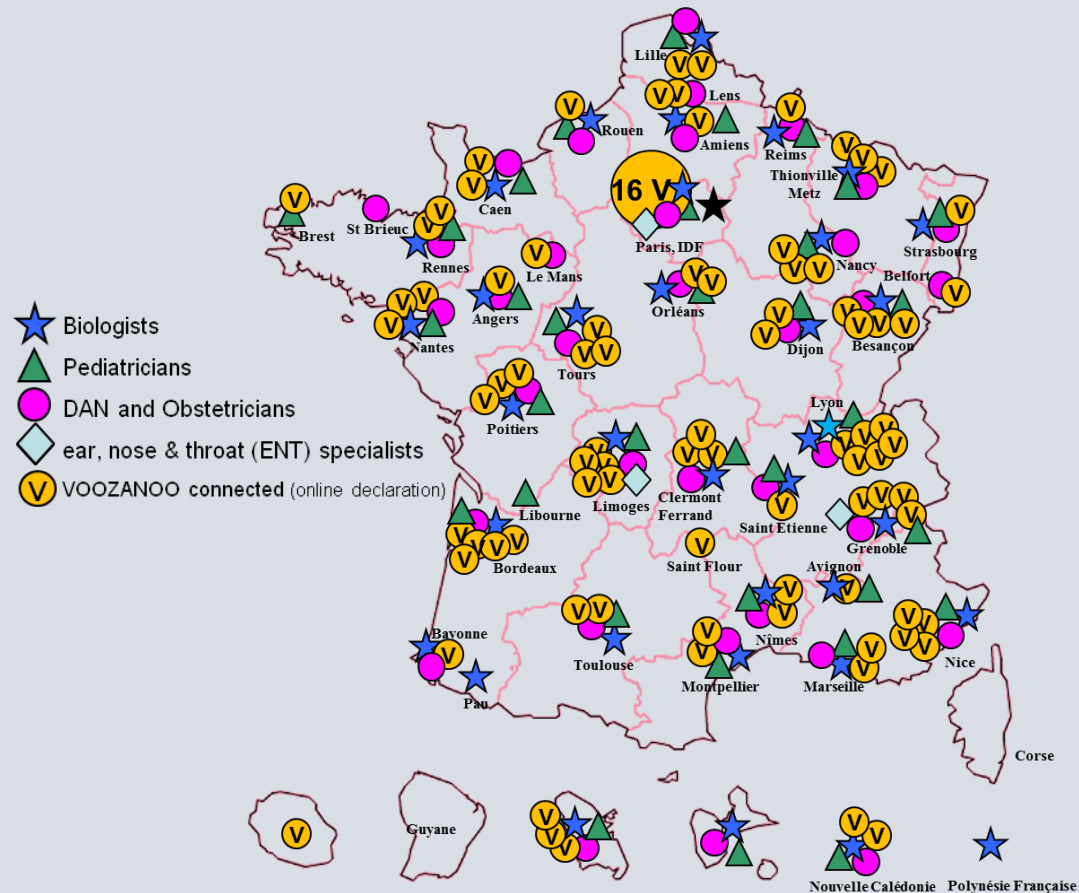
## ○ **Severe**:

- unilateral deafness (<21 dB), chorioretinitis.
- neurological signs: bilateral deafness, microcephaly, tone disorder, white matter abnormalities, ventriculomegaly...

