NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Health and Social Care Directorate

Clinical Commissioning Group Outcomes Indicator Set (CCG OIS) programme

Briefing paper

Quality standard topic: Caesarean section

Potential output: Recommendations for indicator development

Date of CCG OIS Advisory Committee meeting: 2 October 2013

Contents

Introduction

This briefing paper presents a structured review of draft indicator statements. These indicator statements have been derived from the NICE quality standard on caesarean section. For the purposes of this paper, an indicator statement is defined as a high level statement which, with development and testing, can be used to specify a potential quality indicator for use in the Clinical Commissioning Group Outcomes Indicator Set (CCG OIS).

This briefing paper is intended to help inform and guide the selection of indicator statements by the CCG OIS Advisory Committee for indicator development.

Structure of the briefing paper

This briefing paper includes 6 sections. These sections address the requirements of the selection criteria for potential inclusion in the CCG OIS as outlined in the CCG OIS interim process guide.

Section 1 presents an overview of the NICE quality standards on caesarean section and its link to the NHS outcomes framework.

Section 2 presents a brief introduction and overview of caesarean section.

Section 3 presents the quality statements as presented in the published quality standards alongside the developed indicator statements. This section also includes:

- an evidence summary for the proposed indicator statement
- a brief overview of current clinical practice including, where data is available, current baseline and any variation in practice
- indicator development issues, including a feasibility assessment carried out by the Health and Social Care Information Centre (HSCIC).

Section 4 presents outcome indicator statements, and in some cases additional process indicator statements that the Caesarean Section Review

Group considered would reflect the provision of high quality care as defined in the Quality Standards as a whole.

Section 5 presents a supporting statement by the Chair of the Caesarean Section Review Group for consideration by the CCG OIS Advisory Committee.

Section 6 presents an initial technical feasibility assessment of CCG OIS draft indicator statements by the HSCIC.

Section 1 Overview

Background

The proposed indicator statements presented in this briefing paper have been identified in two ways:

- from the NICE quality standard for caesarean section, published June 2013: Available from http://guidance.nice.org.uk/QS32
- by the Caesarean Section Review Group

The scope of the quality standard covers the care of women who need or plan for a caesarean section.

The proposed indicator statements included in this briefing paper relate to healthcare processes or outcomes that can be influenced, at least in part, by the actions of Clinical Commissioning Groups (for example through decisions on which services to commission, the setting of contracts and the monitoring of the quality of services commissioned and the performance of providers).

NHS priorities

The quality standard for caesarean section, from which the proposed indicator statements presented in this report are derived, describes markers of high-quality care that, when delivered collectively, should contribute to improving the effectiveness, safety and experience of care for women who are having or have had a caesarean section in the following ways:

- NHS Outcomes Framework 2013–14 (Department of Health, November 2012)

NHS Outcomes Framework 2013/14	
Domain1: Preventing people from dying prematurely	**Overarching indicator** 1a Potential years of life lost (PYLL) from causes considered amenable to healthcare **Improvement area** Reducing deaths in babies and young children 1.6.i Infant mortality ii Neonatal mortality and stillbirths
Domain 4: Ensuring that people have a positive experience of care	**Overarching indicator** 4b Patient experience of hospital care **Improvement area** Improving women and their families' experience of maternity services 4.5 Women's experience of maternity services
Domain 5: Treating and caring for people in a safe environment and protecting them from avoidable harm	**Overarching indicators** 5a Patient safety incidents reported 5b Safety incidents involving severe harm or death **Improvement area** Improving the safety of maternity services 5.5 Admission of full-term babies to neonatal care

Section 2 Introduction and context setting for caesarean section

Incidence

Caesarean section (CS) rates have increased significantly in the last 3 decades, with the increase levelling off in the last 4-5 years. In the UK approximately 25%[1] of births are carried out by CS, up from 9% in 1980.

There are a number of different indications for the procedure, and there is local variation in CS rates.

Planned and unplanned caesarean section

Of the total number of births in the UK about 15% are emergency CS and 10% planned CS. The recently published quality standard focused on improving the decision-making process about whether a CS is required and the information available to women who may need, request or have had a CS. The quality standard also focused on reducing potential risks or complications for the woman and the baby.

