

# HOW TO CARE FOR YOUR TEAM WHEN AN OBSTETRIC DRAMA OCCURRED

- 19:00 Introduction: 3 years of BAMM
- 19:15 A mother dies while giving birth
- 19:30 How to manage a life-threatening complication  
(in a pregnant woman / woman giving birth)
- 20:05 Debriefing and feedback for critical incidents
- 20:40 First or second victim, who cares?
- 21:15 Closing remarks



# Introduction 3 years of BAMM

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*Dr. Griet Vandenberghe*



a confidential  
enhanced system  
for the  
registration and analysis  
of maternal deaths  
in Belgium  
was launched in 2021

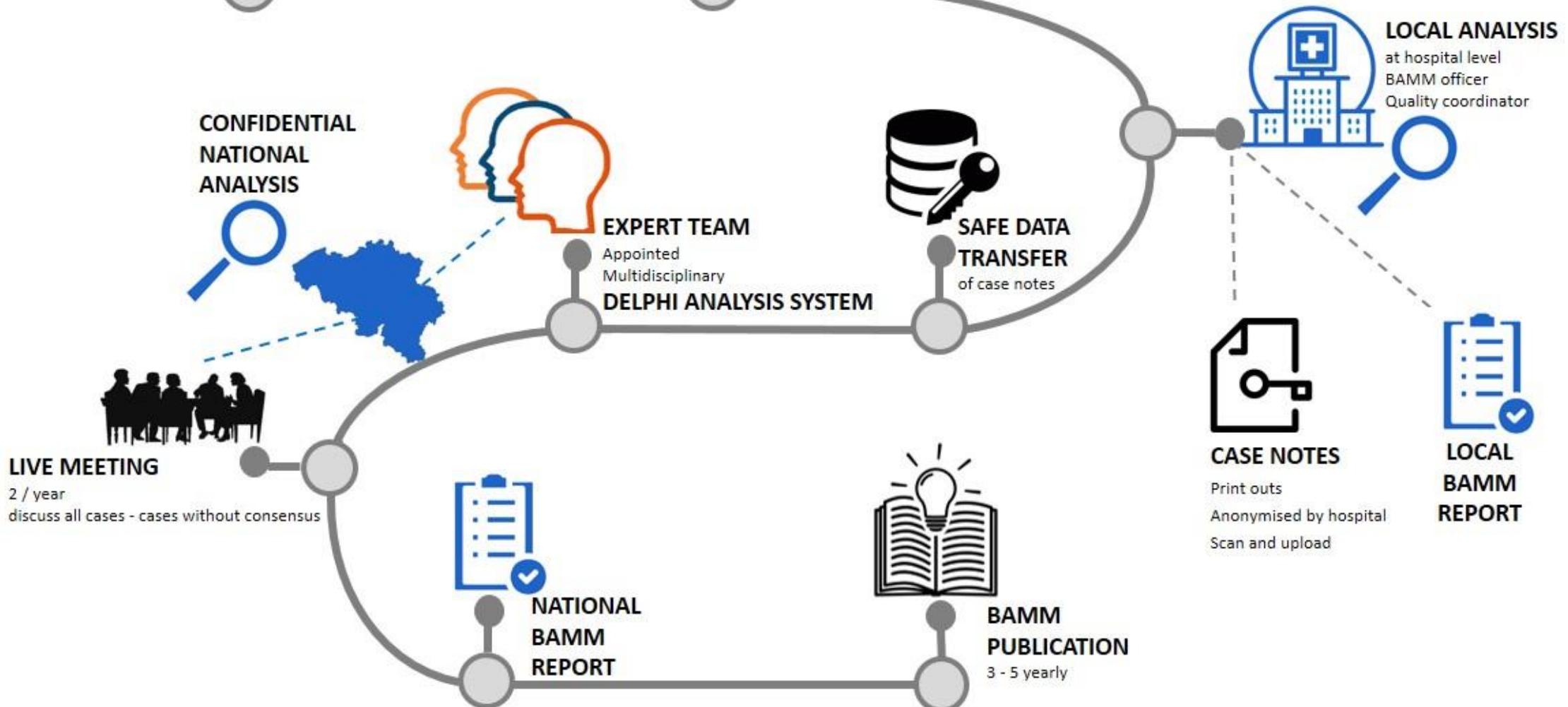


CASE  
of  
maternal death



## NOTIFICATION

of a case through B.OSS / BAMM platform  
Monthly mailing  
Spontaneous notification  
Access by ob/gyns, midwives, family doctors, psychiatrists, IC specialists