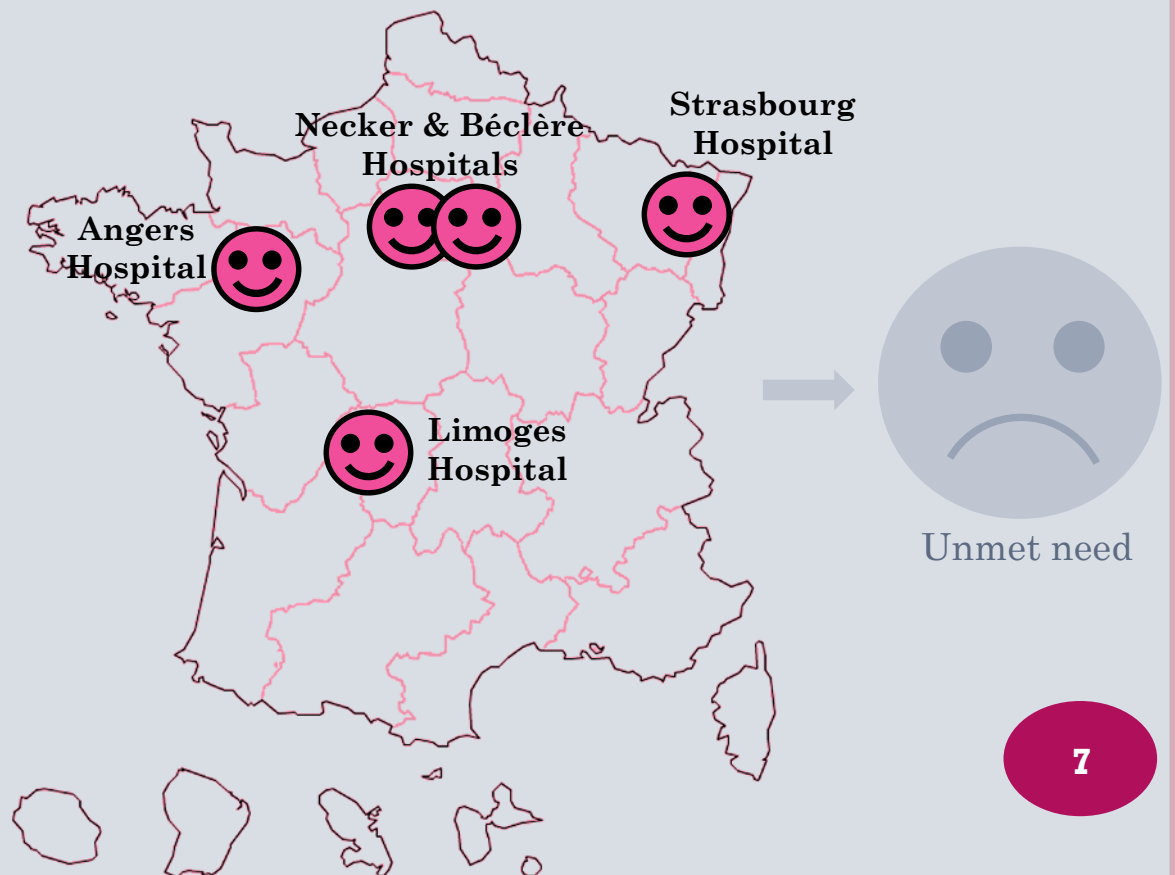
# RESULTS

## ○ Status of french cmv screening in 2020