[1] Data taken from NHS maternity statistics - England, 2011-12, (Health and Social Care Information Centre)

Section 3 Proposed indicator statements: quality standard on caesarean section

9 indicator statements developed from the NICE quality standard for CS have been identified as appropriate by the CS Review Group for consideration by the CCG OIS advisory committee.

These indicator statements have been rated valid by the CS Review Group. As part of the selection of these indicator statements, the Review Group may have rated some indicators low where they were considered to be low priority or not feasible. These are therefore not presented in this document.

It is expected that some of the concepts and timeframes within the indicator may require further clarification as part of the indicator development process.

Square brackets have been used to denote concepts within the indicator statement wording where further clarification may be required. For example,

Of pregnant women who [may require] a [planned caesarean section], the proportion who have [consultant involvement] in [decision-making].

The Caesarean Section Review Group has advised that these concepts can be clarified.

The clinical and cost effectiveness evidence summaries presented in this section are based on the following source:

- Caesarean section. NICE clinical guideline 132 (2011).

QS01 Vaginal birth after a caesarean section

NICE quality standard statement

Pregnant women who have had 1 or more previous caesarean sections have a documented discussion of the option to plan a vaginal birth.

Proposed indicators relevant to the quality statement

CS01a Of pregnant women who have had 1 or more previous caesarean sections, the proportion who have a documented discussion (covering risks and benefits) of the option to plan a vaginal birth by [12wks +6 days]

Assessment against prioritisation criteria

Discussion of clinical and cost-effectiveness evidence

The NICE Guideline Development Group (GDG) considered evidence which showed no difference in the incidence for a number of the most common maternal complications for women attempting a vaginal birth after a previous CS (VBAC) compared with those having a planned CS.

The GDG acknowledged some complications where there was a statistically significant difference, however agreed that these were rare and recommended supporting women to make an informed choice.

There is insufficient evidence to make a recommendation about options following more than 4 previous CS.

An economic model developed for the NICE guideline comparing the cost effectiveness of planned CS versus planned vaginal birth in women who have had a previous CS did not strongly support a preferred mode of birth. While results did tend to show that VBAC was more likely to be cost effective, this was a borderline finding and therefore the GDG agreed that given the current state of evidence, a recommendation allowing women to choose their preferred method of birth in consultation with the healthcare professionals responsible for their care was the most appropriate approach.

Current clinical practice including evidence of variation

A 2010 national survey of women's experiences of maternity care conducted by the National Perinatal Epidemiology Unit reported that 30% of respondents (women who had recently given birth) had a VBAC[2]. It is believed this figure has remained relatively stable for the last decade. Significant variation between units is reported.

Indicator development issues

Feasibility assessment

- This indicator will require a new collection (or system).
- Theoretically, HES can identify the number of women who have had 1 or more caesarean sections, however this may be intensive because a number of years' data would need to be joined to pick out multiple caesareans. HES cannot provide the discussion element of the indicator. The Maternity dataset will capture whether there was a birth plan but not what was discussed or what is in the plan.
- In GP data the record of previous sections should be available. There is no specific code available for advice about vaginal birth. Also difficulty in assessing duration of current pregnancy.

[2] NPEU, Delivered with care: a national survey of women's experience of maternity care 2010

QS04 Consultant obstetrician involvement in decision-making for planned caesarean section

NICE quality standard statement

Pregnant women who may require a planned caesarean section have consultant involvement in decision-making.

Proposed indicators relevant to the quality statement

CS08: Of pregnant women who [may require] a [planned caesarean section], the proportion who have [consultant involvement] in [decision-making].

CS08a: Of pregnant women for whom a CS is planned, the proportion who had [consultant involvement] in the decision to plan a CS.

Assessment against prioritisation criteria

Discussion of clinical and cost-effectiveness evidence

The GDG considered results of the 2001 national sentinel audit in which outcomes of consultant involvement in decisions to conduct a CS were reviewed. In maternity units where consultant obstetricians were frequently involved (either in the decision for a planned CS or present in theatre for "emergency" CS) the CS rates were lower (this was before and after differences in the populations were accounted for).