B A M

Belgian Analysis system for Maternal Mortality



**Health  
Food Chain Safety  
Environment**

Isabelle Van Der Bremt  
Annemie Vlayen  
Kelly Janssens



|                      |                   |                        |                       |                        |                  |                     |                        |                      |
|----------------------|-------------------|------------------------|-----------------------|------------------------|------------------|---------------------|------------------------|----------------------|
| Dr. J. Deloor        | S. Printemps      | Dr. J. Jani            | Dr. M.-C. Dallequin   | S. Vandepitte          | Dr. R. Loumiae   | Dr. N. Severin      | Dr. M. Bernard         | Dr. J. Dauvillee     |
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| Dr. Chaban           | Dr. K. Wuyts      | Dr. J. Belhomme        | V. Mariiman           | Dr. L. Watkins-Masters | Dr. P. Emonts    | Dr. N. Minten       | Dr. J. Van Keirsbilck  | Dr. G. Luyckx        |
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| Dr. E. Van de Poel   | N. Derny          | De. De Braekelaer      | Dr. C. Schockaert     | Dr. D. Burrini         | Mme Strevelen    | G. Janssen          | Dr. W.J. van Dalen     | K. De Schrooder      |
| Dr. E. Christiaansen | Dr. A. Carlin     | Dr. T. Pezin           | V. Wijckmans          | Dr. D. Brenez          | A. Moreau        | Dr. E. Jankelovitch | Dr. B. De Brauwer      | Dr. A. Druwé         |
| Dr. S. De Wit        | E. Sooghen        | Dr. S. Houben          | G. Van Olmen          | Dr. F. Scharlacken     | Dr. J. Wajer     | Dr. B. Bollen       | Dr. B. De Keersmaecker | Dr. E. Rossey        |
| Dr. Van Hoorick      | Dr. J. De Keyser  | Dr. P. Steenhaut       | Dr. E. Van Oost       | Dr. A. Lestrange       | Dr. Y. Kacem     | Dr. C. Eerdekkens   | Dr. B. Rombaut         | Dr. N. Vanbelle      |
| Dr. P. Cryns         | Dr. C. Cauphas    | Dr. K. Van Mulders     | Dr. K. Vancalsteren   | Dr. Waterschoot        | S. Canonne       | Dr. S. Dirx         | Dr. V. Depauw          | Dr. F. Michels       |
| J. Ruts              | Dr. P. Bernard    | Dr. S. Vandeginste     | Dr. R. Van Dijck      | M. Timmermans          | A. Nouls         | M. Nondele          | Dr. A. De Krijf        | Dr. E. Cosenza       |
| Dr. J. Ackermans     | J. Bogaerts       | Dr. B. Thaler          | Dr. J. Decoene        | A. Boens               | Dr. R. Loumiae   | A. Batter           | Dr. D. Mortier         | Dr. M. Vandervorst   |
| Dr. C. Gregoir       | Dr. M. Bafort     | Dr. K. Scharpé         | E. Van Hoeck          | Dr. A. Laurent         | S. Pochou        | Dr. G. Palgen       | Dr. K. Devolder        | Dr. L. Claes         |
| Dr. L. Clabout       | Dr. A. Vereecke   | T. Deweerdt            | Dr. J.-M. Mine        | Mme Strevelen          | Dr. P. Emonts    | De. C. Klay         | Dr. E. Serkei          | Dr. H. Van der Merwe |
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|                      |                   |                        |                       |                        | Dr. D. Anton     | Dr. J.-F. Legrèvre  |                        |                      |



