NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE

Draft quality standard for hypertension in pregnancy

1 Introduction

Hypertension in pregnancy may occur in women with pre-existing chronic hypertension or may develop for the first time during the second half of pregnancy. New-onset gestational hypertension can occur in isolation, or in association with proteinuria when it is known as pre-eclampsia. Hypertensive disorders during pregnancy carry risks for the mother and the baby. They can result in substantial maternal morbidity and place women at an increased lifetime risk of cardiovascular disease. Reports on maternal and perinatal deaths show that 1 in 20 (5%) stillbirths without congenital abnormality occurred in infants whose mothers had pre-eclampsia. Hypertension in pregnancy is associated with 8–10% of all preterm births and more than half of women with severe pre-eclampsia give birth preterm. Most children born of pregnancies affected by pre-term pre-eclampsia will have restricted growth.

Effective and safe control of severe hypertension is an important aspect of critical care management. An enquiry into maternal deaths found that the main failings in the management of pre-eclampsia were lack of routine observations of blood pressure and failure to treat significantly elevated levels of blood pressure. There were a number of women with severe pregnancy-induced hypertension for whom junior obstetricians failed to consult with senior staff, and there were delays in involving anaesthetic or critical care services sufficiently early.

Women with diabetes, pre-existing chronic hypertension, chronic kidney disease or autoimmune disease, and women who had hypertension during a previous pregnancy, are at high risk of hypertension in pregnancy.

This quality standard covers pre-pregnancy advice for women with chronic hypertension, as well as the antenatal, intrapartum and postnatal care of women at risk of or with hypertensive disorders of pregnancy. For more information see the scope for this quality standard.

NICE quality standards describe high-priority areas for quality improvement in a defined care or service area. Each standard consists of a prioritised set of specific, concise and measurable statements. They draw on existing guidance, which provides an underpinning, comprehensive set of recommendations, and are designed to support the measurement of improvement. The quality standard, in conjunction with the guidance on which it is based, should contribute to the improvements outlined in the following frameworks:

- NHS Outcomes Framework 2013-14
- Improving outcomes and supporting transparency: Part 1: a public health outcomes framework for England, 2013–2016

The table below shows the outcomes, overarching indicators and improvement areas from the frameworks that the quality standard could contribute to achieving:

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 areas** *Reducing premature mortality from the major causes of death.* 1.1 Under-75 mortality rate from cardiovascular disease. *Reducing deaths in babies and young children.* 1.6i Infant mortality. 1.6ii Neonatal mortality and stillbirths.

Domain 3: Helping people to recover from episodes of ill health or following injury	**Overarching indicator** 3a Emergency admissions for acute conditions that should not usually require hospital admission.
Domain 4: Ensuring that people have a positive experience of care	**Overarching indicator** 4a.i Patient experience of GP services. **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 incident reporting. 5b Severity of harm. **Improvement areas** *Reducing the incidence of avoidable harm.* 5.4 Incidence of medication errors causing serious harm. *Improving the safety of maternity services.* 5.5 Admission of full-term babies to neonatal care.
Public health outcomes framework 2013–16	
Domain 2: Health improvement	**Objective** People are helped to live healthy lifestyles, make healthy choices and reduce health inequalities. **Indicator** 2.1 Low birth weight of term babies.
Domain 4: Healthcare public health and preventing premature mortality	**Objective** Reduced numbers of people living with preventable ill health and people dying prematurely, while reducing the gap between communities. **Indicators** 4.1 Infant mortality. 4.3 Mortality from causes considered preventable. 4.4 Mortality from all cardiovascular diseases (including heart disease and stroke).

2 Overview

The draft quality standard for hypertension in pregnancy requires that services should be commissioned from and coordinated across all relevant agencies encompassing the whole care pathway. An integrated approach to provision of services is fundamental to the delivery of high-quality care to women with hypertension in pregnancy.

The Health and Social Care Act 2012 sets out a clear expectation that the care system should consider NICE quality standards in planning and delivering services, as part of a general duty to secure continuous improvement in quality. Commissioners should cross-refer across the library of NICE quality standards when designing high-quality services.

The quality standard should be read in the context of national and local guidelines on training and competencies. Implementation of this quality standard is based on all healthcare professionals involved in the management of hypertension in pregnancy having sufficient and appropriate training, and competence to deliver the actions and interventions described in the quality standard.

No.	Draft quality statements
1	Women of childbearing potential with treated chronic hypertension are given information at each annual review about safe antihypertensive treatment during pregnancy.
2	Pregnant women at increased risk of pre-eclampsia at the booking appointment are prescribed 75 mg of aspirin to take daily from 12 weeks until 37 weeks.
3	Pregnant women with chronic hypertension have a blood pressure target set at below150/100mmHg if they have uncomplicated hypertension or below 140/90mmHg if they have target organ damage.
4	Women with gestational hypertension receive an integrated package of antenatal care.
5	Women with pre-eclampsia receive an integrated package of antenatal care.
6	Women with a hypertensive disorder of pregnancy or indications from any previous pregnancy receive timely fetal ultrasound assessment.

