Royal College of Obstetricians and Gynaecologists

Setting standards to improve women's health

Good Practice No. 7
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MATERNITY DASHBOARD
CLINICAL PERFORMANCE AND GOVERNANCE SCORE CARD

1. Purpose

The purpose of this guidance is to urge all maternity units to consider the use of the Maternity Dashboard to plan and improve their maternity services. It serves as a clinical performance and governance score card to monitor the implementation of the principles of clinical governance on the ground.This may help to identify patient safety issues in advance so that timely and appropriate action can be instituted to ensure a woman-centred, high-quality, safe maternity care.The use of the Maternity Dashboard has been shown to be beneficial in monitoring performance and governance to reassure the 'health' of maternity units and has been recommended by the Chief Medical Officer in his Annual Report.[1]

2. Clinical governance and performance

Clinical governance is defined as 'a framework through which NHS organisations are accountable for continually improving the quality of their services and safeguarding high standards of care by creating an environment in which excellence in clinical care will flourish'.[2] Clinical governance aims to provide us with an opportunity to merge managerial, organisational and clinical approaches to improving quality of clinical care by developing systems and processes to safeguard existing good clinical practice, while enabling us to improve our care.

In any unit, the various parameters of clinical performance and the workforce delivering it should be known and should be constantly monitored. Any shortfall in manpower should be rectified quickly and any anticipated increase in workload should be planned for in terms of workforce and the delivery of care.

Benchmarking is about setting standards against which performance can be monitored using clinical indicators.[3] This should enable safeguarding of high standards of care, while at the same time identifying areas that need improvement.The overall aim is to develop and sustain an environment that facilitates, encourages, promotes and values clinical excellence.

3. What is the Maternity Dashboard?

The Maternity Dashboard is a tool that can be employed to monitor the implementation of principles of clinical governance 'on the ground'. It can be used to benchmark activity and monitor performance against the standards agreed locally for the maternity unit on a monthly basis. It follows the principles of a car dashboard, which provides contemporary information about the amount of fuel in the tank, speed, state of the battery, temperature of the engine, so that appropriate action can be taken before the car breaks down (for example, refuelling when the fuel gauge is on 'low' rather than stalling on the motorway with an empty fuel tank). Similarly, the Maternity Dashboard will provide contemporary information about resources, clinical activity, risk management issues, user views and so on, thus enabling early identification of 'deviation from

agreed goals' and initiating a timely and appropriate action to be taken to avoid patient safety incidents and to improve clinical care.

Individual maternity units should set local goals for each of the parameters monitored, as well as upper and lower thresholds. A suggested approach is to use the traffic light system, such as:

- **Green**: when the goals are met (that is, within the lower threshold)
- **Amber**: when the goals are not met (that is, above the lower threshold but still within the upper threshold). If a parameter is in amber, it indicates that action is needed if one is to avoid entering the red zone.
- **Red**: when the upper threshold is breached. If a parameter enters the red zone then immediate action is needed from the highest level to maintain safety and to restore quality.

The Maternity Dashboard was first tested in a maternity unit after it got into difficulty and it proved to be an effective tool in preventing further problems. It is now being used in several hospitals and in several disciplines and the one used in St George's Healthcare NHS Trust, London, is attached (Appendix 1). It is important to appreciate that the Maternity Dashboard goals described in this template can be modified to suit the needs of individual units.

4. What parameters should be included in the Maternity Dashboard?

The primary objective of using a Maternity Dashboard is to monitor various aspects of clinical governance contemporaneously, so corrective action can be taken when there is deviation from expected performance. Broadly four categories are suggested:

- clinical activity
- workforce
- clinical outcomes
- risk incidents/complaints or patient satisfaction surveys.

4.1 Clinical activity

The clinical activity parameters to be monitored in a high-risk consultant-led unit could include the number of antenatal bookings each month, number of deliveries, caesarean section rate, instrumental vaginal delivery rate, and so on. In a low-risk midwifery-led unit these could include the number of deliveries, number of women transferred in labour, water birth and home birth rates. The number of times a unit had to be closed for admissions due to shortage of beds because of increased patient numbers or inadequacy of staff needs to be monitored to prevent recurrence which will increase patient dissatisfaction and compromise patient safety.