GYNAECOLOGISTS

MIDWIVES

ANAESTHETISTS

PSYCHIATRISTS

CARDIOLOGISTS

INFECTIONISTS

HEMATOLOGISTS

INTENSIVE CARE SPECIALISTS

EMERGENCY PHYSICIANS





# BAMM TEAM

Caroline Daelemans

Julie Belhomme

Hilde Logghe

Lore Lannoo





Vincent Penesich



Karolien Benoit

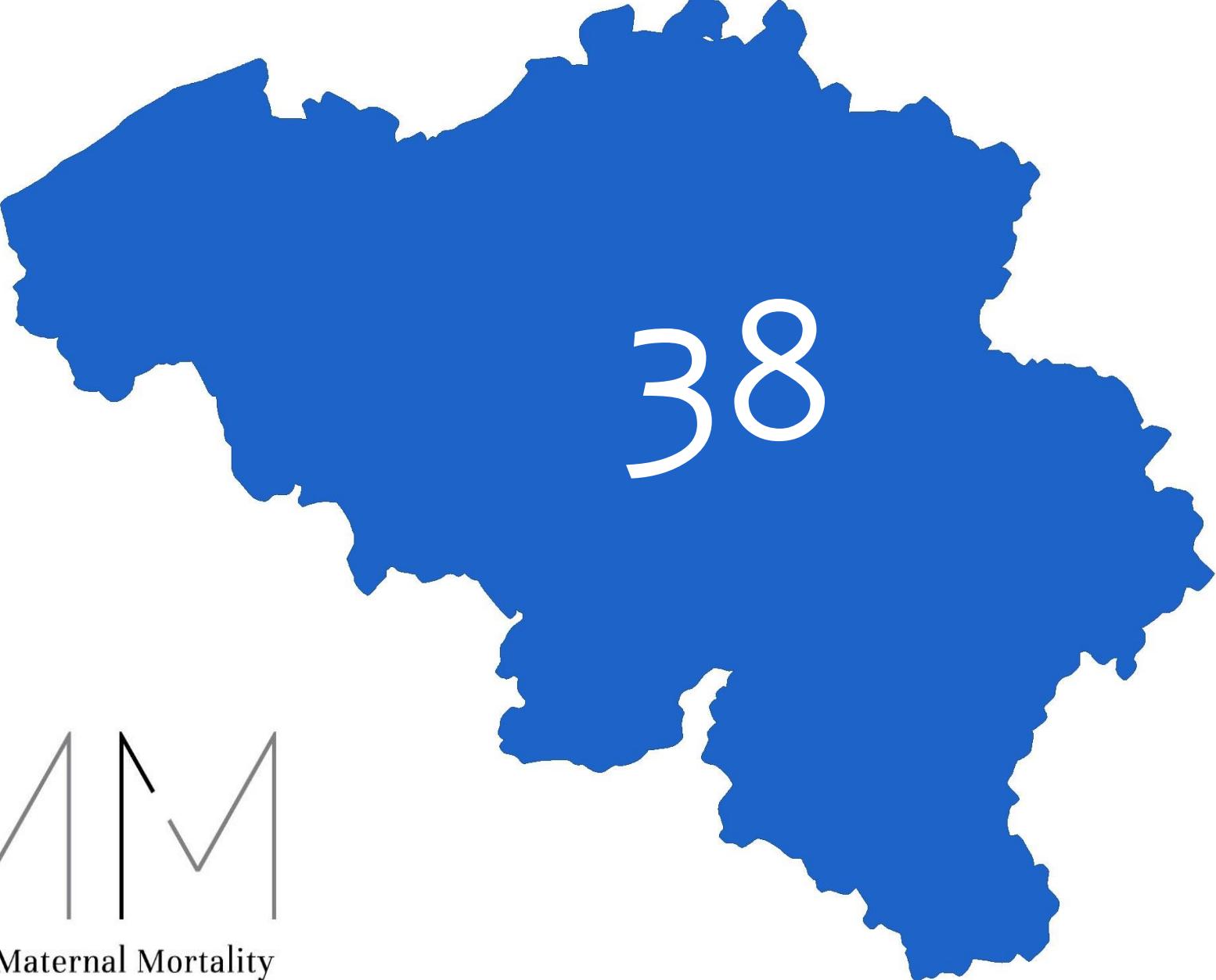


Karolien Benoit



Marie Coussens

How many mothers died ?



BAMM

Belgian Analysis system for Maternal Mortality

# 2021

| January |    |    |    |    |    |    |
|---------|----|----|----|----|----|----|
| Mo      | Tu | We | Th | Fr | Sa | Su |
| 1       | 2  | 3  | 4  | 5  | 6  | 7  |
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| 15      | 16 | 17 | 18 | 19 | 20 | 21 |
| 22      | 23 | 24 | 25 | 26 | 27 | 28 |
| 29      | 30 | 31 |    |    |    |    |

| February |    |    |    |    |    |    |
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| 8        | 9  | 10 | 11 | 12 | 13 | 14 |
| 15       | 16 | 17 | 18 | 19 | 20 | 21 |
| 22       | 23 | 24 | 25 | 26 | 27 | 28 |
| 29       | 30 | 31 |    |    |    |    |

| March |    |    |    |    |    |    |
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| 8     | 9  | 10 | 11 | 12 | 13 | 14 |
| 15    | 16 | 17 | 18 | 19 | 20 | 21 |
| 22    | 23 | 24 | 25 | 26 | 27 | 28 |
| 29    | 30 | 31 |    |    |    |    |

| April |    |    |    |    |    |    |
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| 15    | 16 | 17 | 18 | 19 | 20 | 21 |
| 22    | 23 | 24 | 25 | 26 | 27 | 28 |
| 29    | 30 | 31 |    |    |    |    |

| May |    |    |    |    |    |    |
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| 8   | 9  | 10 | 11 | 12 | 13 | 14 |
| 15  | 16 | 17 | 18 | 19 | 20 | 21 |
| 22  | 23 | 24 | 25 | 26 | 27 | 28 |
| 29  | 30 | 31 |    |    |    |    |

| June |    |    |    |    |    |    |
|------|----|----|----|----|----|----|
| Mo   | Tu | We | Th | Fr | Sa | Su |
| 1    | 2  | 3  | 4  | 5  | 6  | 7  |
| 8    | 9  | 10 | 11 | 12 | 13 | 14 |
| 15   | 16 | 17 | 18 | 19 | 20 | 21 |
| 22   | 23 | 24 | 25 | 26 | 27 | 28 |
| 29   | 30 | 31 |    |    |    |    |

| July |    |    |    |    |    |    |
|------|----|----|----|----|----|----|
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| August |    |    |    |    |    |    |
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| 22     | 23 | 24 | 25 | 26 | 27 | 28 |
| 29     | 30 | 31 |    |    |    |    |

| September |    |    |    |    |    |    |
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| Mo        | Tu | We | Th | Fr | Sa | Su |
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| 15        | 16 | 17 | 18 | 19 | 20 | 21 |
| 22        | 23 | 24 | 25 | 26 | 27 | 28 |
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| October |    |    |    |    |    |    |
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| Mo      | Tu | We | Th | Fr | Sa | Su |
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| 15      | 16 | 17 | 18 | 19 | 20 | 21 |
| 22      | 23 | 24 | 25 | 26 | 27 | 28 |
| 29      | 30 | 31 |    |    |    |    |

| November |    |    |    |    |    |    |
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| 15       | 16 | 17 | 18 | 19 | 20 | 21 |
| 22       | 23 | 24 | 25 | 26 | 27 | 28 |
| 29       | 30 | 31 |    |    |    |    |

| December |    |    |    |    |    |    |
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| 8        | 9  | 10 | 11 | 12 | 13 | 14 |
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| 22       | 23 | 24 | 25 | 26 | 27 | 28 |
| 29       | 30 | 31 |    |    |    |    |



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Belgian Analysis system for Maternal Mortality