7	Women with pre-eclampsia have their babies delivered according to an agreed consultant obstetrician-led plan for the timing and mode of delivery.
8	Women who have severe pre-eclampsia with complications have their condition managed in level 2 critical care within 2 hours of identification.
9	Women who have had a hypertensive disorder of pregnancy have information about their condition sent to their primary care clinician when they are transferred to community care after the birth.
10	Women who have had gestational hypertension or pre-eclampsia have a discussion about future related risks, and how to mitigate them at a 6–8 week postnatal medical review.

In addition, quality standards that should also be considered when commissioning and providing a high-quality services for women with hypertension in pregnancy are listed in section 7.

General questions for consultation

Question 1 Can you suggest any appropriate healthcare outcomes for each individual quality statement?

Question 2 What important areas of care, if any, are not covered by the quality standard?

Question 3 What, in your opinion, are the most important quality statements and why?

Question 4 Are any of the proposed quality measures inappropriate and, if so, can you identify suitable alternatives?

Please refer to Quality standards in development for additional general points for consideration.

Statement-specific questions for consultation

Question 5 For quality statement 6: Do stakeholders think that a timescale from diagnosis to fetal ultrasound assessment should be applied to process measure b “Proportion of women with mild or moderate gestational hypertension who receive fetal ultrasound assessment if diagnosis is confirmed at less than 34 weeks of pregnancy”? If so, can stakeholders suggest what the timescale from diagnosis to fetal ultrasound assessment should be?

Question 6 For quality statement 8: Do stakeholders think that ‘within 2 hours’ is an appropriate timescale for women with severe pre-eclampsia with complications to be managed in critical care?

Draft quality statement 1: Pre-pregnancy advice for women with treated chronic hypertension

Draft quality statement	Women of childbearing potential with treated chronic hypertension are given information at each annual review about safe antihypertensive treatment during pregnancy.
Draft quality measure	**Structure:** Evidence of local arrangements to ensure that women of childbearing potential with treated chronic hypertension are given information at each annual review about safe antihypertensive treatment during pregnancy. **Process:** a) The proportion of women of childbearing potential with treated chronic hypertension who had an annual review in the past 12 months. Numerator – the number of women in the denominator who had an annual review in the past 12 months. Denominator - the number of women of childbearing potential with treated chronic hypertension. b) The proportion of women of childbearing potential with treated chronic hypertension who were given information at their last annual review about safe antihypertensive treatment during pregnancy. Numerator – the number of women in the denominator who were given information at their last annual review about safe antihypertensive treatment during pregnancy. Denominator – the number of women of childbearing potential with treated chronic hypertension who have had an annual review in the past 12 months.
Description of what the quality statement means for each audience	**Service providers** ensure systems are in place to provide information about safe antihypertensive treatment in pregnancy at each annual review to women of childbearing potential with treated chronic hypertension. **Healthcare professionals** provide information about safe antihypertensive treatment in pregnancy at each annual review to women of childbearing potential with treated chronic hypertension, **Commissioners** ensure they commission services that provide information about safe antihypertensive treatment in pregnancy at each annual review to women of childbearing potential with treated chronic hypertension, **Women who are having treatment for chronic (long-term) high blood pressure and who may become pregnant** are given information about safe treatment for high blood pressure during pregnancy at each of their annual reviews.
Source clinical	NICE clinical guideline 107 recommendations 1.2.1.1 (key priority for implementation) and 1.2.1.3 in Section 1.2 Pre-pregnancy

guideline references	advice.
Data source	**Structure:** Local data collection. **Process:** a) and b) Local data collection.
Definitions	**Safe antihypertensive treatment** NICE clinical guideline 107 identifies angiotensin-converting enzyme (ACE) inhibitors, angiotensin II receptor blockers (ARBs) and chlorothiazide as antihypertensive drugs for which women should be warned about potential harmful effects during pregnancy. Women taking angiotensin-converting enzyme (ACE) inhibitors or angiotensin II receptor blockers (ARBs) should be provided with information to advise that there is an increased risk of congenital abnormalities if these drugs are taken during pregnancy, and discuss other antihypertensive treatment with the healthcare professional responsible for managing their hypertension, if they are planning pregnancy. Women taking chlorothiazide) should be provided with information to advise that: there may be an increased risk of congenital abnormality and neonatal complications if these drugs are taken during pregnancy, and to discuss other antihypertensive treatment with the healthcare professional responsible for managing their hypertension, if they are planning pregnancy. **Treated chronic hypertension** is chronic hypertension that is treated with one or more antihypertensive drugs. Chronic hypertension is hypertension that is present at the booking visit or before 20 weeks or if the woman is already taking antihypertensive medication when referred to maternity services.
Equality and diversity considerations	'Childbearing potential' should be determined for women on an individual basis, as there is no set age range for childbearing potential for all women. Women should not be excluded from receiving information based on age alone. All information should be accessible to women with additional needs such as physical or learning disabilities, and to people who do not speak or read English. Women receiving information should have access to an interpreter or advocate if needed.

