



## 14.4. Induction of labour (MN-4)

### 14.4.1. Documentation sheet

<b>Description</b>	The numbers of newborns (per 1000 live births and stillbirths) born after induced labour
<b>Calculation</b>	Number of inductions divided by the total number of births * 1 000. Results are presented by region. Variability between hospitals (per 1 000 live births) is also shown.
<b>Rationale</b>	There is widespread concern about the high rates of obstetric intervention, including inductions, during labour and delivery. <sup>1,2</sup> There is also growing pressure by women to avoid their unnecessary use. <sup>3</sup> KCE guideline states that induction should only be performed in a limited number of cases: in case of major risk for the foetus or the mother, or in case of water bag spontaneous rupture, if labour does not start spontaneously within 24 hours, or in case of exceeded term (after 41 weeks of gestation). Use outside these limits may be considered as inadequate. <sup>4</sup>
<b>Data source</b>	Statbel (Direction générale Statistique - Statistics Belgium), CEpiP, SPE
<b>Technical definitions</b>	Any induction by medication or artificial rupture of the membranes. The induction of contractions in case of premature rupture of the membranes in a patient who has no other sign of labour is also classified in inductions. <sup>5</sup>
<b>International comparability</b>	The definition of induction may vary between countries or even between maternity units within the same country, according to the use and timing of the procedures. In some places, induction includes the use of drugs for cervical ripening and oxytocin for induction. In other places, artificial rupture of membranes is also included. There is also some uncertainty about whether data include other uses of oxytocics, including for augmentation of labour. This misclassification can occur if augmentation is not recorded separately. <sup>3</sup>
<b>Performance Dimension</b>	Quality (appropriateness); Variability of care

### 14.4.2. Results

#### Induction rate: number of inductions per 1 000 births (live and stillbirth)

Overall, induction rate decreased by 16.3 % in Belgium between 1998 and 2015 (319 inductions per 1 000 births in 1998; 267 inductions per 1 000 births in 2015).

However, important differences exist between regions. In 2015, Wallonia was still the region with the highest induction rate (308 inductions per 1 000 births in 2015) and showed an induction rate equals to that of Flanders in 1998. Although Brussels had the lowest induction rate among Belgian

regions in 1998 (257 inductions per 1 000 births), the number of inductions increased by 11% between 2008 and 2014 and by 10.5% between 1998 and 2015 (average annual increasing of 1.59 inductions per 1 000 births) (Figure 215, Table 138).

Using CEpiP data (de facto data) instead of Statbel data (law data) confirmed that the rate of induction (per 1 000 births) increased in Brussels. The rate is higher for women delivering in Brussels (de facto data) than for women living in Brussels (law data). This could be linked to the fact that several pregnant women who live in Flanders or Wallonia come to Brussels for delivering and that these mothers may have more complicated pregnancy. But this could also be related to a difference in practice between hospitals in Brussels and elsewhere. SPE data (de facto data) showed an



increase of the induction rate in 2016 in Flanders which could not be confirmed by Statbel because data were not yet available that year (Table 139, Figure 216).

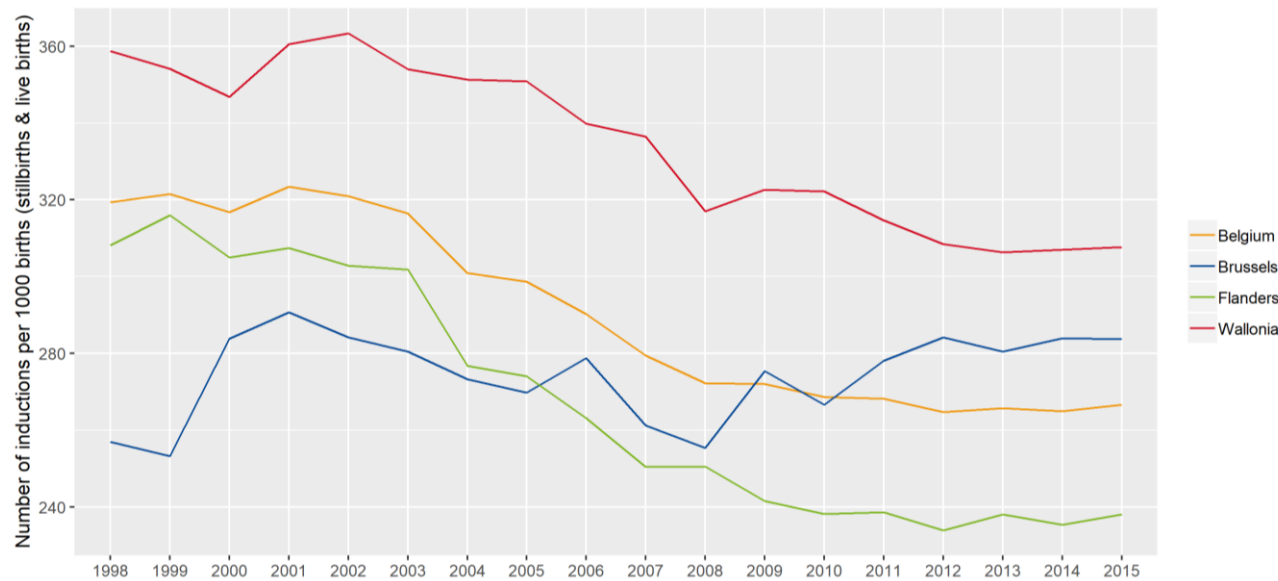
Restricting the analysis to induction in live births (i.e. excluding stillbirths) brings the same conclusions: an overall decrease of the induction rate in Belgium, an increase in Brussels and a gap between Flanders and the other regions.