# 2021

| Mo | Tu | We | Th | Fr | Sa | Su |
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| 8  | 9  | 10 | 11 | 12 | 13 | 14 |
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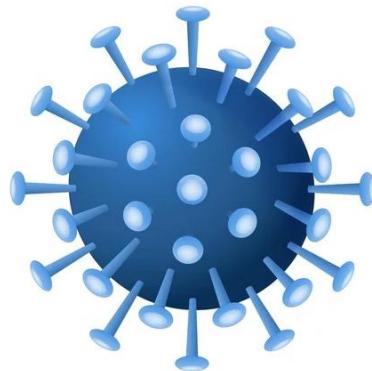
| Mo | Tu | We | Th | Fr | Sa | Su |
|----|----|----|----|----|----|----|
| 3  | 4  | 5  | 6  | 7  | 8  | 9  |
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| 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 |    |    |    |    |    |    |

| Mo | Tu | We | Th | Fr | Sa | Su |
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| 5  | 6  | 7  | 8  | 9  | 10 | 11 |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 26 | 27 | 28 | 29 | 30 | 31 |    |

| Mo | Tu | We | Th | Fr | Sa | Su |
|----|----|----|----|----|----|----|
| 3  | 4  | 5  | 6  | 7  | 8  | 9  |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 1  | 2  | 3  | 4  | 5  | 6  |

| Mo | Tu | We | Th | Fr | Sa | Su |
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| 6  | 7  | 8  | 9  | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | 30 | 31 |    |    |

| Mo | Tu | We | Th | Fr | Sa | Su |
|----|----|----|----|----|----|----|
| 8  | 9  | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 |    |    |    |    |



# 2022

| Mo | Tu | We | Th | Fr | Sa | Su |
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| Mo | Tu | We | Th | Fr | Sa | Su |
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| 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 1  | 2  | 3  | 4  | 5  | 6  |

| Mo | Tu | We | Th | Fr | Sa | Su |
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| Mo | Tu | We | Th | Fr | Sa | Su |
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| Mo | Tu | We | Th | Fr | Sa | Su |
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| 9  | 10 | 11 | 12 | 13 | 14 | 15 |
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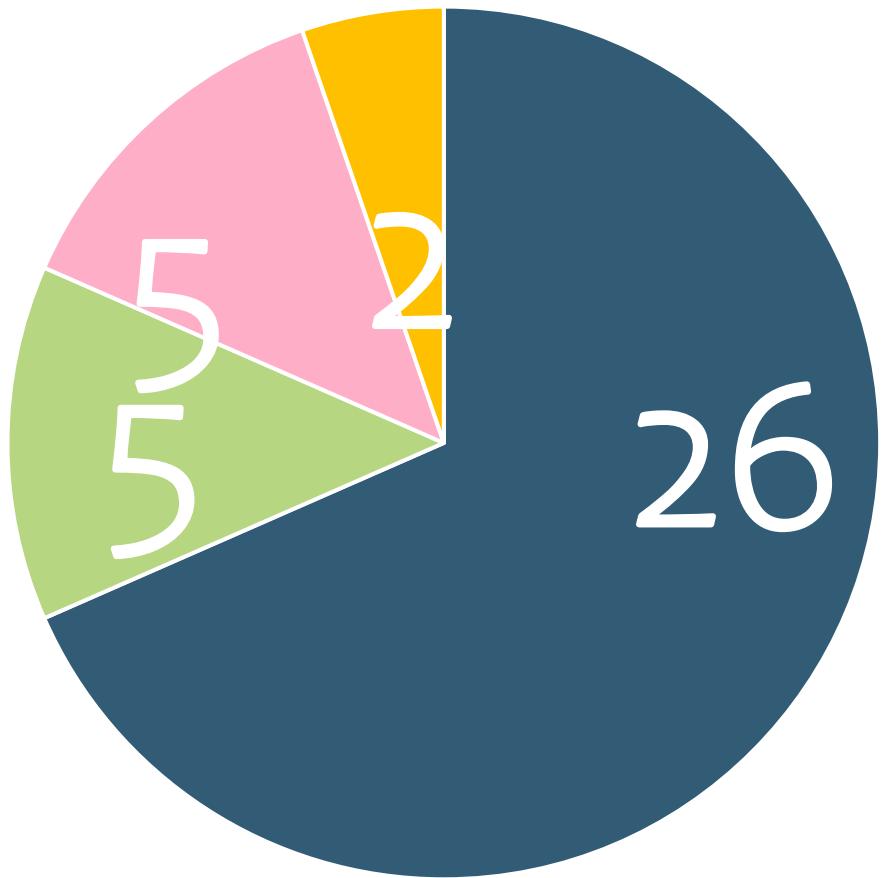
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| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 1  | 2  | 3  | 4  | 5  | 6  |