Draft quality statement 2: Antenatal assessment of pre-eclampsia risk

Draft quality statement	Pregnant women at increased risk of pre-eclampsia at the booking appointment are prescribed 75 mg of aspirin to take daily from 12 weeks until 37 weeks.
Draft quality measure	**Structure:** a) Evidence of local arrangements to ensure that pregnant women have their risk factors for pre-eclampsia identified and recorded at the booking appointment. b) Evidence of local arrangements to ensure that pregnant women at increased risk of pre-eclampsia at the booking appointment are prescribed 75 mg of aspirin (unless contraindicated) to take daily from 12 weeks until 37 weeks. **Process:** a) Proportion of pregnant women accessing antenatal care who have their risk factors for pre-eclampsia identified and recorded at the booking appointment. Numerator – the number of women in the denominator whose risk factors for pre-eclampsia are identified and recorded at the booking appointment. Denominator – the number of pregnant women attending a booking appointment. b) Proportion of pregnant women at increased risk of pre-eclampsia at the booking appointment who are prescribed 75 mg of aspirin (unless contraindicated) to take daily from 12 weeks until 37 weeks. Numerator – the number of women in the denominator prescribed 75 mg of aspirin to take daily from 12 weeks until 37 weeks. Denominator – the number of pregnant women at increased risk of pre-eclampsia and without contraindications to aspirin at the booking appointment. **Outcome:** Incidence of pre-eclampsia in women at increased risk of developing pre-eclampsia.
Description of what the quality statement means for each audience	**Service providers** ensure that systems are in place to prescribe pregnant women at increased risk of pre-eclampsia at the booking appointment 75 mg of aspirin (unless contraindicated) to take daily from 12 weeks until 37 weeks. **Healthcare professionals** prescribe pregnant women at increased risk of pre-eclampsia at the booking appointment 75 mg of aspirin (unless contraindicated) to take daily from 12 weeks until 37 weeks. **Commissioners** ensure they commission services that prescribe pregnant women at increased risk of pre-eclampsia at the booking

	appointment 75 mg of aspirin (unless contraindicated) to take daily from 12 weeks until 37 weeks. **Pregnant women who have a higher risk of developing pre-eclampsia (a serious type of temporary high blood pressure that happens during some pregnancies)** are prescribed aspirin (unless this is unsuitable) to take every day from the time they are 12 weeks pregnant until 37 weeks.
Source clinical guideline references	NICE clinical guideline 107 recommendations 1.1.2.1 (key priority for implementation) and 1.1.2.2 in Section 1.1 Reducing the risk of hypertensive disorders in pregnancy. NICE clinical guideline 62 recommendation 1.9.2.2 in Section 1.9.2 Pre-eclampsia.
Data source	**Structure:** a) and b) Local data collection. **Process:** a) The Maternity Services Secondary Uses Dataset collects data on the following risk factors at booking: hypertension, renal disease, diabetes, autoimmune disease (global number 17200350) and obstetric diagnoses from previous pregnancies including 'severe pre-eclampsia requiring pre-term birth', 'eclampsia' and 'gestational hypertension' (global number 17200720). b) Local data collection. **Outcome:** The Maternity Services Secondary Uses Dataset collects data on obstetric conditions diagnosed in the current pregnancy, including severe pre-eclampsia, severe pre-eclampsia requiring pre-term birth and eclampsia (global number 17203940).
Definitions	The **booking appointment** is the appointment where the woman enters the maternity care pathway. See Antenatal appointments (schedule and content) in NICE clinical guideline 62. **Contraindications to taking aspirin** include, but are not limited to: aspirin allergy; medical condition precluding the use of aspirin; present use of another drug with the potential to interact with aspirin. Note: aspirin did not have UK marketing authorisation for the indication in question at the time of publication of NICE clinical guideline 107 (August 2010). Informed consent should be obtained and documented. Women are at an **increased risk of pre-eclampsia** if they have one high risk factor or more than one moderate risk factor for pre-eclampsia. High risk factors: • hypertensive disease during a previous pregnancy • chronic kidney disease • autoimmune disease such as systemic lupus erythematosus or antiphospholipid syndrome • type 1 or type 2 diabetes

	• chronic hypertension. Moderate risk factors: • first pregnancy • age 40 years or older • pregnancy interval of more than 10 years • body mass index (BMI) of 35 kg/m^2 or more at first visit • family history of pre-eclampsia • multiple pregnancy. **Pre-eclampsia** is new hypertension presenting after 20 weeks with significant proteinuria.