Declaration network

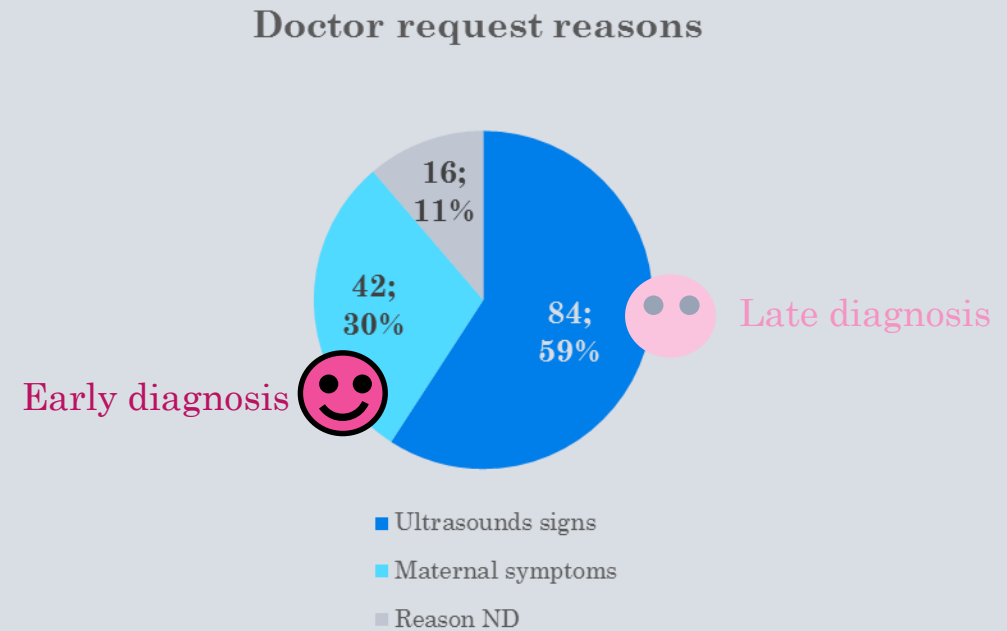
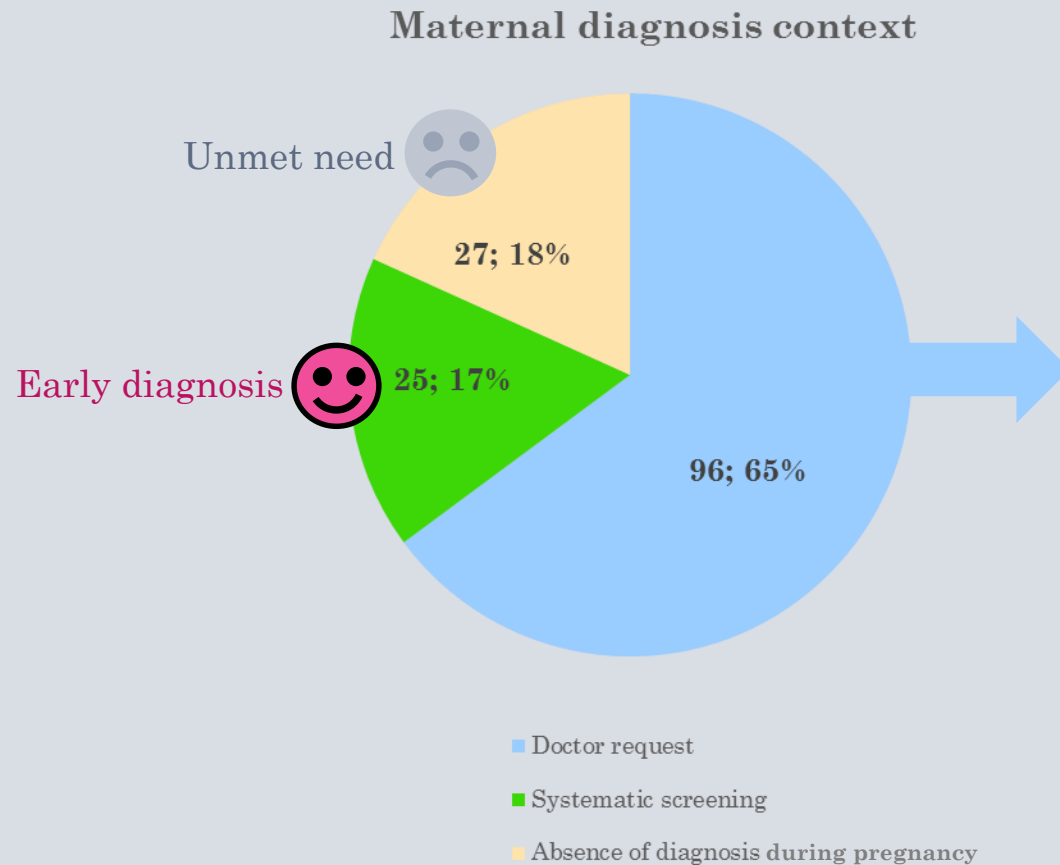


