14.9. Length of stay for a normal delivery (MN-9)

14.9.1. Documentation sheet

Description	Average length of stay for normal delivery (single spontaneous delivery)
Calculation	Numerator: total length of stay of all hospitalisations for single spontaneous delivery. Denominator: total number of discharges for single spontaneous delivery
Rationale	The length of stay after a normal delivery is determined in a large part by factors of organisation and care provider characteristics and in a lesser extent by clinical patient characteristics (because the large majority of the women have a low risk pregnancy, and hence variability in care is very low). A KCE report proposed a new model of integrated care for the mother and the newborn, in which the care would occur mostly at home, hereby reducing the length of hospitalisation.[1] An average length of stay trend analysis has been published in another KCE report: the LOS is expected to drop further.[2] Budgetary decisions have automatically shortened the LOS by half a day in 2015, while 7 pilot projects have been launched to test the feasibility of a different approach for strengthening home care.[3,4] Average length of stay after normal delivery is an indicator to benchmark efficiency of health care systems, and is reported by the OECD.[5]
Data source	RHM – MZG (FPS Health, Food Chain Safety and Environment)
Technical definitions	Average length of stay (ALOS) is calculated by dividing the number of days stayed (from the date of admission in an in-patient institution) by the number of discharges. Diagnostic chapters (using principal diagnosis) have been defined according to the International Classification of Diseases, 9th revision and 10th revision. The OECD website offers a mapping list between both classifications. The OECD uses the ICD-9-CM code 650 'Normal Delivery' and ICD-10 code O80 'Single spontaneous delivery'.[6] Sub-indicators: - Proportion of late (more than 5 days after birth) neonatal screening tests for metabolic diseases; - Proportion of too early (less than 3 days after birth) neonatal screening tests for metabolic diseases; - Proportion of neonatal screening tests for metabolic diseases that are received at the lab after more than 4 days after testing (Numerator: number neonatal screening tests for metabolic diseases of a given year for which blood spots have been taken at an age superior to 5 days, have been taken at an age inferior to 3 days, have been received at the lab after more than 4 days after testing, respectively; denominator: number neonatal screening tests for metabolic diseases).
Limitations	Change from ICD-9 to ICD-10 classification has resulted in a break in the series of RHM – MZG data from 2016 on (and no 2015 data available).
International comparability	The OECD definition of single spontaneous delivery was adopted. Several countries included in the OECD comparison use different methodologies to calculate the average length of stay. Some countries may include same day separations (counted either as 0 or 1 day), thereby resulting in an under-estimation of average length of stay compared with countries that exclude them. Also, some countries may only include data related to general hospitals, while others might include data also for specialised hospitals (generally involving higher length of stays than in general hospitals). Caution should be exercised when making international comparisons due to the possibility that countries may provide data for different types of institutions.
Performance dimensions	Efficiency
Related indicators	Acute care bed days, number per capita.