Draft quality statement 3: Antenatal blood pressure targets

Draft quality statement	Pregnant women with chronic hypertension have a blood pressure target set at below150/100mmHg if they have uncomplicated hypertension or below 140/90mmHg if they have target organ damage.
Draft quality measure	**Structure:** a) Evidence of local arrangements to ensure pregnant women with uncomplicated chronic hypertension have a blood pressure target of below150/100mmHg. b) Evidence of local arrangements to ensure pregnant women with chronic hypertension and target organ damage have a blood pressure target of below 140/90mmHg. **Outcome:** Proportion of pregnant women with chronic hypertension who maintain their target blood pressure throughout their pregnancy.
Description of what the quality statement means for each audience	**Service providers** ensure there are local arrangements for pregnant women with chronic hypertension to be set and maintain throughout pregnancy a blood pressure of below150/100mmHg if they have uncomplicated hypertension and below 140/90mmHg if they have target organ damage. **Health care professionals set blood pressure** targets for pregnant women with chronic hypertension of below150/100mmHg if they have uncomplicated hypertension and below 140/90mmHg if they have target organ damage, and ensure these blood pressures are maintained throughout pregnancy. **Commissioners** ensure they commission services that set target blood pressures for women with chronic hypertension of below 150/100 mmHg for women with uncomplicated hypertension and below 140/90mmHg for women with target organ damage, and ensure these blood pressures are maintained throughout pregnancy. **Pregnant women with chronic (long-term) high blood pressure** receive treatment aimed at keeping their blood pressure below 150/100 mmHg, or below140/90mmHg if their high blood pressure has led to problems with their eyes, heart or kidneys.
Source clinical guideline references	NICE clinical guideline 107 recommendations 1.2.3.1 (key priority for implementation) and 1.2.3.3 in Section 1.2.3 Treatment of hypertension.
Data source	**Structure:** a) and b) Local data collection. **Outcome:** Local data collection.

Definitions	**Chronic hypertension** is hypertension that is present at the booking visit or before 20 weeks or if the woman is already taking antihypertensive medication when referred to maternity services. **Target organ damage** Left ventricular hypertrophy, chronic kidney disease and hypertensive retinopathy are examples of target organ damage. See NICE clinical guideline 127 recommendation 1.2.6 in Section 1.2 Diagnosing hypertension. **Uncomplicated hypertension** is hypertension with no evidence of target organ damage.

Draft quality statement 4: Antenatal care package for women with gestational hypertension

Draft quality statement	Women with gestational hypertension receive an integrated package of antenatal care.
Draft quality measure	**Structure:** Evidence of local arrangements to ensure women with gestational hypertension receive an integrated package of antenatal care. **Process:** The proportion of women with gestational hypertension who receive an integrated package of antenatal care. Numerator – the number of women in the denominator who receive an integrated package of antenatal care. Denominator – the number of women with gestational hypertension.
Description of what the quality statement means for each audience	**Service providers** ensure local arrangements are in place for women with gestational hypertension to receive an integrated package of antenatal care. **Healthcare professionals** provide an integrated package of antenatal care to women with gestational hypertension. **Commissioners** ensure they commission services that provide an integrated package of antenatal care to women with gestational hypertension. **Women with gestational high blood pressure (temporary high blood pressure that starts later in pregnancy and stops a few weeks after birth)** receive antenatal care that follows NICE's advice on measuring blood pressure, testing for protein in the urine, blood tests and admission to hospital.
Source clinical guideline references	NICE clinical guideline 107 recommendation 1.4.1.3 (key priority for implementation) in Section 1.4.1 Treatment of hypertension.
Data source	**Structure:** Local data collection. **Process:** The Maternity Services Secondary Uses Dataset collects data on the date a care plan has been created or changed. This covers antenatal, birth and postnatal care plans (global number 17201890). Data are also collected on the stage to which the plan applies (global number 17201900) and the professional category of the clinician with overall responsibility for care during the pregnancy (global number 17201920). Contained within NICE clinical guideline 107: audit tool criteria 1–3.
Definitions	**Gestational hypertension** is new hypertension presenting after 20 weeks without significant proteinuria. NICE clinical guideline 107 recommends an **integrated package**

	of antenatal care for women with gestational hypertension that covers admission to hospital, treatment, measurement of blood pressure, testing for proteinuria and blood tests. For details see table 1 in recommendation 1.4.1.3.

Draft quality statement 5: Antenatal care package for women with pre-eclampsia

Draft quality statement	Women with pre-eclampsia receive an integrated package of antenatal care.
Draft quality measure	**Structure:** Evidence of local arrangements to ensure women with pre-eclampsia receive an integrated package of antenatal care. **Process:** The proportion of women with pre-eclampsia who receive an integrated package of antenatal care. Numerator – the number of women in the denominator who receive an integrated package of antenatal care. Denominator – the number of women with pre-eclampsia.
Description of what the quality statement means for each audience	**Service providers** ensure local arrangements are in place for women with pre-eclampsia to receive an integrated package of antenatal care. **Healthcare professionals** provide an integrated package of antenatal care to women with pre-eclampsia. **Commissioners** ensure they commission services that provide an integrated package of antenatal care to women with pre-eclampsia. **Women with pre-eclampsia (a serious type of temporary high blood pressure that happens during some pregnancies)** receive antenatal care that follows NICE's advice on measuring blood pressure, testing for protein in the urine, blood tests and admission to hospital.
Source clinical guideline references	NICE clinical guideline 107 recommendation 1.5.1.2 (key priority for implementation) in Section 1.5.1 Treatment of hypertension.
Data source	**Structure:** Local data collection. **Process:** The Maternity Services Secondary Uses Dataset collects data on the date a care plan has been created or changed. This covers antenatal, birth and postnatal care plans (global number 17201890). Data are also collected on the stage to which the plan applies (global number 17201900) and the professional category of the clinician with overall responsibility for care during the pregnancy (global number 17201920). Contained within NICE clinical guideline 107: audit tool criteria 4–6.
Definitions	NICE clinical guideline 107 recommends an **integrated package of antenatal care** for women with pre-eclampsia that covers admission to hospital, treatment, measurement of blood pressure, testing for proteinuria and blood tests. For details see table 2 in recommendation 1.5.1.2.