### Variation of induction practice among maternity units

In 2015, it existed considerable differences of induction practices between Belgian hospitals: induction rate varied from 103 to 493 inductions per 1 000 live births. (Figure 217) However, case-mix was not taken into account and could have an impact on the observed variations of practices. More severe cases could influence induction rate. In the same way, geographical remoteness (distance for the mothers to the maternity unit) was not taken into account and could also influence induction rate.

No significant linear correlation was observed between the number of live births and the rate of induction ( $r=-0.05$ ,  $p=0.57$ ) (Figure 218).

Figure 215 – Induction rate, per 1 000 births, per region, 1998-2015



Data source: Statbel; Calculation: KCE


**Table 138 – Number of induction per 1 000 births, by region, 1998-2015**

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Average annual difference 1998-2015
<b>Belgium</b>	319	322	317	323	321	316	301	299	290	279	272	272	269	268	265	266	265	267	-3.06
<b>Brussels</b>	257	253	284	291	284	280	273	270	279	261	255	275	267	278	284	280	284	284	1.59
<b>Flanders</b>	308	316	305	307	303	302	277	274	263	250	251	242	238	239	234	238	235	238	-4.12
<b>Wallonia</b>	359	354	347	361	363	354	351	351	340	336	317	323	322	315	308	306	307	308	-3.00

Data source: Statbel; Calculation: KCE

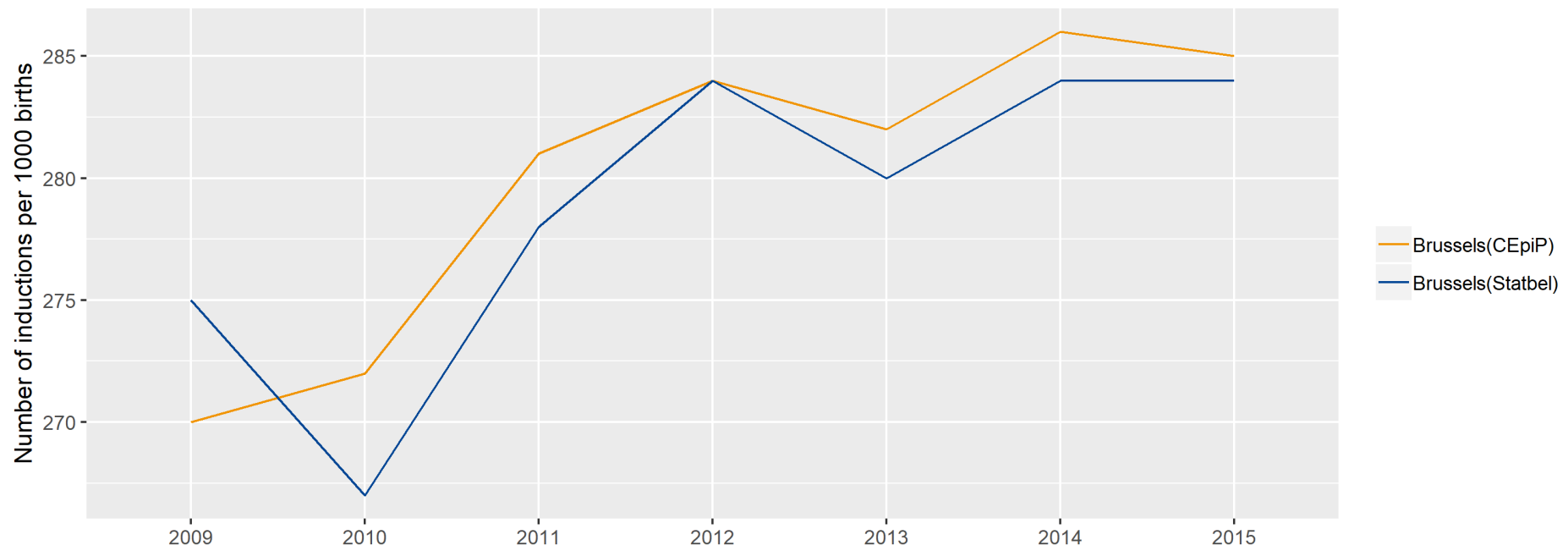
**Table 139 – Number induction per 1 000 births, by region, 2009-2016**