Maternal CMV **systematic** screening



# RESULTS

## ○ Maternal diagnosis context

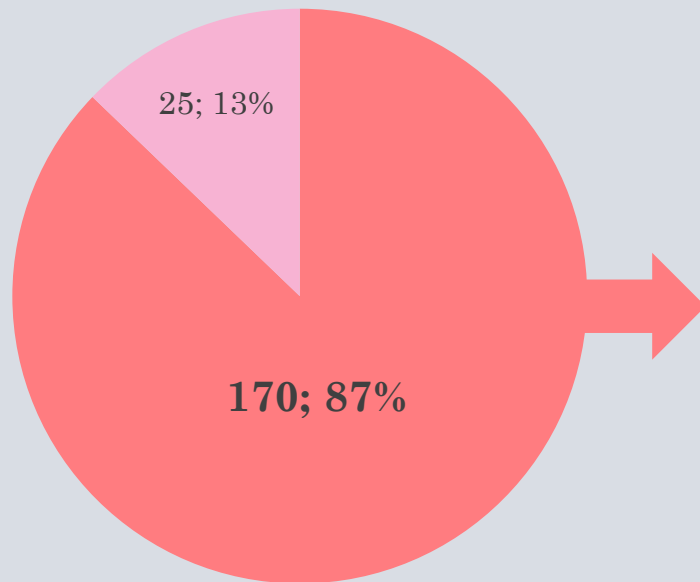




# RESULTS

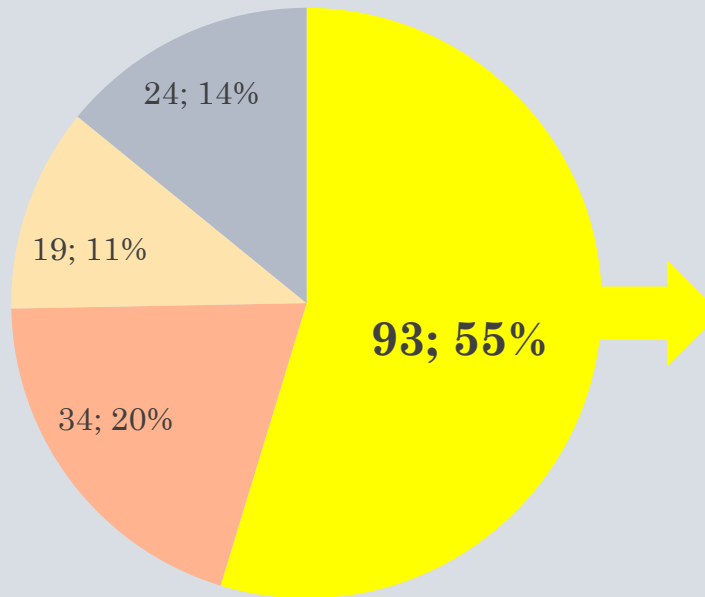
## ○ Eligibility for maternal treatment

195 documented maternal infections



■ Primary infection  
■ Non-primary infection

170 primary infections



■ Periconceptional and 1st trim  
■ 2nd trim  