14.9.2. Results

Average length of stay for normal delivery

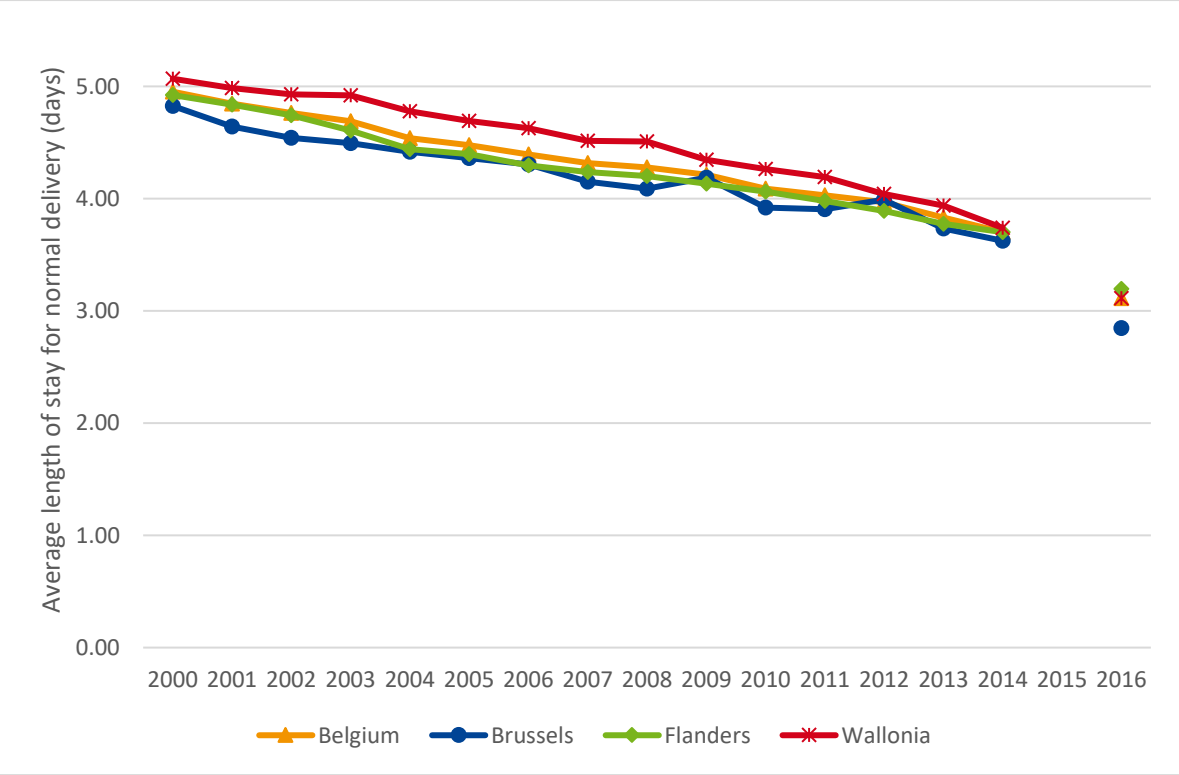
In Belgium, the duration of hospitalisation for a normal delivery decreased from 5 days in 2000 to 3 days in 2016, with small differences between regions (3.2 in Flanders, 3.1 in Wallonia and 2.8 in Brussels, Figure 232). The gap between the EU-15 average and Belgium is almost closed (Figure 233).

Table 150 – Average length of stay for a normal delivery, by year and hospital region (2016)

Variable	Category	Average length of stay (days)
Year	2000	4.96
	2001	4.85
	2002	4.77
	2003	4.69
	2004	4.54
	2005	4.48
	2006	4.39
	2007	4.32
	2008	4.28
	2009	4.21
	2010	4.09
	2011	4.03
	2012	3.97
	2013	3.83
	2014	3.70
	2015	
	2016	3.11
Data 2016 by region		
Region	Brussels	2.85
	Flanders	3.20
	Wallonia	3.11