| Mo | Tu | We | Th | Fr | Sa | Su |
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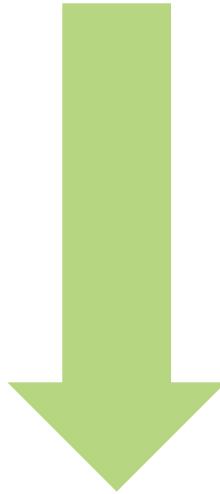
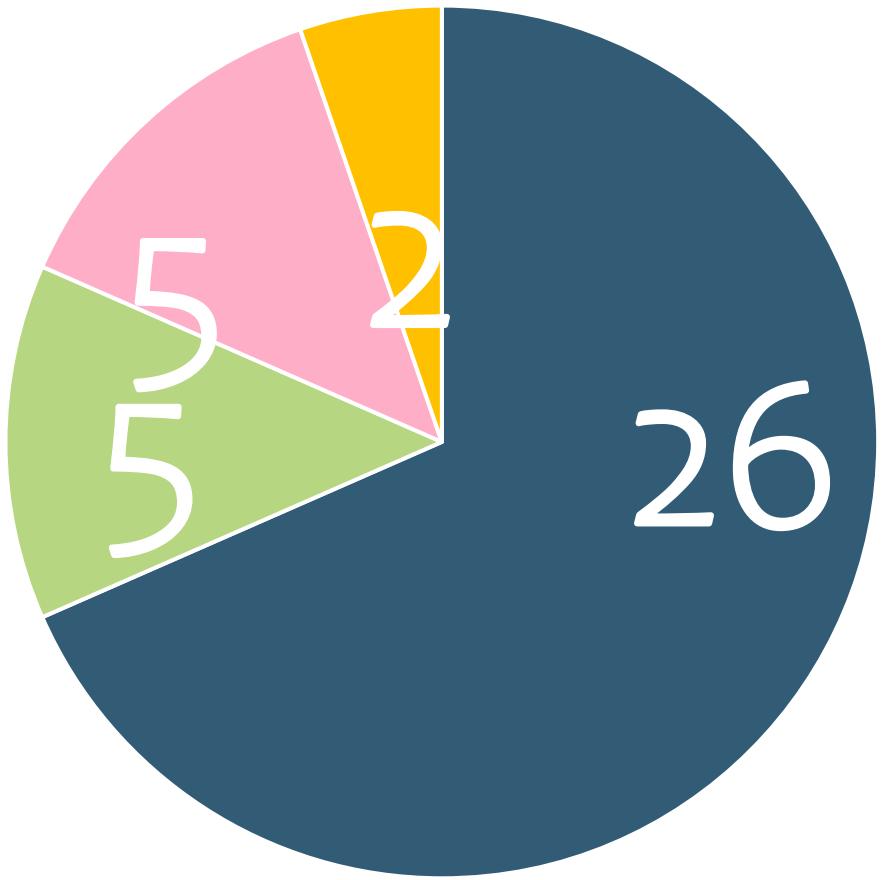


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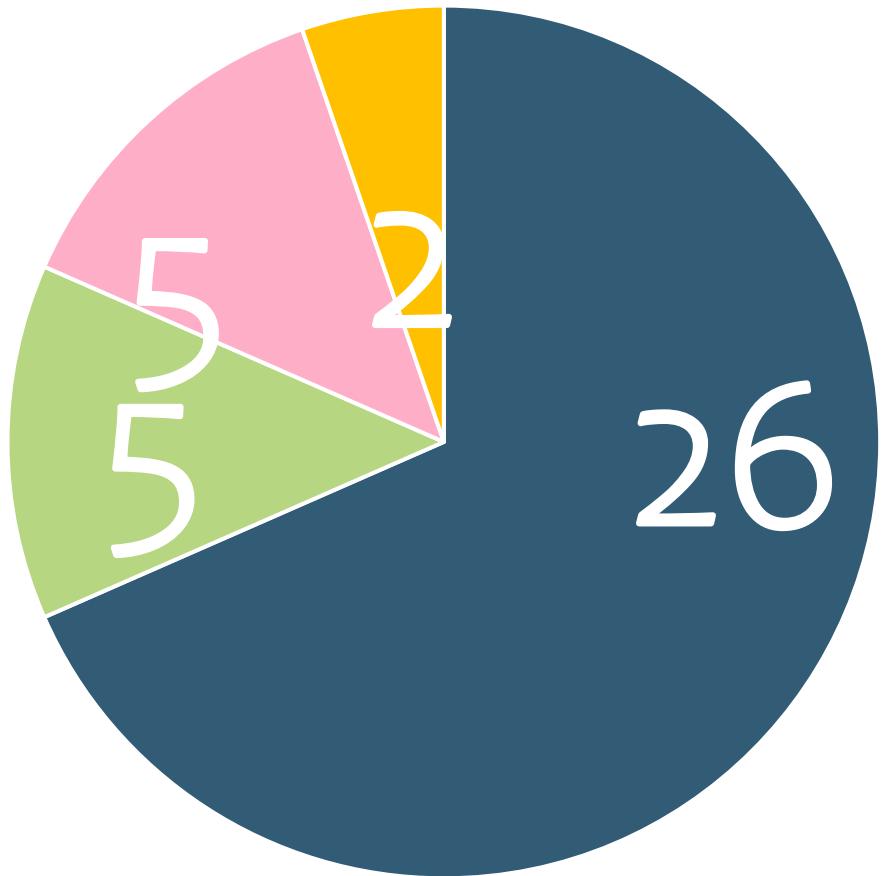
Belgian Analysis system for Maternal Mortality