■ 3rd trim  
■ ND

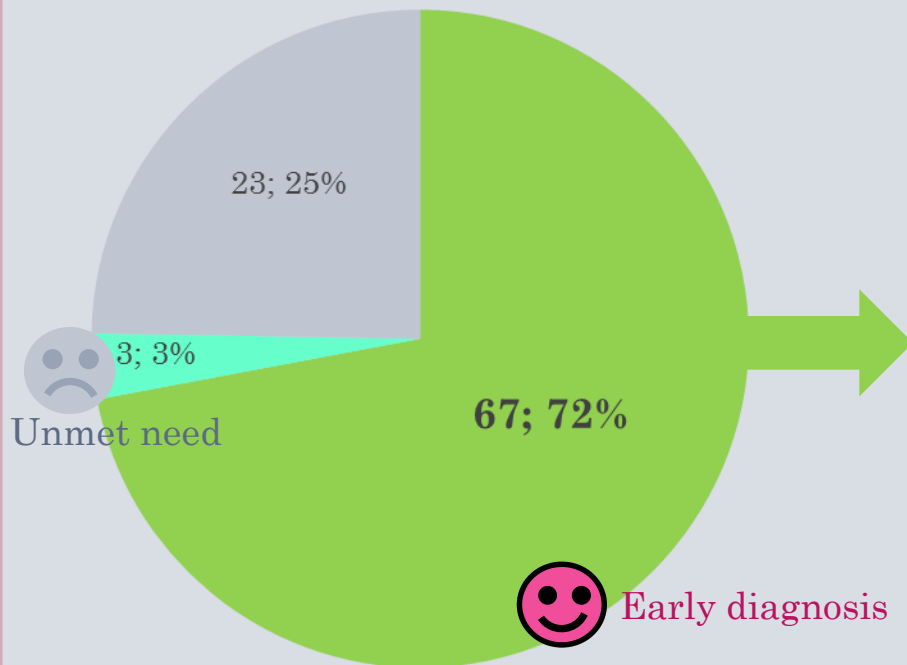
93 eligible for treatment

**93 would have been eligible for maternal treatment if available**

# RESULTS

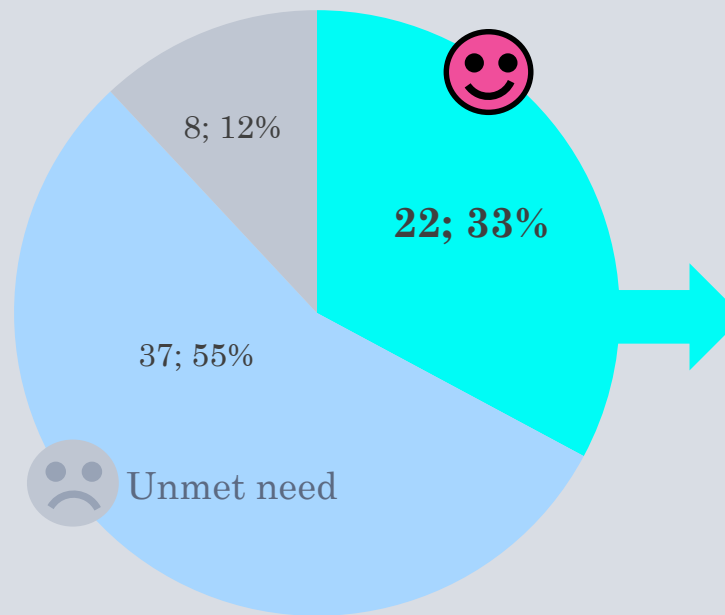
## ○ Reported maternal treatment

93 eligible for treatment



- Declared as early diagnosis (real time)
- Declared as late diagnosis (retrospective)
- Time of diagnosis ND