The GDG concluded that consultant involvement was an important factor for quality of decision making.

Current clinical practice including evidence of variation

None identified.

Indicator development issues

Feasibility assessment

- This indicator will need a new collection (or system).

- HES can identify women who had an elective CS (OPCS code R17 – elective caesarean delivery) but not those who ‘may require’ or were considered for one. HES cannot provide the decision making element of the indicator.

- The Maternity dataset does not include the concept of ‘who may require a planned CS’ but it may be possible to be defined via other data items such as Maternity Medical Diagnosis (MAT307) or Maternity Obstetric Diagnosis (MAT309). The professional category of the clinician with overall responsibility for care during pregnancy is captured in the Care Plan table (MAT301) and contains the values Consultant Obstetrician / General Medical Practitioner / Midwife.

QS05 Timing of planned caesarean section

NICE quality standard statement

Pregnant women having a planned caesarean section have the procedure carried out at or after 39 weeks 0 days, unless an earlier delivery is necessary because of maternal or fetal indications.

Proposed indicator relevant to the quality statement

CS10: Of pregnant women having a [planned caesarean section] and [not needing an earlier delivery because of maternal or fetal indications], the proportion who have the procedure carried out at or after 39 weeks 0 days.

Assessment against prioritisation criteria

Discussion of clinical and cost-effectiveness evidence

The GDG considered evidence drawn from a large prospective UK survey that looked at all cases of respiratory distress syndrome (RDS) at term requiring neonatal intensive care unit (NICU) which suggested that babies born by planned CS at term (37–42 weeks of gestation) are at increased risk of respiratory distress syndrome (RDS). It is known that the risk of RDS decreases with increasing gestational age. The rate of respiratory morbidity among neonates born by CS before the onset of labour across the different gestational ages was increased. For babies born by CS before onset of labour the rate was: over 70 per 1000 births at 37 weeks; over 40 per 1000 births at 38 weeks; and less than 20 per 1000 births at 39 weeks.

Current clinical practice including evidence of variation

The HES maternity data published by the Health and Social Care Information Centre reported that in 2010/11 48.6% of deliveries where CS was the method of delivery at the onset of labour were conducted before 39 weeks gestation.

Indicator development issues

Feasibility assessment

- This is available from existing data sources given amendments to the collection (e.g. a new data field).

- HES can identify women who had an elective CS and also the gestation period (GESTAT).

- HES cannot provide those 'not needing an earlier delivery…' (this would not be in the scope of HES). Therefore, the set of maternal and fetal indications that may indicate where an earlier delivery is appropriate would need to be defined from the existing codes within HES.

Other issues

- This indicator can be aligned with an indicator developed by the Royal College of Obstetricians and Gynaecologists[3] to assess variations in outcomes of maternity services using HES data. The technical details and definitions would need to be aligned and agreed.

[3] RCOG (2013) Patterns of Maternity Care in English NHS Hospitals

QS06 Consultant obstetrician involvement in decision-making for unplanned caesarean section

NICE quality standard statement

Women being considered for an unplanned caesarean section have a consultant obstetrician involved in the decision.

Proposed indicator relevant to the quality statement

CS11a: Of women who had an unplanned CS, the proportion who had [consultant involvement] in the decision.

Assessment against prioritisation criteria

Discussion of clinical and cost-effectiveness evidence

The GDG considered results of the 2001 national sentinel audit in which outcomes of consultant involvement in decisions to conduct a CS were reviewed. In maternity units where consultant obstetricians were frequently involved (either in the decision for a planned CS or present in theatre for "emergency" CS) the CS rates were lower (this was before and after differences in the populations were accounted for).

The GDG concluded that consultant involvement was an important factor for quality of decision making.

Current clinical practice including evidence of variation

None identified.

Indicator development issues

Feasibility assessment

- This indicator will need a new collection (or system)
- HES can identify women who had an unplanned CS but, as with CS08, cannot provide the consultant involvement in the decision making

element of the indicator. This would not be possible from the Maternity dataset as this information is not captured

QS07 The use of fetal blood sampling

NICE quality standard statement

Women in labour for whom a caesarean section is being considered for suspected fetal compromise are offered fetal blood sampling to inform decision-making.