4.2 Workforce

The midwifery and obstetric staffing levels should be monitored, including staff sickness levels and the use of agency/bank staff. Attendance to mandatory education and training days could also be monitored to ascertain compliance with the Clinical Negligence Scheme for Trusts (CNST) requirements.

The midwives to deliveries ratio, as well as the midwifery supervisors to midwives ratios recorded whole-time equivalent (WTE) would provide the adequacy of midwifery staff and their supervision. This needs to be kept under vigilance to alert management to employ optimal number of staff to deal with any increase in the number of deliveries to ensure a high-quality and safe service.

The number of hours of prospective consultant presence should be recorded and monitored in accordance with the *Safer Childbirth* recommendations.[4]

4.3 Clinical outcome indicators

Specific clinical outcome parameters like eclampsia, major obstetric haemorrhage (blood loss over 2500 ml), massive blood transfusion (more than four units of blood), admission to intensive care unit, Erb's palsy secondary to shoulder dystocia, failed instrumental delivery rate and third- and fourth-degree perineal tears, could be monitored to understand the magnitude of a clinical problem, the adequacy of management and importantly to help the unit plan for resources, training and review of guidelines. Neonatal morbidity of meconium aspiration syndrome, hypoxic ischaemic encephalopathy (HIE) and unexpected admissions to the special care unit should be monitored to identify and rectify lapses in intrapartum care due to avoidable factors.

4.4 Risk incidents/complaints and patient satisfaction surveys

Patient complaints and user feedback from specific areas in the maternity service (antenatal clinic, labour ward, antenatal and postnatal wards, as well as the community) could be monitored to ensure a responsive, patient-centred care. Information collected by risk management midwives can also be included in the dashboard pro forma.

5. Determining the traffic lights (green, amber, red) threshold values

There are various sources for deriving targets, such as the RCOG and National Institute for Health and Clinical Excellence guidelines, Confidential Enquiries into Maternal Deaths and maternal morbidity data reported in the annual report of the Scottish programme of Near Miss Survey; for example, the third- and fourth-degree tears incidence threshold could be set as less than 5%, based on the RCOG Guideline *Management of Third- and Fourth-degree Perineal Tears,*[5] midwifery staffing ratio could be considered as 1.30 WTE:1 woman, as in the Safer Childbirth recommendation.[4] Local targets can also be developed, based on Healthcare Commission's recently published data, where comparable best outcome data are available for different sizes of maternity units.

The nature of the maternity unit, its activity and the diversity of the population should also be considered; for example, the chart shown in Appendix 1 has been benchmarked for 5000 deliveries (about 420/month). However, the bookings indicate a higher number of 5500/year (450/month). This is because approximately 10% of women at this institution book to have their nuchal translucency screening but deliver elsewhere. Being a tertiary referral centre serving a high-risk, diverse population, the incidence of obstetric complications like major obstetric haemorrhage has been set at a rate slightly higher than average. Based on that hospital's previous 5-year rates of caesarean section between 21–23% which are within the lower 25th centile of London hospitals caesarean section rates; the upper threshold for caesarean section rate has been set at 25%.

The Healthcare Commission survey has indicated the lowest intervention rates and the best maternal and neonatal outcomes for different hospitals, with the number of deliveries and socio-demographic features. The local targets can be set by looking at the best performing trusts.

6. Systems for collecting and storing information

Work is currently continuing, albeit at a protracted pace, on developing a national maternity IT system (NPFiT). Therefore, various software systems are being used in maternity units to collect and store electronic data, which can be easily retrieved. Each unit should have a designated person responsible to ensure accurate recording and maintenance of maternity data. The CNST clinical governance standards require maternity units to have a risk management midwife or a manager in place. These individuals could coordinate collection of monthly data for this risk management pro forma. It is important to crosscheck the data to ensure accuracy; for example, the operation book in the operating theatre could be checked to verify the number of caesarean sections for the month. Information about patient complaints could be obtained from the complaints manager of the trust. The Maternity Dashboard could be maintained electronically as a Microsoft Excel® spreadsheet and can be continuously updated and data could be compared on month to month basis.