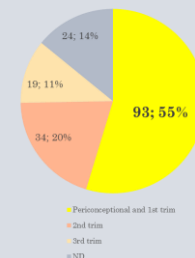
67 declared as real-time diagnosed



- Treated
- Not treated
- ND

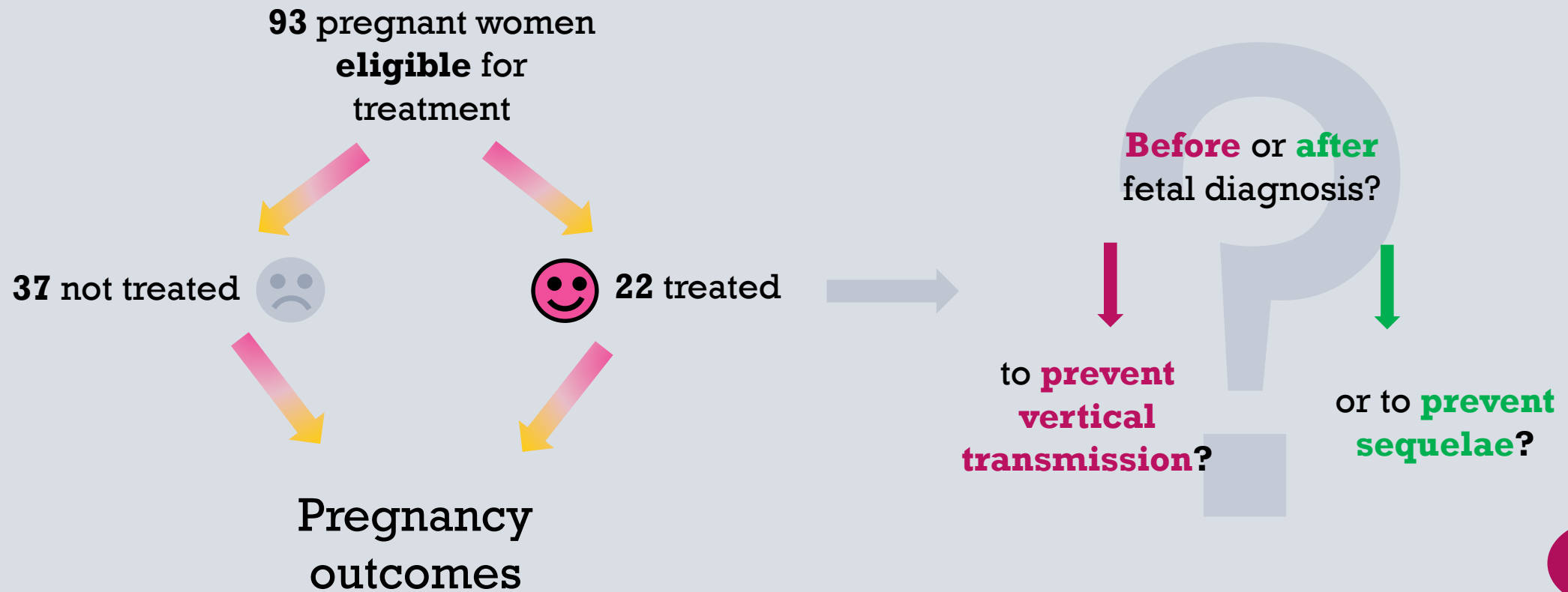
22 treated pregnant women

**Only 22 pregnant women were treated amongst the 93 