	2009	2010	2011	2012	2013	2014	2015	2016	Average annual difference 2009-2016
<b>Brussels*</b>	270	272	281	284	282	286	285	281	1.57
<b>Flanders*</b>	241	238	238	234	239	234	239	250	1.30
<b>Wallonia</b>	330	324	319	314	309	314	311	309	-3.04

\*UZ Brussels is double counted, i.e. in Brussels & Flanders regions. Data source: CEpiP (BRU-WAL) & SPE (FLA); Calculation: KCE



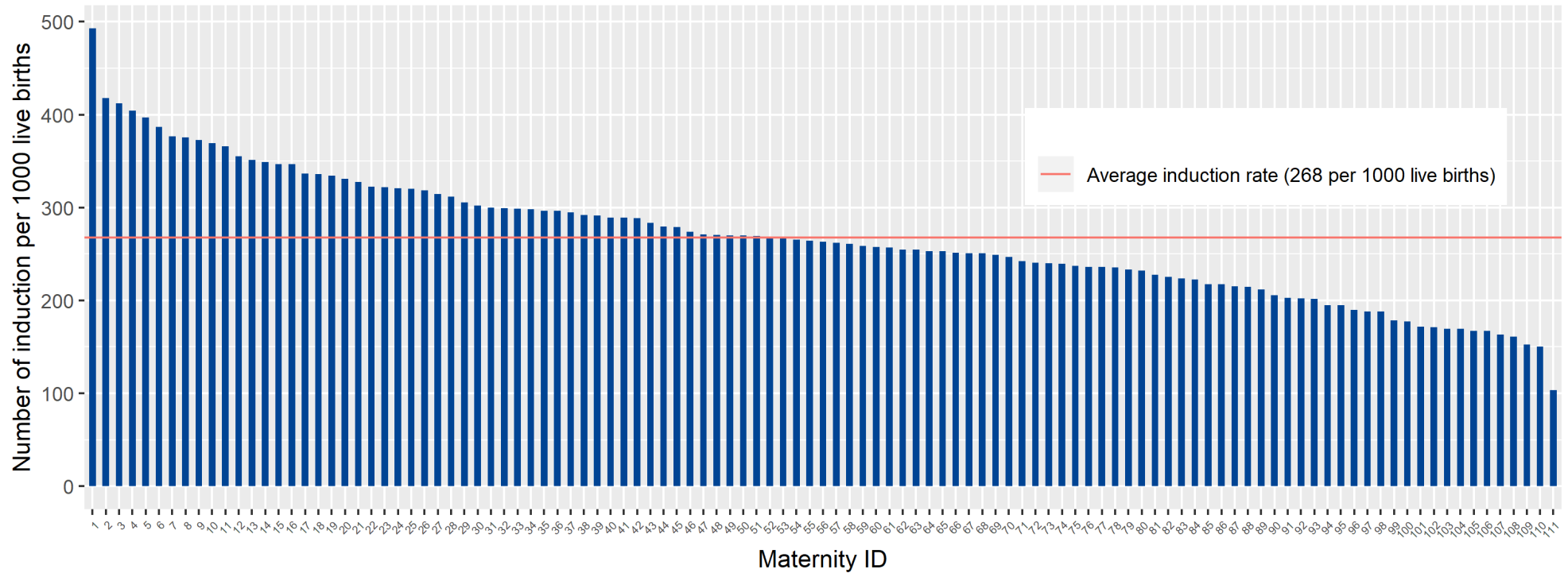
Figure 216 – Induction rate, per 1 000 births, by data source, Brussels, 2009-2015



