

Rationalised limitation of labour inductions reverses a rising trend of caesarean section rate

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Introduction & Aim

Because of a rising trend of caesarean section (CS) rate in Ziekenhuis Oost Limburg (ZOL) in Genk Belgium, an audit was performed in 2007 using the Robson classification in 10 groups (**Table 1**). After this, labour induction in term cephalic singleton pregnancies was identified as the most important responsible factor of the rise in CS rate. In 2008, a rationalised change of labour management was introduced by concentrating on the correct diagnosis of labour and reducing non-medical inductions in term singleton pregnancies without a scar.

This study aims to evaluate the impact on CS rate of rationalised change of labour ward management.

Table 1: 10-Group classification by Robson.

No	Group
1	Nulliparous, single cephalic, > 37 weeks in spontaneous labour
2	Nulliparous, single cephalic, > 37 weeks, induced or CS before labour
3	Multiparous (excluding previous CS), single cephalic, > 37 weeks in spontaneous labour
4	Multiparous (excluding previous CS), single cephalic, induced or CS before labour
5	Previous CS, single cephalic, > 37 weeks
6	All nulliparous breeches
7	All multiparous breeches (including previous CS)
8	All multiple pregnancies (including previous CS)
9	All abnormal lies (including previous CS)
10	All single cephalic, < 36 weeks (including previous CS)

Study population & Methods

A prospective Robson analysis was conducted on all deliveries in ZOL between 2008 and 2012, with special interest in CS after induction (CS-I) and repeat CS (CS-R). Correlation between relative change of overall CS rate (CS-O) and CS-I was calculated using Pearson's correlation coefficient (PCC). The evolutions of CS-O, CS-I and CS-R were plotted graphically. Neonatal outcome was assessed by comparing overall and group-specific rates of 5 minute Apgar score < 7 between 2006-07 and 2009-10. X²-test was used for comparison.

Results

A strong reduction of CS-O was observed from 25% in 2007 to 19% in 2009 ($P < 0.001$) (**Figure 1**). This was associated with a reduction of CS-I from 5.3% to 2.3% (**Figure 2**). PCC between relative change of CS-O and CS-I was 0,65. From 2008 onward, there was a continuing rise of CS-R, until a maximum of 7.0% in 2011 (**Figure 2**). Neonatal outcome was not different between study periods before and after management change: overall rate of 5 min Apgar < 7 was 0.79% (33/4158) in 2006-07 and 0.90% (39/4344) in 2009-10 ($P = 0.304$).