7. Who should have responsibility for filling in the Maternity Dashboard and why?

The primary objective of the Maternity Dashboard is to ensure continuous improvement in clinical care with a clearly defined mechanism and named individuals responsible identified to deal with issues as they arise. The score card also provides information to establish trends, such as the increase in the number of caesarean sections, third- and fourth-degree tears or patient complaints. Hence, it is important for someone with a clinical/risk perspective to be responsible for the Maternity Dashboard and such a person could be a risk manager or lead midwife for risk, working closely with the lead consultant for the labour ward. This information should also be regularly passed to the directorate management team. Such an arrangement will enable identification of issues pertaining to clinical governance and to take timely and appropriate action to avoid any detrimental effect.

8. Who should have access to the Maternity Dashboard?

It is vital that the entire maternity team should take an active part in monitoring clinical governance on the ground. Hence, the Maternity Dashboard score card should be widely distributed among the team, through risk management meetings, managers' meeting and services delivery units. When any parameter enters into the amber or red zone, it is important to escalate this to relevant personnel; for example, if there is a shortage of staff then midwifery manager should be informed and if there is a resource issue, then business manager need to be involved in planning the services to make it safe. An increase in the number of patient complaints may be related to lack of resources and, in that situation, the clinical director should take a lead to undertake a root cause analysis.

An increase in the number of caesarean sections would require input from the obstetric team/labour ward clinical lead. The educational supervisor or the College tutor may need to be involved, if trainees fail to attend mandatory study/training days to meet the CNST requirements.

The Maternity Dashboard data should also be shared with consumer representatives in labour ward forum and maternity services liaison committees.

9. Amber and red: what should we do?

In interpreting the data from the Maternity Dashboard it is paramount to take a 'snapshot' view, as well as to note trends in the various parameters. In general terms, when a parameter falls into the 'amber' zone, action should be taken to restore it back to normal and this could be achieved with minimal resources. A careful observation is warranted to ensure that there is no immediate risk to patients and to observe the trends in the following months. Repeated entry into the amber zone in any single parameter would necessitate a careful scrutiny; for example, repeated amber for the number of antenatal bookings will suggest that the system is under constant strain. This may have implications with regard to labour ward staffing levels in the future.

It defeats the purpose of a dashboard if a parameter is constantly in the amber zone and action is not taken to restore it to green. If a parameter is constantly scored amber beyond a locally predetermined number of months, this should be brought to the attention of the trust board.

'Red' in any of the parameters would require very close scrutiny and often an immediate action or intervention; for example, a red in 'Erb's palsy secondary to shoulder dystocia' may require a review of the cases to identify any training needs. A 'red' for failed instrumental vaginal delivery in the room, necessitating an emergency caesarean section, may help to identify training issues and supervision. A 'red' in HIE may help the team to look into issues related to intrapartum fetal monitoring and the resources and training of their medical and midwifery staff, to enable better interpretation of abnormal fetal heart traces and compliance with the guidelines.

10. Advantages and disadvantages of the Maternity Dashboard

The Maternity Dashboard is likely to improve the overall quality of care by informing the healthcare providers about their performance, as well as to stimulate comparisons between other maternity units and to identify areas for further improvement. It may also help to understand how processes for delivering healthcare services are designed to meet patient, quality and operational requirements (including best practice requirements), as well as how design and delivery processes are coordinated and tested to ensure a smooth delivery of maternity care.

The main disadvantage is that this may be considered as 'just another paper exercise'. To avoid this pitfall, it is important to modify the Maternity Dashboard to suit local needs; for example, if it is thought that there is an issue with providing an adequate number of midwives or consultant presence in the labour ward, then this parameter should be monitored. Such a problem-oriented choice of monitoring the parameters is likely to enhance staff interest and participation. It is also vital that action is taken based on the Maternity Dashboard and that this is effectively communicated to the team, to emphasise that this is not merely viewed as a paper-exercise but as something that could be used to continuously improve patient care.