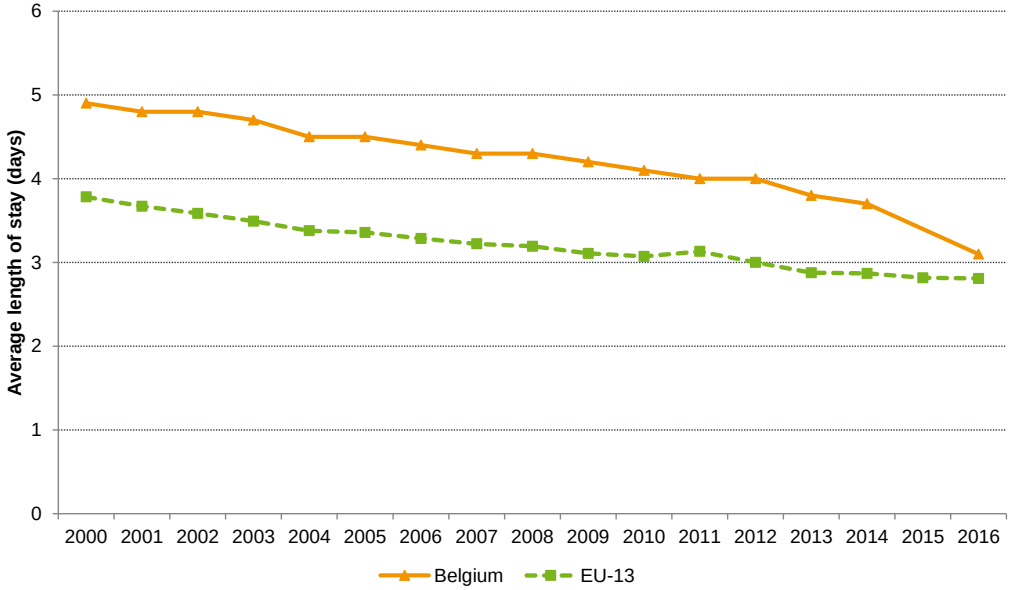
Source: RCM – MKG and RHM – MZG

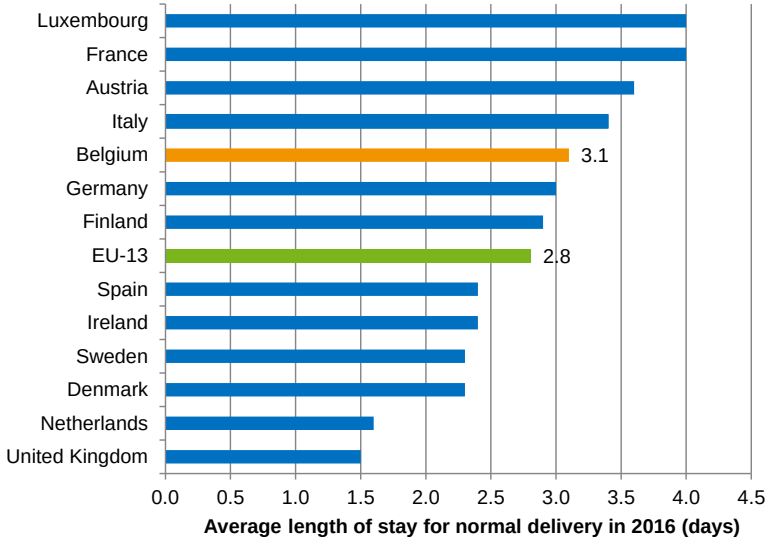
Figure 232 – Average length of stay for a normal delivery by hospital region (2000-2016)



Source: RCM – MKG and RHM – MZG

Figure 233 – Average length of stay for a normal delivery: international comparison (2000-2016)





Source: OECD Health statistics 2018

Neonatal screening tests for metabolic diseases

For full-term infant, blood spots for neonatal screening tests for metabolic diseases should be taken between the age of 3 and 5 days.[7,8] If there is more than 5 days between the date of birth and the date of blood collection there are consequences for the application of the cut-off values when analysing the blood sample.[9]

Although the neonatal screening tests for metabolic diseases is now done for almost all newborns in Belgium, there is still a number of tests that are taken at an age superior to 5 days. With the reduction of the hospital length of stay after a delivery, more tests have to be taken outside the maternity unit. In that context, a point of concern is the potential increase of the proportion of late blood collection.

In Wallonia-Brussels Federation, the neonatal screening program organised by the ONE that licensed 3 screening centres (Centre de dépistage néonatal de Liège, Centre de dépistage néonatal de l'ULB and Centre de dépistage néonatal des Cliniques Universitaires St Luc) to perform and interpret screening tests and transmit the results to the ONE. Data are centralised by ONE and available for the years 2013-2016. Some duplicates (some newborns are tested multiple times) can occur. Even if expected to be ~99%, the exact coverage of the screening stays impossible to calculate.

In 2016, 1.80% of the neonatal screening tests occurred after 5 days of life in the Wallonia-Brussels Federation. This represents a decrease of almost 40% in the proportion of late screening with respect to 2014. Indeed, in 2014 the proportion of late screening test increased with respect to 2013, probably due to the observed reduction in the average length of stay in a maternity unit after a delivery. As mothers are discharged earlier, more tests are taken at home by midwifes instead of in the hospital setting. This may have led to a temporary increase in the proportion of tests that are taken after 5 days of life. Despite this increase in 2014, the proportion of tests that are taken too late is now decreasing and is below its 2013 level (Table 151).

Too early screening, i.e. screening before 3 days of life remains rare but increased in 2014, certainly for the same reason, and also decreased thereafter. In 2016, 0.57% of the test were taken too early, which correspond to a decrease of 67% compared to its level in 2014 (1.73%) but is still above the level of 2013 (0.13%).