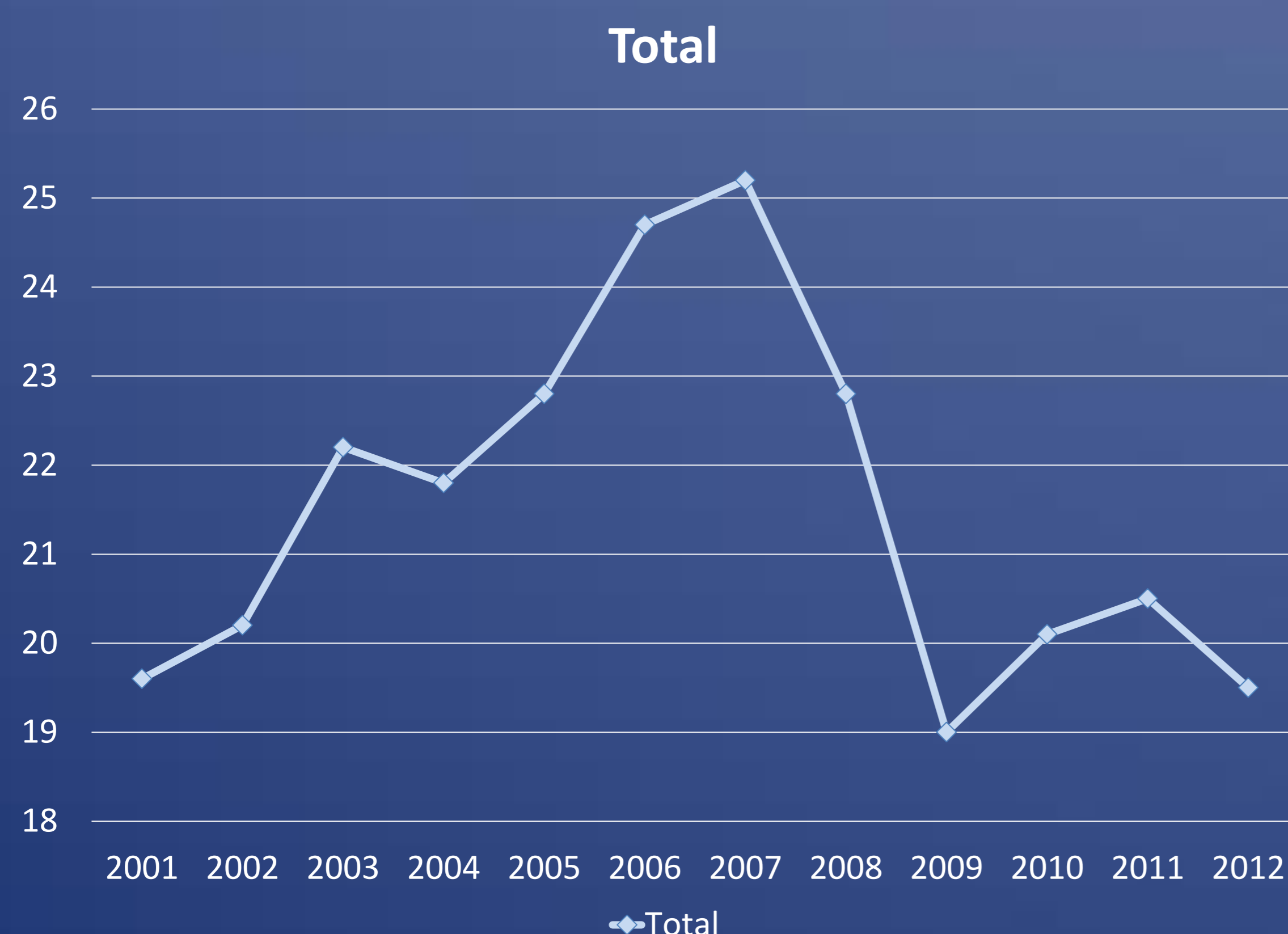


Figure 1: Total of CS in ZOL between 2001-2012

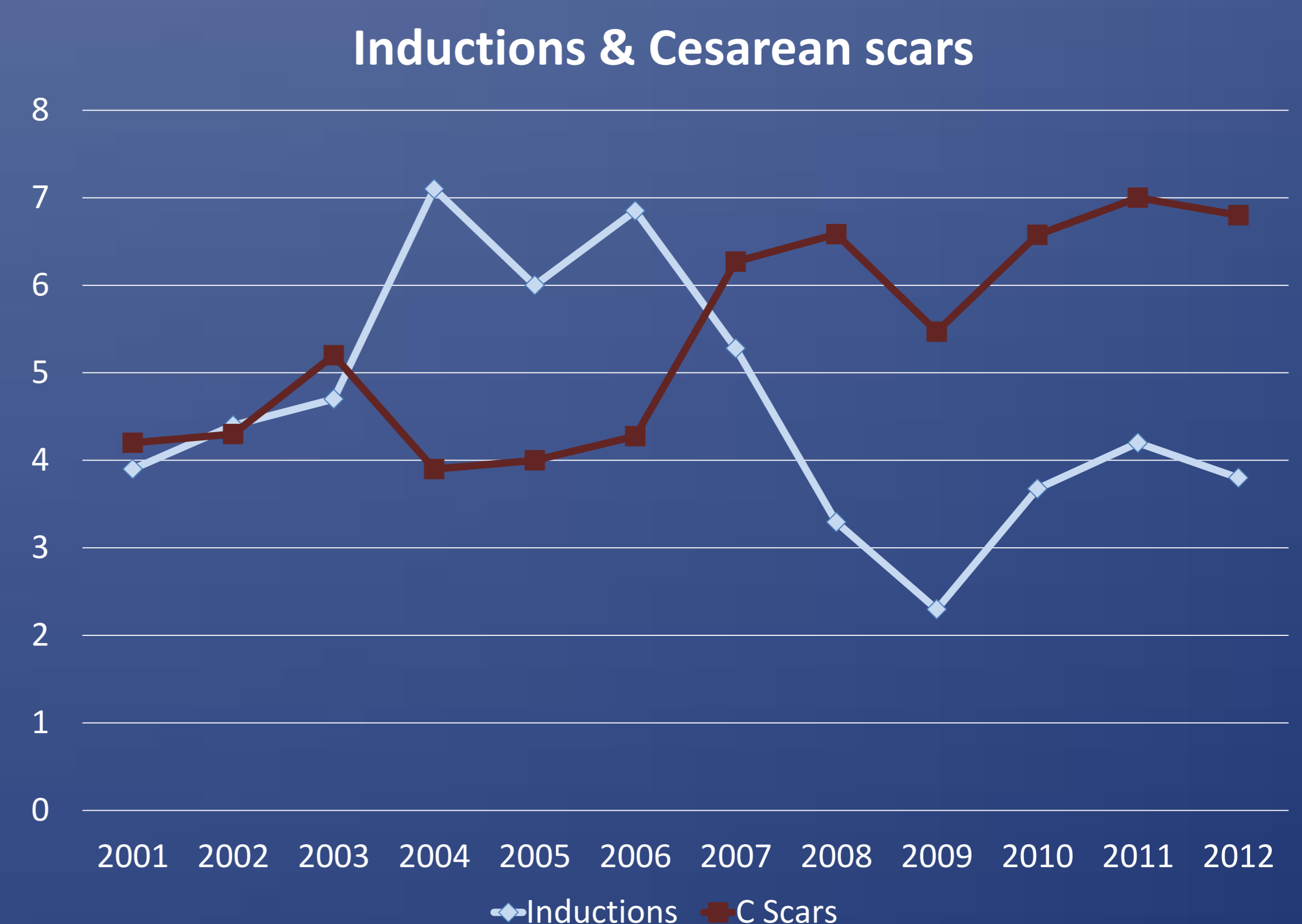


Figure 2: Inductions and Cesarean scars in ZOL between 2001-2012

Discussion

A change in labour ward management towards reduction of induced labours has led to a fast reduction of overall CS rate, related to a halving of CS after induction. This effect was counteracted by a continuing rise of repeat CS rate during at least 4 years after management change. This reduction of CS-rate was not associated with changes of neonatal outcome, as reflected in 5 min Apgar score.

A rationalised limitation of labour inductions in term singleton cephalic pregnancies can be responsible for a swift reversal of a rising trend CS without hampering neonatal outcome, but is followed by a continuing rise of repeat CS for several years afterwards.