11. Experience with the Maternity Dashboard

In some hospitals, the Maternity Dashboard has enabled the reduction in the caesarean section rate to be linked to the introduction of a 60-hour consultant presence in the labour ward. The failed instrumental vaginal delivery rates also showed a reduction during this period owing to senior input.

While these are early findings and it is too early to arrive at any definite conclusion on the benefits of the use of the Maternity Dashboard, it has helped units to monitor several clinical parameters robustly and to take action; for example, following months of 'green' for caesarean section rate, there was an 'amber'. Closer scrutiny revealed failure to comply with post-date induction protocol by a few trainees, who had recently joined the unit. This resulted in an increase in emergency caesarean sections for failed inductions. This was rectified through effective communication. Similarly, the Maternity Dashboard shown helped the unit to identify an increase in the third-degree perineal tears (red), which enabled the unit to provide training and support to the individuals concerned.

12. Corporate governance arrangements

It is important for each unit to modify the Maternity Dashboard card to reflect complexity of their clinical workload, unit size, workforce requirements, consumer issues and clinical outcome indicators. A quarterly report should be produced by the lead clinician of the labour ward to highlight issues of concern that require management input of the directorate team to find appropriate solutions. Such a report should be a permanent agenda item for regular clinical director/chief executive meetings in all trusts. In addition, the clinical director should keep the clinical governance team in the loop as if issues are consistently in the amber zone they could easily slip into the red zone. The overall aim of developing such a reporting mechanism would be to ensure that a continuous quality improvement system is put in place to support the safe delivery of obstetric services. This can only be achieved if this regular reporting process is embedded in the directorate and trust clinical governance report, thus ensuring an appropriate strategy for action.

13. Recommendation

It is recommended that all maternity units should use the Maternity Dashboard to monitor clinical activity, workforce issues, and clinical outcome indicators.

This recommendation is in line with other national recommendations; for example, the Chief Medical Officer, in his Annual Report 2006, recommends: 'The use of a maternity "dashboard" to assess and improve standards of care in maternity units should be piloted at sites nationwide'. The Dashboard is a powerful, visible way of

continually monitoring and assessing how a unit is doing, as well as enabling teams to respond in a timely and appropriate manner to ensure a safe and responsive high-quality service. This approach also helps to develop an ethos of total quality improvement.

The RCOG is planning to review the implementation of the Maternity Dashboard and its impact on risk management by mid 2009.

References

1. Department of Heath. *On the State of Public Health: Annual Report of the Chief Medical Officer 2006.* Chapter 6: Intrapartum-related deaths: 500 missed opportunities. London: The Stationery Office; 2007 [**www.dh.gov.uk/en/Publicationsandstatistics/Publications/AnnualReports/DH_076817**].
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3. Department of Health. Quality and Performance in the NHS. High Level Performance Indicators and Clinical Indicators [**www.performance.doh.gov.uk/indicat/nhsci.htm**].
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5. Royal College of Obstetricians and Gynaecologists. *Management of Third- and Fourth-degree Perineal Tears.* Green-top Guideline No. 29. London: RCOG; 2007 [**www.rcog.org.uk/resources/Public/pdf/green_top29_management_third.pdf**].

This guidance has been developed by:
Professor S Arulkumaran FRCOG, Dr E Chandraharan MRCOG, Dr T Mahmood FRCOG, Dr O Louca FRCOG and Miss C Mannion, Head of Midwifery and Gynaecology, London.

Peer reviewed by:
the clinical directors of obstetrics and gynaecology, the Professional and Clinical Standards Committee of the RCOG and the Standards Board. All comments received were considered in finalising the document.

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The RCOG will maintain a watching brief on the need to review this guidance.

APPENDIX 1

Maternity Dashboard : Clinical Performance and Governance Score Card

This Appendix must be read in conjunction with Good Practice No. 7: *Maternity Dashboard: Clinical Performance and Governance Score Card.* It is an example card used by a London teaching hospital. (For best results, please print pages 7 and 8 on A3 paper as a double-page spread).