- Peripartum - 42 days
- First trimester



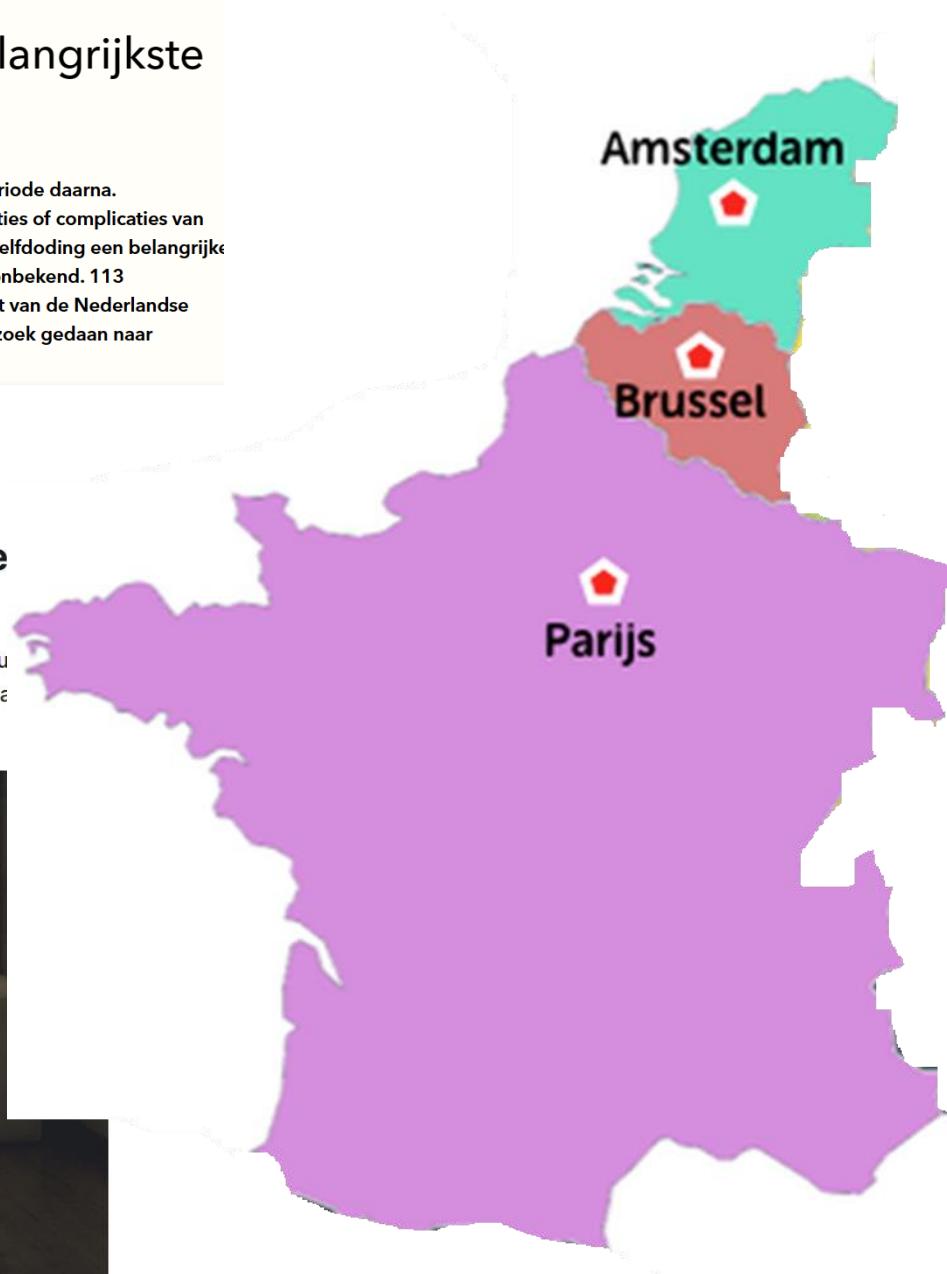
- Peripartum - 42 days
- First trimester



■ Peripartum - 42 days  
■ First trimester

## Zelfdoding bij jonge moeders belangrijkste oorzaak van moedersterfte

Wereldwijd sterven er vrouwen tijdens de zwangerschap of in de eerste periode daarna. Veelvoorkomende oorzaken van deze moedersterfte zijn bloedingen, infecties of complicaties van de bevalling. De afgelopen jaren werd in andere landen duidelijk dat ook zelfdoding een belangrijke oorzaak is van moedersterfte. In Nederland waren recente cijfers hierover onbekend. 113 Zelfmoordpreventie en de Auditcommissie Maternale Sterfte en Morbiditeit van de Nederlandse Vereniging voor Obstetrie en Gynaecologie (NVOG) hebben recent onderzoek gedaan naar zelfdoding onder moeders in Nederland in de periode 2006 tot 2020.



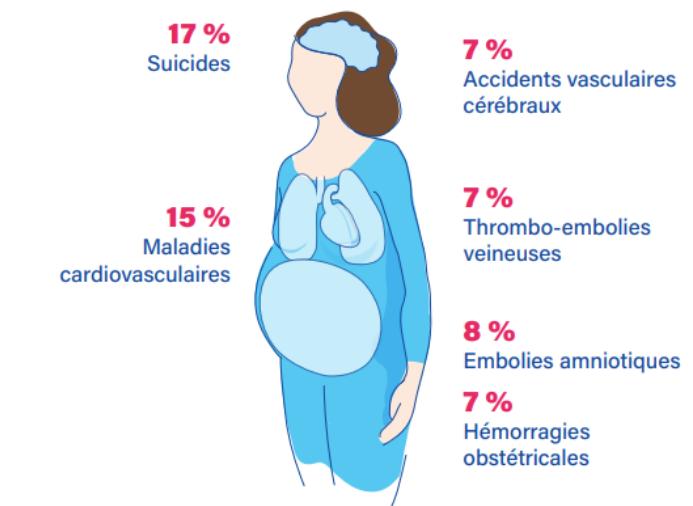
## Le suicide devient la première cause mortalité maternelle en France

Une étude de l'Inserm et de Santé publique France pointe que le suicide désormais la première cause de mortalité des mères du début de la grossesse et pendant le post-partum.