Proposed indicator(s) relevant to the quality statement

CS14a: Of women who had a CS due to suspected or confirmed fetal compromise, the proportion who were offered a fetal blood sample.

Assessment against prioritisation criteria

Discussion of clinical and cost-effectiveness evidence

The GDG considered the evidence drawn from a systematic review of 9 randomised controlled trials that compared the use of electronic fetal monitoring (EFM) during labour to intermittent auscultation. No difference was detected in perinatal mortality, but the use of EFM during the intrapartum care period resulted in increased CS rates. It was found that this increase is less marked if fetal blood sampling (FBS) is used.

Current clinical practice including evidence of variation

The 2001 National Sentinel CS audit included an auditable standard concerning 'Where a CS is contemplated because of an abnormal fetal heart rate (FHR) pattern, in cases of suspected fetal acidosis, fetal blood sampling (FBS) should be undertaken when it is technically possible to do so'. The audit found that FBS was attempted in 44% of the relevant cases.

Indicator development issues

Feasibility assessment

- This indicator will need a new collection (or system).

- HES can identify women who had an unplanned CS but would not be able to provide the reason for the CS. This information is not captured in the maternity dataset.

QS08 Post caesarean section discussion

NICE quality standard statement

Women who have had a caesarean section are offered a discussion and are given written information about the reasons for their caesarean section and birth options for future pregnancies.

Proposed indicator relevant to the quality statement

CS17: Of women who have had a caesarean section, the proportion who have had a discussion and were given written information about the reasons for their caesarean section and birth options for future pregnancies.

Assessment against prioritisation criteria

Discussion of clinical and cost-effectiveness evidence

The NICE guideline recommendation to support this statement was based on GDG consensus. The GDG took into consideration the need to ensure pregnant women, and where applicable their partners, are given as much information as possible to help inform any future decisions they may need to make with regard to pregnancy and modes of birth. The information is important in clarifying the reasons for any complications that the women experienced during labour that led to a decision being made to perform a CS.

Current clinical practice including evidence of variation

The GDG noted that many women leave hospital following a caesarean birth without understanding the implications for planning future pregnancies and births. It was felt that it is important to provide this information to women and their partners so that they can have an accurate picture of what this means for them when planning their family, including options for future modes of birth.

Indicator development issues

Feasibility assessment

- This indicator will need a new collection (or system).

- HES can identify women who had a CS but not the other elements of the indicator. This data is not captured by the maternity dataset.

QS09 Monitoring for postoperative complications following caesarean section

NICE quality standard statement

Women who have had a caesarean section are monitored for postoperative complications.

Proposed indicators relevant to the quality statement

CS19: Of women who have had a caesarean section, the proportion who were [monitored] for postoperative complications for at least four hours.

CS20: Rate of complications in women who have had a caesarean section

Assessment against prioritisation criteria

Discussion of clinical and cost-effectiveness evidence

UK obstetric anaesthesia guidelines suggest postoperative care of a CS patient should be the same as any postoperative patient as laid out in guidelines for post-anaesthetic recovery.

Current clinical practice including evidence of variation

The 2001 National Sentinel Caesarean Section Audit reported that 10% of women who had CS required special care postoperatively within a high dependency unit, and that 3.5% of these women were transferred to an intensive care unit. A Confidential Enquiry into Maternal Death reported 3 deaths in which poor postoperative care was a contributing factor. The GDG acknowledged the findings of the confidential enquiry and the importance of monitoring the women adequately postoperatively. The GDG also agreed that there remains an urgent need for the routine use of a national modified early obstetric warning score (MEOWS) chart in all pregnant or postpartum women who become unwell and require either obstetric or gynaecology services.

Indicator development issues

Feasibility assessment

- Indicator CS19 will need a new system (or collection).
- Indicator CS20 could be available from existing data sources given amendments to the collection (e.g. a new data field).