eligible**



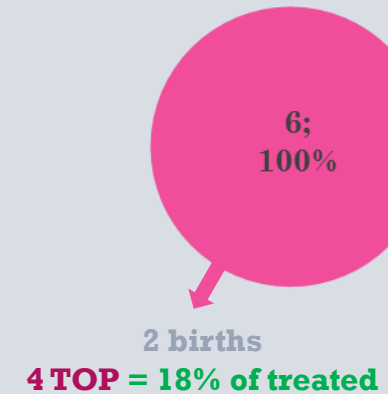
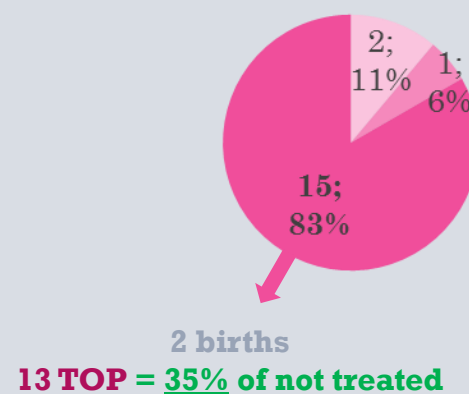
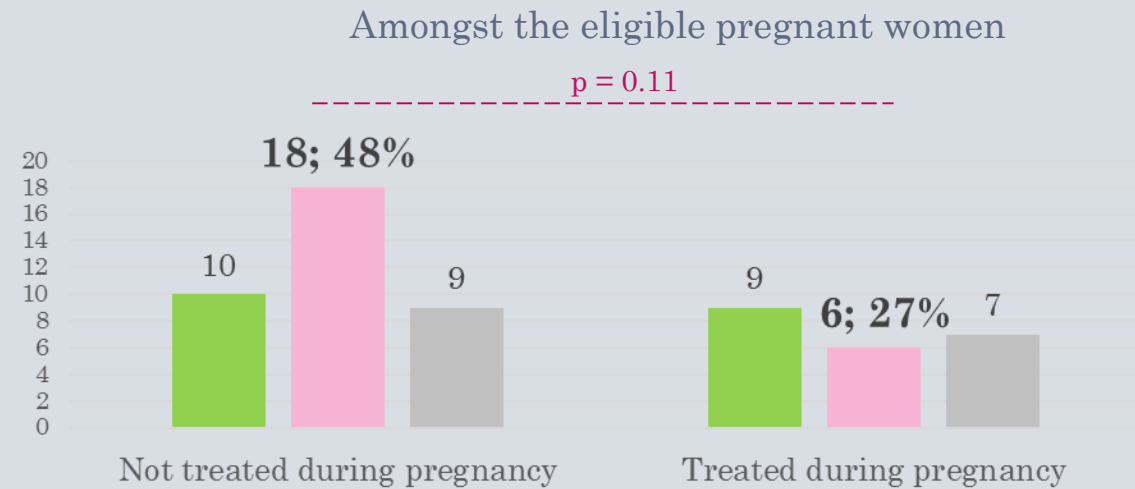
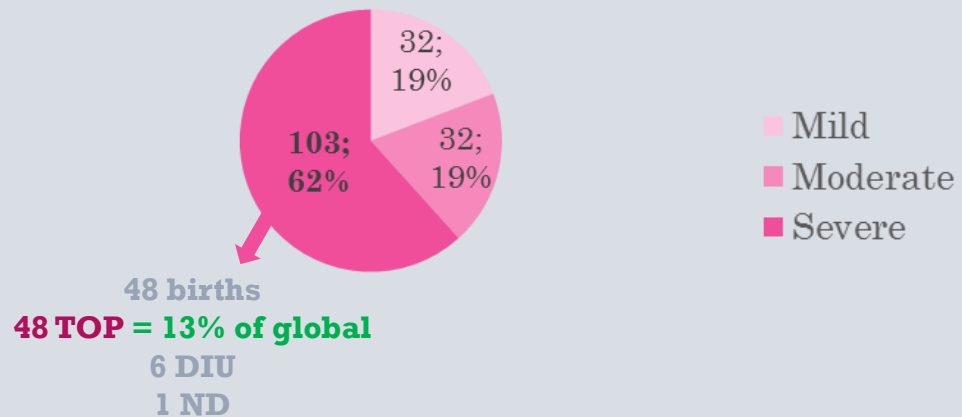
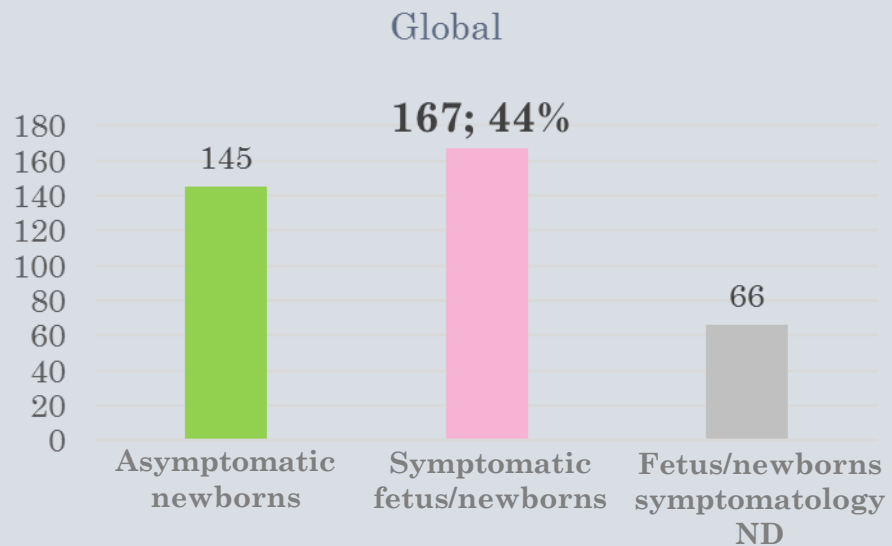
# RESULTS