En France, un décès a lieu tous les quatre jours d'une cause liée à la grossesse, à l'accouchement ou à leurs suites

### Principales causes des décès maternels (de la conception jusqu'à 1 an après l'accouchement)





Belgian Analysis system for Maternal Mortality





**IMA-AIM**

**BAMM**  
Belgian Analysis system for Maternal Mortality

**MZG**  
**RHM**

## Triangulation of federal databases

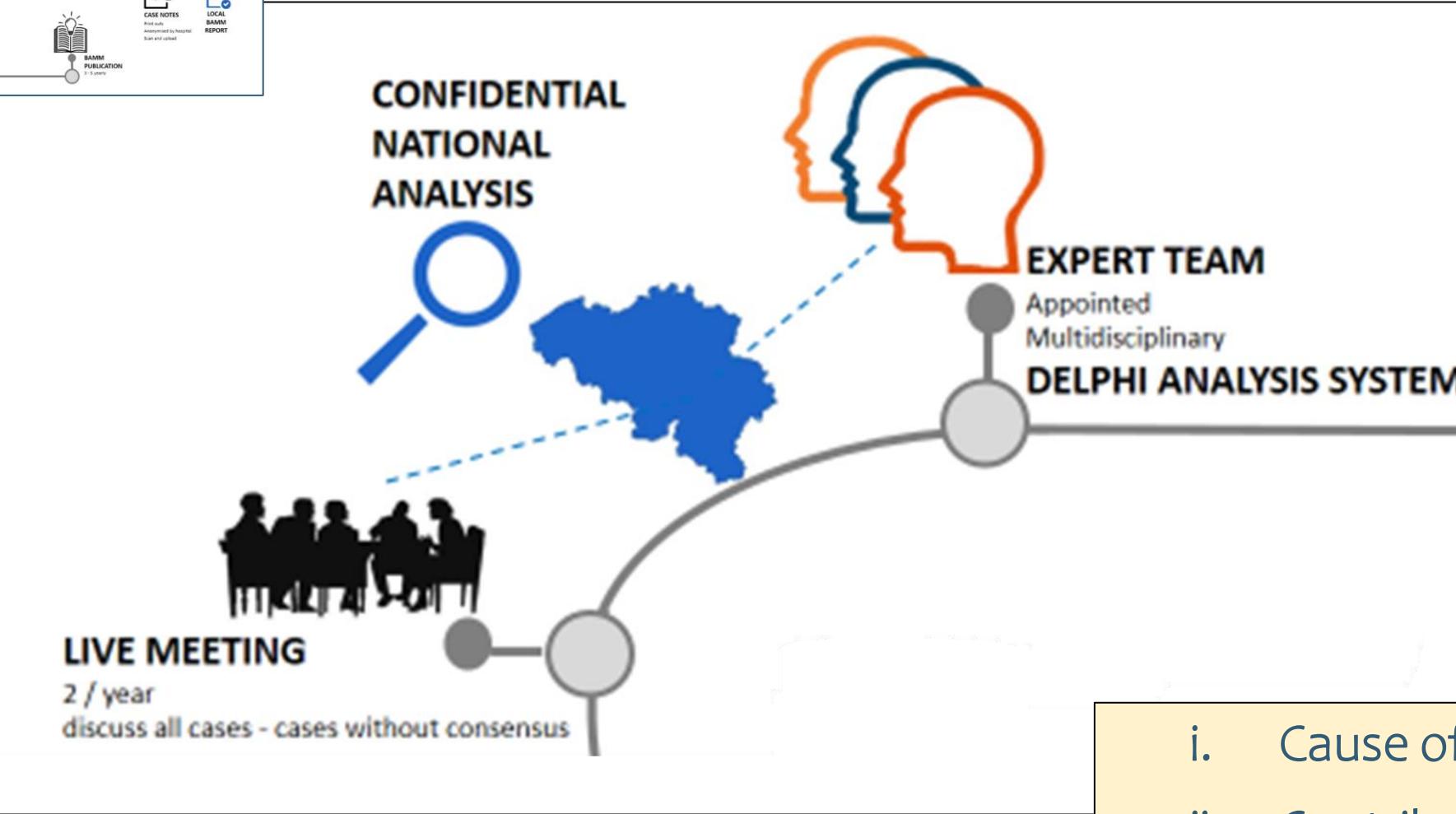
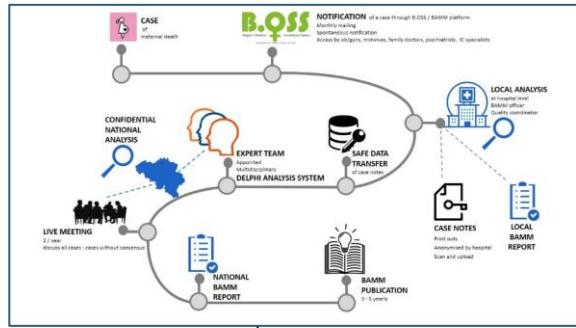
For the retrospective analysis of maternal mortality data



Belgian Analysis *system* for Maternal Mortality

# NO-BLAME approach

Why did these mothers die ?