- CS19 - HES can identify women who had a CS but not the other elements of the indicator. This data is not captured by the maternity dataset.

- CS20 - HES can identify the number of women who have had a CS but would need a definition of 'complications' to determine whether this was possible. Measurement from HES would depend on the nature and length of the complications concerned. Measuring the timing aspect of the indicator would not be possible through HES.

Section 4 Other outcome indicators identified by the Review Group for Caesarean Section

As part of the indicator development process, the CS Review Group considered whether there were any outcome indicators that would reflect the provision of high quality care for people planning, requiring or who have had a caesarean section as defined in the quality standard as a whole or other system wide levers.

No other outcome measures were identified by the CS Review Group in addition to those already included against particular statements.

Section 5 Statement from the Chair of the Caesarean Section Review Group

The Caesarean section review group advanced 9 key indicators. I would prioritise indicators CS01a, CS10, CS08a, CS08 and CS11a based on the scope for improvement in these areas and to prioritise the potential for continued improvements in informed choice for women and their families.

While the statements and supporting measures relate largely to process rather than outcome, the view of the Topic Expert Group was that these processes will feed into improved outcomes (greater consultant involvement in decision-making around CS will contribute to avoiding unnecessary CSs and ensure timely decisions about necessary CS; avoiding CS before 39 weeks will prevent avoidable admissions to neonatal units).

In respect to the initial feasibility assessment, I recognise the difficulties in currently demonstrating compliance with many of these standards through current data collection. Whilst hoping that these standards will encourage development of systems to collect and report on the indicators, I feel that much could be achieved by a pragmatic approach initially with other relevant and more accessible data (and within the constraints identified in HES) being used to identify potential outliers and value of benchmarking. Once identified as possible outliers Commissioners and/or Service Providers could request/initiate limited detailed audits of cases from a modest sample of relevant case notes.

Malcolm Griffiths
Chair of the Caesarean Section Review Group
Consultant Obstetrician & Associate Medical Director

Section 6 Candidate indicators

The below tables present those indicator statements that are considered to fall into the following three categories:

1) No significant feasibility issues have been identified *at this stage* in the process to preclude recommendation for indicator development
2) Indicators can be developed that could be measured through available information systems provided that new data fields are added to existing systems
3) Indicators can be developed, but these will require new data collections for the indicator to be produced in a meaningful manner

Table 1No significant feasibility issues have been identified at this stage in the process to preclude recommendation for indicator development

No indicators

Table 2 Indicators can be developed that could be measured through available information systems provided that new data fields are added to existing systems

Area of care	ID	Indicator statements
Timing of planned CS	CS10	Of pregnant women having a [planned caesarean section] and [not needing an earlier delivery because of maternal or fetal indication], the proportion who have the procedure carried out at or after 39 weeks 0 days
Monitoring for post-operative complications	CS20	Rates of [complications] in women who have had a caesarean section

Table 3 Indicators can be developed, but these will require new data collections for the indicator to be produced in a meaningful manner

Area of care	ID	Indicator statements
Vaginal birth after previous CS	CS01a	Of pregnant women who have had 1 or more previous caesarean sections, the proportion who have a documented discussion (covering risks and benefits) of the option to plan a vaginal birth by [12wks +6 days]
Consultant involvement in decision making	CS08	Of pregnant women who [may require] a [planned caesarean section], the proportion who have [consultant involvement] in [decision-making]

Area of care	ID	Indicator statements
Consultant involvement in decision making	CS08a	Of pregnant women for whom a CS is planned, the proportion who had [consultant involvement] in the decision to plan a CS.
Consultant involvement in decision making	CS11a	Of women who had an unplanned CS, the proportion who had [consultant involvement] in the decision
Fetal blood sampling	CS14a	Of women who had a CS due to suspected or confirmed fetal compromise, the proportion that were offered an FBS
Post CS discussion	CS17	Of women who have had a caesarean section, the proportion who have had a discussion and were given written information about the reasons for their caesarean section and birth options for future pregnancies
Monitoring for post-operative complications	CS19	Of women who have had a caesarean section, the proportion who were [monitored] for postoperative complications for at least four hours