	Pre-eclampsia is new hypertension presenting after 20 weeks with significant proteinuria.

Draft quality statement 6: Fetal ultrasound assessment

Draft quality statement	Women with a hypertensive disorder of pregnancy or indications from any previous pregnancy receive timely fetal ultrasound assessment.
Draft quality measure	**Structure:** Evidence of local arrangements to ensure that women with a hypertensive disorder of pregnancy or indications from any previous pregnancy receive timely fetal ultrasound assessment. **Process:** a) Proportion of women with chronic hypertension who receive fetal ultrasound assessment between 28 and 30 weeks and between 32 and 34 weeks of pregnancy. Numerator: The number of women in the denominator who receive fetal ultrasound assessment between 28 and 30 weeks and between 32 and 34 weeks of pregnancy. Denominator: The number of pregnant women with chronic hypertension. b) Proportion of women with mild or moderate gestational hypertension who receive fetal ultrasound assessment if diagnosis is confirmed at less than 34 weeks of pregnancy. Numerator: The number of women in the denominator who receive fetal ultrasound assessment. Denominator The number of women with a diagnosis of mild or moderate gestational hypertension that is confirmed at less than 34 weeks of pregnancy. c) Proportion of women with severe gestational hypertension or pre-eclampsia, for whom conservative management is planned, who receive fetal ultrasound assessment at diagnosis. Numerator: The number of women who receive fetal ultrasound assessment at diagnosis. Denominator: The number of women with severe gestational hypertension or pre-eclampsia for whom conservative management is planned. d) Proportion of women with indications from any previous pregnancy who receive fetal ultrasound assessment starting at between 28 and 30 weeks of pregnancy (or at least 2 weeks before previous gestational age of onset if earlier than 28 weeks). Numerator – the number of women in the denominator who receive fetal ultrasound assessment starting at between 28 and 30 weeks (or at least 2 weeks before previous gestational age of

	onset if earlier than 28 weeks). Denominator: The number of pregnant women with indications from any previous pregnancy.
Description of what the quality statement means for each audience	**Service providers** ensure local arrangements are in place for women with a hypertensive disorder of pregnancy or indications from any previous pregnancy to receive timely fetal ultrasound assessment. **Healthcare professionals** carry out timely fetal ultrasound assessment for women with a hypertensive disorder of pregnancy or indications from any previous pregnancy. **Commissioners** ensure they commission services that carry out timely fetal ultrasound assessment for women with a hypertensive disorder of pregnancy or indications from any previous pregnancy. **Pregnant women who have problems with high blood pressure or had problems with high blood pressure in a previous pregnancy** have ultrasound scans to check the health of their babies.
Source clinical guideline references	Hypertension in pregnancy NICE clinical guideline 107 recommendations 1.6.1.1, 1.6.2.1, 1.6.3.2 and 1.6.4.1 in Section 1.6 Fetal monitoring.
Data source	**Structure:** Local data collection. **Process:** a), b), c) and d) Local data collection.
Definitions	For **fetal ultrasound assessment** see NICE clinical guideline 107 recommendations 1.6.1.1 (chronic hypertension), 1.6.2.1 (mild or moderate gestational hypertension), 1.6.3.2 (severe gestational hypertension or pre-eclampsia) and 1.6.4.1 (high risk of pre-eclampsia) in Section 1.6 Fetal monitoring. **Gestational hypertension** is new hypertension presenting after 20 weeks without significant proteinuria. **Pre-eclampsia is** new hypertension presenting after 20 weeks with significant proteinuria.
Specific questions for consultation	For quality statement 6: Do stakeholders think that a timescale from diagnosis to fetal ultrasound assessment should be applied to process measure b “Proportion of women with mild or moderate gestational hypertension who receive fetal ultrasound assessment if diagnosis is confirmed at less than 34 weeks of pregnancy”? If so, can stakeholders suggest what the timescale from diagnosis to fetal ultrasound assessment should be?