Data sources: Statbel & CEpiP; Calculation: KCE



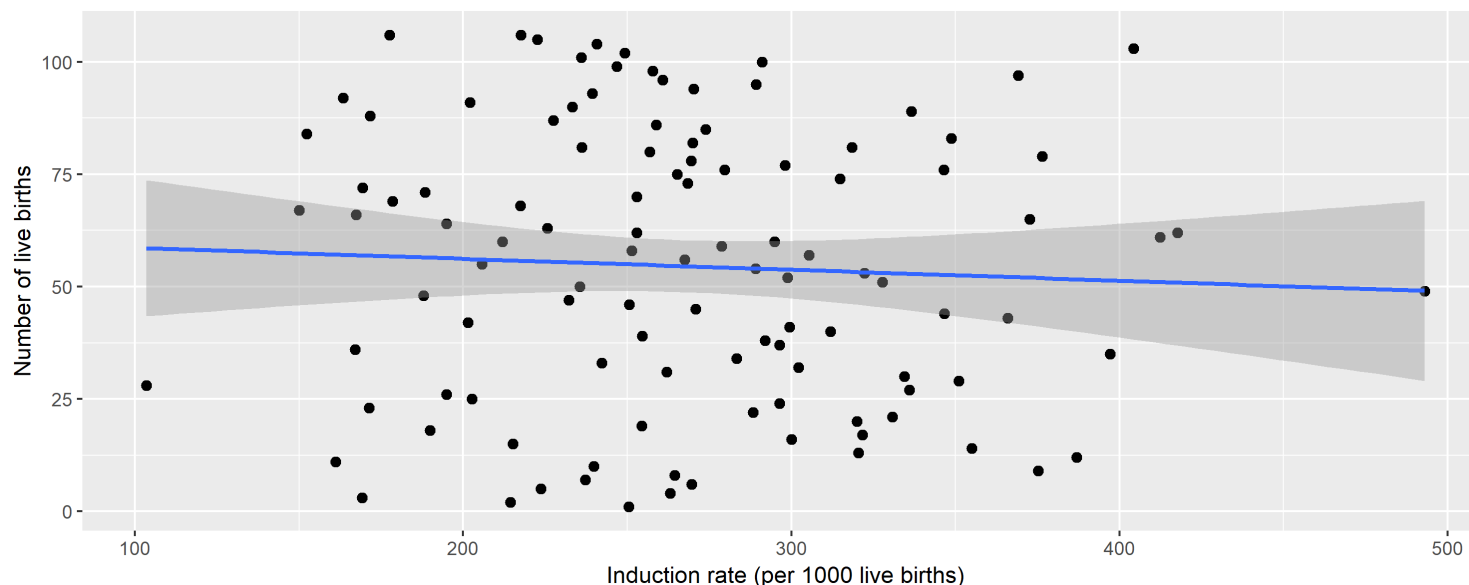
Figure 217 – Induction rate (per 1 000 live births), by maternity, 2015



Data source: Statbel; Calculation: KCE



Figure 218 – Linear correlation between the number of live births and the induction rate, 2015



Data source: Statbel; Calculation: KCE

### Key points

- Induction rate decreased in Belgium from 1998 to 2015.
- Induction rate decreased in every regions, except in Brussels where it increased from 1998 to 2015.
- In 2015, Wallonia had the highest rate of induction.
- It existed considerable differences of induction practices between Belgian hospitals: induction rate varied from 103 to 493 per 1 000 live births in 2015.

### References

- [1] Seijmonsbergen-Schermers A, de Jonge A, van den Akker T, Beeckman K, Bogaerts A, Barros M, *et al.* Variations in childbirth interventions in high-income countries: protocol for a multinational cross-sectional study. *BMJ open.* 2018;8(1):e017993.
- [2] The Royal College of Midwives. *Interventions in Normal Labour and Birth.* 2016.
- [3] Zeitlin J, Mohangoo A, Delnorn M, Alexander S, Blondel B, Bouvier-Colle M, *et al.* *European Perinatal Health Report. The health and care of pregnant women and babies in Europe in 2010.* 2013.
- [4] Mambourg F, Gailly J, Zhang WH. *Recommandation de bonne pratique pour l'accouchement à bas risque.* 2010. KCE report
- [5] Van Leeuw V, Debauche C, Daelemans C, Debiève F, Leroy C. *Santé périnatale en région bruxelloise - Année 2016.* Centre d'épidémiologie périnatale. 2018.