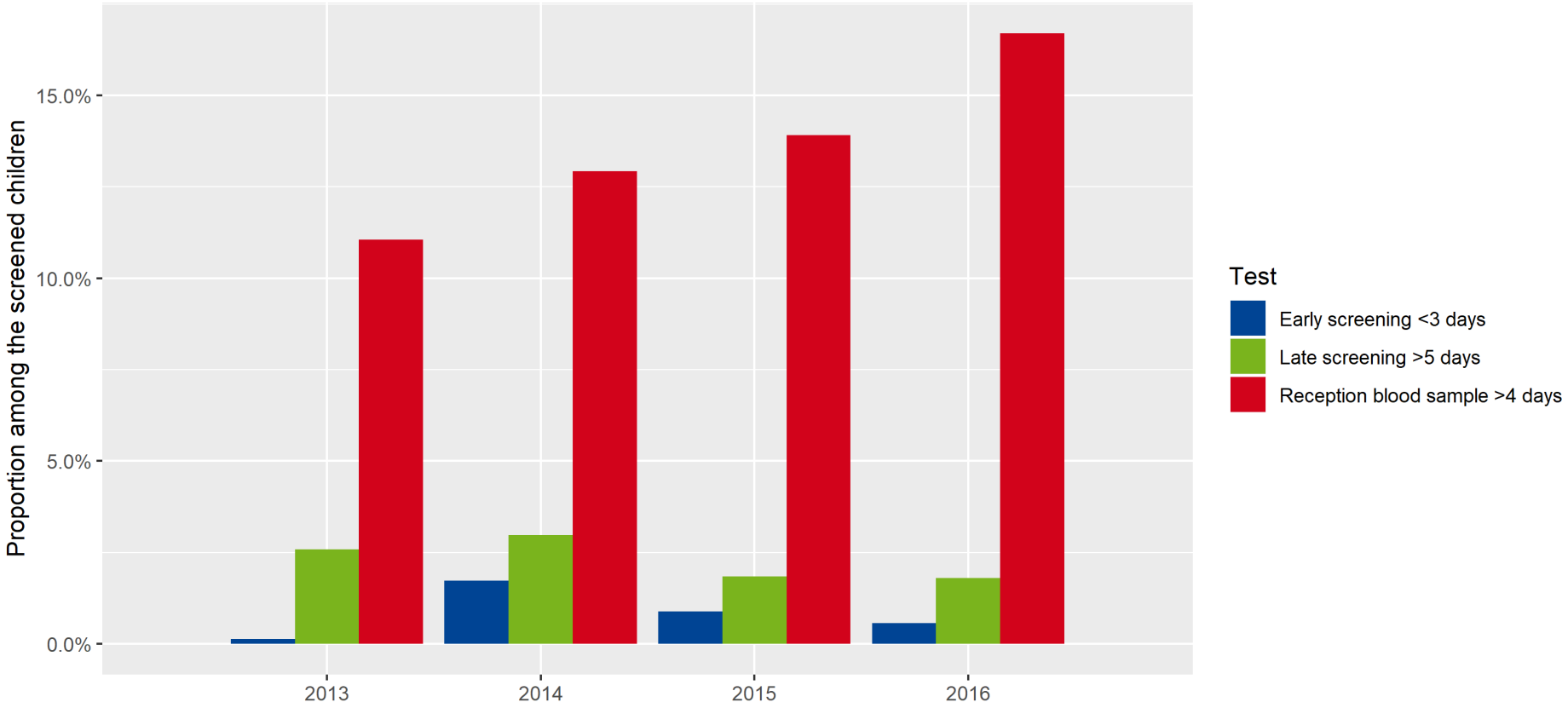
Proportion of blood sample received more than 4 days after the test had been taken increased continually between 2013 and 2016 (11.05% in 2013; 16.70% in 2016; average annual difference 1.88%, Figure 234, Table 151).

The Flemish government has concluded an agreement with two organisations for the implementation and support of the Flemish population screening for congenital disorders in newborns via a blood sample: Provinciaal Centrum voor opsporing van metabole aandoeningen (PCMA) and Vlaams Centrum Brussel voor opsporing van aangeboren metabole aandoeningen (VCBMA). These organisation report to Agentschap Zorg en Gezondheid which is the designated authority to manage the neonatal screening in the Dutch speaking community. Around 70 000 newborns are screened every year in the Dutch speaking community, through one of the two screening centers.[9] However data are not centralised and were not available for this report. We use partial data from several annual reports of the PCMA. This organisation is responsible for the analysis of tests from infants born (or from parents living in) regions of Gent, Aalst, Antwerpen, Mechelen, Turnhout and Genk.