Draft quality statement 7: Intrapartum care: mode and timing of delivery

Draft quality statement	Women with pre-eclampsia have their babies delivered according to an agreed consultant obstetrician-led plan for the timing and mode of delivery.
Draft quality measure	**Structure:** Evidence of local arrangements to ensure that women with pre-eclampsia have their babies delivered according to an agreed consultant obstetrician-led plan for the timing and mode of delivery. **Process:** a) Women with pre-eclampsia have an agreed consultant obstetrician-led plan for the timing and mode of delivery of their babies documented in their notes. Numerator – the number of women in the denominator who have an agreed consultant obstetrician-led plan for the timing and mode of delivery of their babies documented in their notes. Denominator – the number of women with pre-eclampsia. b) The proportion of women with pre-eclampsia who give birth according to an agreed consultant obstetrician-led plan for the timing and mode of delivery of their babies. Numerator – the number of women in the denominator who give birth according to an agreed consultant obstetrician-led plan for the timing and mode of delivery of their babies. Denominator – the number of women with pre-eclampsia who have given birth. **Outcome:** Feedback from women who have had pre-eclampsia that they felt sufficiently involved in planning the timing and mode of delivery of their baby.
Description of what the quality statement means for each audience	**Service providers** ensure there are local arrangements in place for women with pre-eclampsia to have their babies delivered according to an agreed consultant obstetrician-led plan for the timing and mode of delivery. **Healthcare professionals** ensure women with pre-eclampsia have their babies delivered according to an agreed consultant obstetrician-led plan for the timing and mode of delivery. **Commissioners** ensure they commission services that deliver babies of women with pre-eclampsia according to an agreed consultant obstetrician-led plan for the timing and mode of delivery. **Women with pre-eclampsia (a serious type of temporary high blood pressure that happens during some pregnancies)** and their consultant obstetricians agree a plan for when and how their baby will be delivered and that the plan is followed.
Source clinical	NICE clinical guideline recommendations 1.5.2.1, 1.5.2.2 (key

guideline references	priority for implementation), 1.5.2.3, 1.5.2.4, 1.5.2.5, 1.5.2.6 and 1.5.2.7 in Section 1.5.2 Management of pregnancy with pre-eclampsia.
Data source	**Structure:** Local data collection. **Process:** a) The Maternity Services Secondary Uses Dataset collects data on the date a care plan has been created or changed. This covers antenatal, birth and postnatal care plans (global number 17201890). Data are also collected on the stage to which the plan applies (global number 17201900) and the professional category of the clinician with overall responsibility for care during the pregnancy (global number 17201920). b) Local data collection. **Outcome:** Local data collection.
Definitions	**Agreed consultant obstetrician-led plan** Consultant obstetric staff should document in the woman's notes the maternal (biochemical, haematological and clinical) and fetal thresholds for elective birth before 34 weeks in women with pre-eclampsia. The plan should be agreed with both the pregnant woman, and the multidisciplinary team providing the woman's care. Delivery should be according to the most up to date version of the plan. **Pre-eclampsia** is new hypertension presenting after 20 weeks with significant proteinuria. **Timing and mode of delivery** should be based on maternal (biochemical, haematological and clinical) and fetal thresholds for elective birth before 34 weeks. For indications for timing of birth see NICE clinical guideline 107 recommendations 1.5.2.1 to 1.5.2.7 in Section 1.5.2 Management of pregnancy with pre-eclampsia

Draft quality statement 8: Critical care

Draft quality statement	Women who have severe pre-eclampsia with complications have their condition managed in level 2 critical care within 2 hours of identification.
Draft quality measure	**Structure:** a) Evidence that a physiological track and trigger system is in place in acute settings to identify women who have severe pre-eclampsia with complications. b) Evidence of local arrangements for women who have severe pre-eclampsia with complications to have their condition managed in level 2 critical care within 2 hours of identification. **Process:** The proportion of women who have severe pre-eclampsia with complications whose condition is managed in level 2 critical care within 2 hours of identification. Numerator – the number of women in the denominator who have their condition managed in level 2 critical care within 2 hours of identification. Denominator – the number of women who have severe pre-eclampsia with complications..
Description of what the quality statement means for each audience	**Service providers** ensure women who have severe pre-eclampsia with complications have their condition managed in level 2 critical care within 2 hours of identification. **Healthcare professionals** refer women who have severe pre-eclampsia with complications to have their condition managed in level 2 critical care within 2 hours of identification. **Commissioners** ensure they commission services that refer women who have severe pre-eclampsia with complications to have their condition managed in level 2 critical care within 2 hours of identification. **Women with pre-eclampsia (a serious type of temporary high blood pressure that happens during some pregnancies)** are admitted to critical care (an intensive care or high-dependency unit) within 2 hours if their pre-eclampsia becomes worse or they develop other problems.
Source clinical guideline references	NICE clinical guideline 50 recommendation 1.3 (key priority for implementation) Identifying patients whose clinical condition is deteriorating or is at risk of deterioration. NICE clinical guideline 107 recommendation 1.8.7.1 in Section 1.8.7 Indications for referral to critical care levels.
Data source	**Structure:** a) and b) Local data collection. **Process:** Local data collection.

Definitions	**Complications** listed in NICE clinical guideline 107 recommendation 1.8.7.1 are eclampsia, HELLP syndrome, haemorrhage, hyperkalaemia, severe oliguria, coagulation support, intravenous antihypertensive treatment, initial stabilization of severe hypertension, evidence of cardiac failure and abnormal neurology. For details see indications for referral to critical care levels. The Department of Health Critical Care Stakeholder Forum's 2009 report Quality critical care: beyond 'comprehensive critical care' sets out the importance of having access to dedicated, highly skilled multidisciplinary teams in which members have clear individual roles and share knowledge, skills and best practice. **Physiological track and trigger system** NICE clinical guideline 50 recommends that a physiological track and trigger systems should be used to monitor all adult patients in acute hospital settings. • Physiological observations should be monitored at least every 12 hours, unless a decision has been made at a senior level to increase or decrease this frequency for an individual patient. • The frequency of monitoring should increase if abnormal physiology is detected, as outlined in the recommendation on graded response strategy. **Severe pre-eclampsia** is pre-eclampsia with severe hypertension and/or with symptoms, and/or biochemical and/or haematological impairment.
Specific questions for consultation	For quality statement 8: Do stakeholders think that 'within 2 hours' is an appropriate timescale for women with severe pre-eclampsia with complications to be managed in critical care?