- i. Cause of death
- ii. Contributing factors
- iii. Recommendations

## CURRENT STATE OF ANALYSIS OF CASES

38

|  |    |
|--|----|
| Aware of                                       | 3  |
| Local analysis in progress                     | 9  |
| On hold (juridical expertise)                  | 2  |
| Local analysis completed                       | 2  |
| National analysis in progress                  | 3  |
| National analysis completed                    | 5  |
| BAMM analysis complete, Feedback to be planned | 10 |
| BAMM analysis complete, Feedback given         | 4  |



14

12

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COVID-19

Cardio-vascular

Unclear

Cancer (cervix, breast)

Homicide

Unclear

Sepsis

Suicide

Iatrogenic

Haemorrhage post-CS

(Pre-)eclampsia

Pulmonary

Thrombo-embolism

Cardio-vascular

COVID-19

Sepsis

Suicide

Iatrogenic

Haemorrhage post-CS

(Pre-)eclampsia

Pulmonary

Thrombo-embolism

Cardio-vascular

COVID-19

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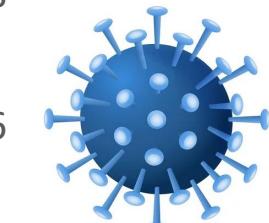
8

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COVID-19

Cardio-vascular

Thrombo-embolism

Pulmonary

(Pre-)eclampsia

Haemorrhage post-CS

Sepsis

Suicide

Iatrogenic

Cancer (cervix, breast)

Homicide

Unclear

What did we learn ?

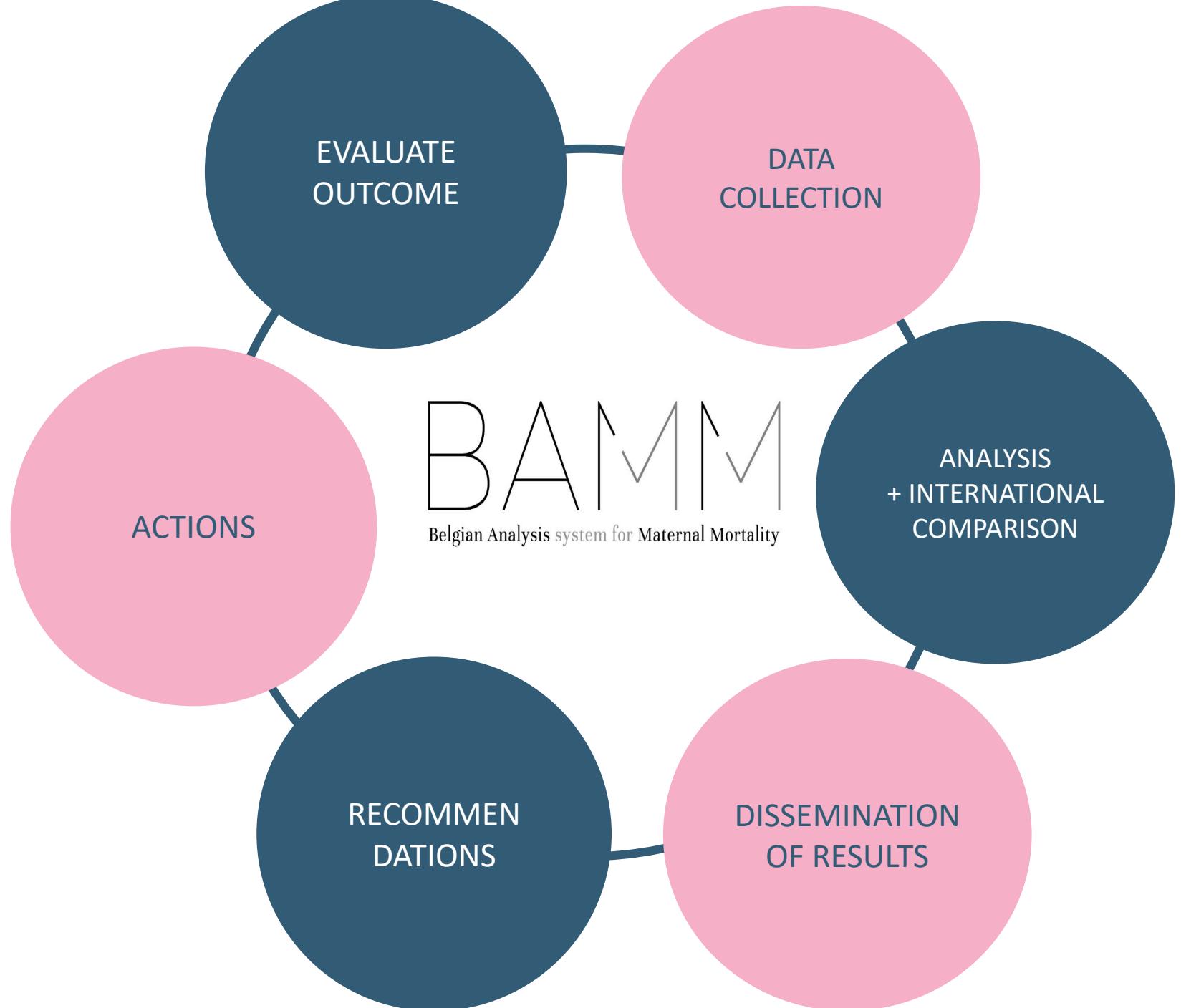
# Some recurring recommendations

- Risk Stratification tools at intake / at admission  
and organise obstetric care according to risk
- Implement Maternal Early Warning Scores
- Need for early multidisciplinary care : involve anaesthetists, IC specialists
- Need for a (national) Sepsis Awareness Campaign
- Strongly recommend autopsy in case of maternal death (make mandatory)



SEPSIS  
AWARENESS

ONLINE TRAINING  
BASED ON BAMM  
CASES



# Conclusions

- BAMM is successfully launched in January 2021
- The BAMM methodology has improved with focus on LIVE expert meeting
- Strong, big multidisciplinary team of enthusiastic experts on a voluntary basis
- Need for better awareness of BAMM:  
*family doctors, IC specialist, emergency physicians, cardiologists, psychiatrists*
- Cultural change
- Triangulation of vital databases