			Goal	Red Flag	Measure	Comment	Data Source	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	COMMENTS / ACTION THIS MONTH
	Organisation	Number ethnic group reps. on Labour Ward Forum	4 reps	<2	Minutes	Aim for 4 but not guaranteed reps available – review 1/4ly	DATEX	2	2	2	2	2	2	2	2	3		
Activity	Births	Benchmarked to 5000 per annum	5000 (420)	>450	Births	If >900 over 2 month period, bookings to be capped	DATEX	378	383	425	431	451	418	428	407	420		
	Scheduled Bookings	Bookings (1st visit) scheduled	5405 (450)	>500	Bookings (1st visit)	Tolerance 15%	DATEX	381	378	422	427	447	491	516	408	422		Not all the booked patients are likely to deliver at SGH
	Instr. Vag. Del.	Ventouse & forceps	10–15%	<5%or >20%	Inst Vag D/Birth	Tolerance 15%	DATEX	11.8	7.6	10.8	10.2	10.4	11.2	13.8	12.7	14.5		
	C-Section	Total rate (planned & unscheduled)	<23%	>25%	C-section/Birth	If >30% then cap & refer to other provider	DATEX	25.5	23.3	24.4	23.3	23.3	19.3	21.7	20.14	23.6		Resident consultant cover was increased to 60 hours per week
Workforce	Staffing levels	Weekly hours of consultant cover on labour ward	>60 hours	<44 hours	Hours	Per week	Labour Suite off-duty						48	56	46	54		
		Midwife/birth ratio	1.30	>1.40	WTE/births		HOM	1.33	1.35	1.3	1.34	1.36	1.3	1.3	1.3			Under review
		Supervisor to midwife ratio	<1.15	>1.20			HOM	1.17	1.19	1.18	1.19	1.14	1.18	1.18	1.17			Under review
		Ed & training Prog - attendance	>90%	<90%		Review 6 monthly			90%								100%	100% New staff attended Skills & Drills/CTG/STAN Training on induction
Clinical indicators	Maternal Morbidity	Eclampsia	<6 cases in any two month period	>6 cases in any two month period	No. of patients		DATEX	0	0	0	1	0	0	0	0	0		
		ICU admissions in obstetrics			No. of patients		DATEX	0	0	0	1	0	0	0	1	1		
		Blood transfusions (4 units of blood)			No. of patients		DATEX	0	1	0	1	0	1	0	0	0		
		Postpartum hysterectomies			No. of patients		DATEX	0	0	0	0	0	0	0	0	0		Uterine artery embolisation in April
	Neonatal morbidity	Number of cases of meconium aspiration			No. of patients		DATEX						3	1	1	0		
		Number of cases of hypoxic encephalopathy (Grades 2 & 3)			No. of patients		DATEX	0	0	1	0	0	0	0	1	0		
	Risk Management	Number of SUIs				Investigations undertaken	Risk Dep	0	0	0	0	0	1	0	0	0		
		Failed instrumental delivery	<1%	>3%	Ins Del/Birth		Risk Dep	0.8	0.8	0.7	0.9	0.7	0.5	0.2	0.2	0.2		
		Massive PPH >2L	<10 / month	>15 / month			Risk Dep	3	2	1	3	3	6	4	3	6		
		Shoulder dystocia	<6 / month	>10 / month		0.5–1.5 % of Deliveries	Risk Dep	5	8	4	6	7	3	5	9	3		Possible overdiagnosis/Mandatory training & Skills and Drills of Shoulder Dystocia
		3rd-degree tear	<6 / month	>10 / month		<5% of deliveries (RCOG)	Risk Dep	14	5	6	5	8	10	5	8	6		Individual training issues identified. Audit on 3rd-degree tear initiated. Ventouse hands-on one to one training for SpRs carried out.
	Complaints	Number of complaints	<5 / month	>8 / month														
		Number of times unit closed for admissions in each month	<1 per month	>3 times per month														