Draft quality statement 9: Follow-up care: information about ongoing management

Draft quality statement	Women who have had a hypertensive disorder of pregnancy have information about their condition sent to their primary care clinician when they are transferred to community care after the birth.
Draft quality measure	**Structure:** Evidence of local arrangements to provide information to primary care clinicians about a woman's hypertensive disorder of pregnancy when the woman is transferred to community care after the birth. **Process:** The proportion of women with a hypertensive disorder of pregnancy for whom information about their condition is sent to their primary care clinician when they are transferred to community care after the birth. Numerator – the number of women in the denominator for whom information about their condition is sent to their primary care clinician when they are transferred to community care after the birth. Denominator – the number of women who have a hypertensive disorder of pregnancy.
Description of what the quality statement means for each audience	**Service providers** ensure local arrangements are in place to provide information to primary care clinicians about a woman's hypertensive disorder of pregnancy when the woman is transferred to community care after the birth. **Healthcare professionals** provide information to primary care clinicians about a woman's hypertensive disorder of pregnancy when the woman is transferred to community care after the birth. **Commissioners** ensure they commission services that provide information to primary care clinicians about a woman's hypertensive disorder of pregnancy when the woman is transferred to community care after the birth. **Women who had high blood pressure during pregnancy** have information about their high blood pressure sent to their GP by the hospital after they have had their baby.
Source clinical guideline references	NICE clinical guideline 107 recommendation 1.4.3.5 in Section 1.4 Management of pregnancy with gestational hypertension and recommendation 1.5.3.8 in Section 1.5 Management of pregnancy with pre-eclampsia.
Data source	**Structure:** Local data collection. **Process:** Local data collection. Recommendations 1.4.3.5 and 1.5.3.8 are contained in NICE clinical guideline 107: audit tool (criteria 14 and 22).
Definitions	**Condition information** should include information about postpartum management, including a plan for ongoing

	management. NICE clinical guideline 107 recommends that a care plan should be written for women with gestational hypertension or pre-eclampsia who have given birth and are being transferred to community care that includes all of the following: • who will provide follow-up care, including medical review if needed • frequency of blood pressure monitoring needed • thresholds for reducing or stopping treatment • indications for referral to primary care for blood pressure review. The plan for women with pre-eclampsia should also include self-monitoring for symptoms.

Draft quality statement 10: Follow-up care: information about future risks

Draft quality statement	Women who have had gestational hypertension or pre-eclampsia have a discussion about future related risks, and how to mitigate them at a 6–8 week postnatal medical review.
Draft quality measure	**Structure:** Evidence of local arrangements for women who have had gestational hypertension or pre-eclampsia to have a discussion about future related risks, and how to mitigate them, at their 6–8 week postnatal medical review. **Process:** The proportion of women who have had gestational hypertension or pre-eclampsia who have a discussion about future related risks and how to mitigate them at their 6–8 week postnatal medical review. Numerator – the number of women in the denominator who have a discussion about future related risks and how to mitigate them at their medical 6–8 week postnatal medical review. Denominator – the number of women who have a 6–8 week postnatal medical review.
Description of what the quality statement means for each audience	**Service providers** ensure local arrangements are in place for women who have had gestational hypertension or pre-eclampsia to have a discussion about future related risks, and how to mitigate them, at a 6–8 week postnatal medical review. **Healthcare professionals** discuss future related risks, and how to mitigate them with women who have had gestational hypertension or pre-eclampsia at a 6–8 week medical postnatal review. **Commissioners** ensure they commission services that discuss future related risks, and how to mitigate them with women who have had gestational hypertension or pre-eclampsia at a medical 6–8 week medical postnatal review. **Women who have had gestational hypertension (high blood pressure during pregnancy) or pre-eclampsia** have an appointment with their doctor 6 to 8 weeks after they have had their baby, at which they discuss ways of reducing their risk of having problems with their blood pressure in the future.
Source clinical guideline references	NICE clinical guideline 107 recommendations 1.4.3.7 in Section 1.4 Management of pregnancy with gestational hypertension, 1.5.3.10 (key priority for implementation) in Section 1.5 Management of pregnancy with pre-eclampsia and recommendations 1.10.4.1 and 1.10.4.2 in Section 1.10.4 Risk of recurrence of hypertensive disorders of pregnancy.
Data source	**Structure:** Local data collection. **Process:** Local data collection.