- Time/reason for treatment?



# RESULTS

## Fetus/newborn symptomatology



# CONCLUSION

- Work remains to be done to complete the missing data
- Results
  - confirmed the heterogeneity of the cCMV diagnosis 😞
  - showed evidence for the lack of real time CMV infection diagnosis during pregnancy 😞
  - showed that pregnant eligible women who could be treated were not 😞
- Treatment benefit can only be obtained through well-organized screening and medical care
  - ➡ establishment of systematic screening in pregnant women



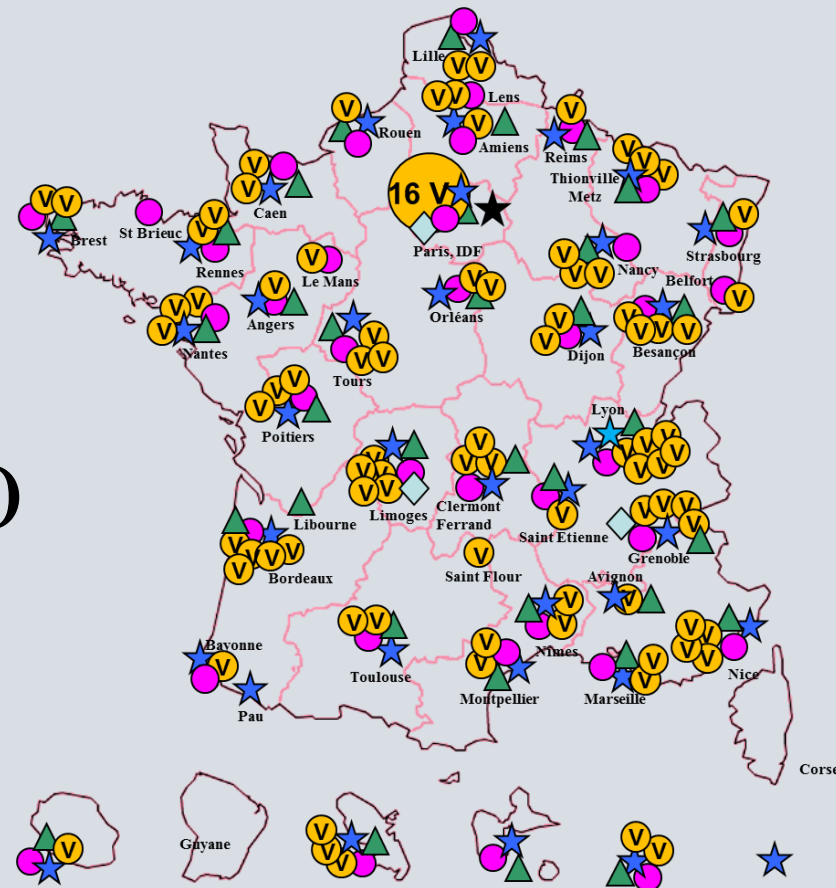
# AKNOWLEDGMENTS



▲ Pediatricians

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V VOOZANOO  
connected



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Obstetricians

◆ ear, nose & throat  
specialists