Reports from the Provinciaal Centrum voor opsporing van metabole aandoeningen (PCMA) indicate that a shift of the testing date from 4 to 3 days of life has been observed from the beginning of 2015. The average age at the screening date was 4 days in 2012, 2013 and 2014 and decreased to 3 days in 2015 and 2016.[10-12]

In 2015 and 2016, the average transport time (time between the screening test and its reception at the lab) was 4 days for tests taken in the maternity unit and 2-4 days for tests taken outside a maternity unit. This is seen as an improvement compared to 2014, when the average transport time for tests taken outside the maternity units was at least 5 days.[10-12]

Figure 234 – Neonatal screening, Wallonia-Brussels Federation, 2013-2016



Data source: ONE; Calculation: KCE

Table 151 – Neonatal screening, Wallonia-Brussels Federation, 2013-2016

	2013	2014	2015	2016	Average annual difference 2013-2016
Early screening*	0.13%	1.73%	0.89%	0.57%	0.15%
Late screening^	2.59%	2.98%	1.84%	1.80%	-0.26%
Late reception°	11.05%	12.93%	13.91%	16.70%	1.88%

** Screening before 3 days of life (2 days for 2013)*
^ Screening after 5 days of life
° Reception of the blood sample more than 4 days after the test had been taken
Data source: ONE; Calculation: KCE

Key points

- **The duration of hospitalisation for a normal delivery decreased from 5 days in 2000 to 3 days in 2016, with small differences between regions: Brussels has the lowest average length of stay (2.8 days) compared to Wallonia (3.1 days) and Flanders (3.2 days).**
- **The average is almost the same as the EU-13 average in 2016 (2.8 days, vs 3.1 for Belgium), while it was 1 day longer than the EU average in 2012 (but caution is needed with this comparison, as the method to calculate length of stay may differ between countries).**
- **Pilot projects have been launched in Belgium in order to reduce this length of stay and to strengthen care at home.**
- **Early and late neonatal screening are low in Wallonia-Brussels Federation (no centralised data are available for Flanders) which means that most of the newborns are appropriately screened between 3 and 5 days of life.**
- **An increase in the proportion of early and late neonatal screening occur in 2014 but has been largely resorbed since then.**
- **The proportion of blood sample received more than 4 days after the test had been taken increased between 2013 and 2016.**

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[8] Toussain B, Pereira T, Goyens P, Laeremans H, Vincent M, Marie S. Guide pour le programme de dépistage néonatal des anomalies métaboliques en fédération Wallonia Bruxelles. 2013.

[9] Agentschap Zorg en Gezondheid. Vlaams bevolkingsonderzoek naar aangeboren aandoeningen bij pasgeborenen via een bloedstaal-Draaiboek. 2016.

[10] PCMA. Jaarverslag 2013 van het centrum voor opsporing van aangeboren metabole aandoeningen PCMA. 2013.

[11] PCMA. Jaarverslag 2015 van het centrum voor opsporing van aangeboren metabole aandoeningen PCMA. 2015.

[12] PCMA. Jaarverslag 2016 van het centrum voor opsporing van aangeboren metabole aandoeningen PCMA. 2016.

14.10. Antenatal consultations (MN-10)

14.10.1. Documentation sheet

Description	Median number of antenatal consultations, distributed by type of provider (GP, midwife, gynaecologist) for low risk pregnancies.
Calculation	Median calculated on the number of reimbursed contacts with the given type of provider (GP, midwife, gynaecologist) within the 280 days before delivery for women who delivered on a given year. Results are presented by region. Distribution of the number of consultations is also presented.
Rationale	For low-risk pregnancies, 7 antenatal consultations are recommended for multiparous and 10 for nulliparous regardless of the healthcare practitioner (gynaecologist, midwife of GP). [1] To ensure efficiency, an increase in the consumption of antenatal care provided by one type of provider should be compensated by a decrease in the consumption of antenatal care provided by another type of provider. More detailed analysis will be available in Benahmed et al. (Forthcoming, 2019)[2]
Data source	IMA-AIM
Technical definitions	Selection of women who delivered in a given year based on nomenclature codes for delivery: 422225,423500,422656,422671,423651,423673,423010,423021,424012,424023, 424093, 424104. Antenatal contacts with a GP are identified by the nomenclature codes 101010, 101032, 101076, 103110, 103132, 104215, 104230, 104252, 104274, 104510, 104532, 104554, 104576 within the 280 days before delivery. Antenatal contacts with a gynaecologist are identified by the nomenclature codes 102012, 102034, 102071, 102093, 102115, 102130, 102152, 102174, 102196, 102211, 102535, 102550, 102572, 102594, 102616, 102631, 102653, 102675, 102690, 102712, 102734, 102756 within the 280 days before delivery. Antenatal contacts with a midwife are identified by the nomenclature codes 422030, 428072, 428094, 422052, 428131, 428153, 422870, 422074, 428116, 428175, 428190, 422892, 428212, 428234 within the 280 days before delivery.