Definitions	Information about **future related risks** should include information about the risks of developing gestational hypertension or pre-eclampsia in a future pregnancy. It should also include information about the increased risk of developing high blood pressure and its complications in later life, and how to mitigate these risks. NICE clinical guideline 107 recommends that women who had gestational hypertension should be told that their risk of developing: • gestational hypertension in a future pregnancy ranges from about 1 in 6 (16%) pregnancies to about 1 in 2 (47%) pregnancies • pre-eclampsia in a future pregnancy ranges from 1 in 50 (2%) to about 1 in 14 (7%) pregnancies. Women who have had pre-eclampsia should be told that their risk of developing: • gestational hypertension in a future pregnancy ranges from about 1 in 8 (13%) pregnancies to about 1 in 2 (53%) pregnancies • pre-eclampsia in a future pregnancy is up to about 1 in 6 (16%) pregnancies • pre-eclampsia in a future pregnancy is about 1 in 4 (25%) pregnancies if their pre-eclampsia was complicated by severe pre-eclampsia, HELLP syndrome or eclampsia and led to birth before 34 weeks, and about 1 in 2 (55%) pregnancies if it led to birth before 28 weeks. **Gestational hypertension** is new hypertension presenting after 20 weeks without significant proteinuria. **Medical 6-8 week postnatal review** NICE clinical guideline 107 recommends that women who have had gestational hypertension or pre-eclampsia should be offered a medical review at the postnatal review, which takes place 6-8 weeks after birth. **Pre-eclampsia** is new hypertension presenting after 20 weeks with significant proteinuria.
Equality and diversity considerations	All information should be accessible to women with additional needs such as physical or learning disabilities, and to people who do not speak or read English. Women receiving information should have access to an interpreter or advocate if needed.

3 Status of this quality standard

This is the draft quality standard released for consultation from 31 January 2013 until 28 February 2013. This document is not NICE's final quality standard on hypertension in pregnancy. The statements and measures presented in this document are provisional and may change after consultation with stakeholders.

Comments on the content of the draft standard must be submitted by 5pm on 28 February 2013. All eligible comments received during consultation will be reviewed by the Topic Expert Group and the quality statements and measures will be refined in line with the Topic Expert Group considerations. The final quality standard will be available on the NICE website in July 2013.

4 Using the quality standard

It is important that the quality standard is considered alongside current policy and guidance documents listed in the evidence sources section.

The quality measures accompanying the quality statements aim to improve the structure, process and outcomes of healthcare. They are not a new set of targets or mandatory indicators for performance management.

Expected levels of achievement for quality measures are not specified. As quality standards are intended to drive up the quality of care, achievement levels of 100% should be aspired to (or 0% if the quality statement states that something should not be done). However, we recognise that this may not always be appropriate in practice when taking account of patient safety, patient choice and clinical judgement and therefore desired levels of achievement should be defined locally.

We have indicated where national indicators currently exist and measure the quality statement. National indicators include those developed by the Health and Social Care Information Centre through their Indicators for Quality Improvement Programme. For statements for which national quality indicators

do not exist, the quality measures should form the basis for audit criteria developed and used locally to improve the quality of health care.

For further information, including guidance on using quality measures, please see 'What makes up a NICE quality standard?'.

5 Diversity, equality and language

During the development of this quality standard, equality issues have been considered and equality assessments will be published on the NICE website with the final version of the quality standard.

Good communication between health and social care professionals and women with hypertension in pregnancy is essential. Treatment and care, and the information given about it, should be culturally appropriate. It should also be accessible to people with additional needs such as physical, sensory or learning disabilities, and to people who do not speak or read English. Women with hypertension in pregnancy should have access to an interpreter or advocate if needed.

6 How this quality standard was developed

The evidence sources used to develop this quality standard are listed in appendix 1, along with relevant policy context, definitions and data sources. Further explanation of the methodology used can be found in the Quality Standards Programme interim process guide.

7 Related NICE quality standards

Antenatal care. NICE quality standard (2012).

Patient experience in adult NHS services. NICE quality standard (2012).

VTE prevention. NICE quality standard (2010).

Hypertension. NICE quality standard (in development).

Multiple pregnancy. NICE quality standard (in development).

Postnatal care. NICE quality standard (in development).

Diabetes in pregnancy. NICE quality standard (referred for development).

Intrapartum care. NICE quality standard (referred for development).

Premature labour. NICE quality standard (referred for development).

Appendix 1: Development sources

Evidence sources

The documents below contain clinical guideline recommendations or other recommendations that were used by the Topic Expert Group to develop the quality standard statements and measures.

Hypertension in pregnancy. NICE clinical guideline 107 (2010)
Antenatal care. NICE clinical guideline 62 (2008).
Acutely ill patients in hospital. NICE clinical guideline 50 (2007).

Policy context

It is important that the quality standard is considered alongside current policy documents, including:

Department of Health (2012) Maternity services pathway payment system: a simple guide 2012–13.
Department of Health (2010) Maternity and early years: making a good start to family life.
Department of Health (2009) Healthy child programme: pregnancy and the first five years of life.
Department of Health (2009) Delivering high quality midwifery care: the priorities, opportunities and challenges for midwives.
Department of Health (2007) Maternity matters: choice, access and continuity of care in a safe service.

Definitions and data sources for the quality measures

Postnatal care. NICE clinical guideline 37 (2006).
NHS Information Centre (2011) QOF England level data tables 2010/11 – clinical domain.
Maternity Services Secondary Uses Dataset.