risk, preventable harm and negative outcomes can then be developed and communicated with providers in the antepartum, intrapartum and postpartum periods.

Our institution's Division of Obstetric Anesthesia, in conjunction with the Department of Obstetrics and Gynecology, has established an innovative high-risk antenatal care coordination program. The goal of the program is to improve patient outcomes and satisfaction, while decreasing total hospital cost, length of stay and intensive care unit admissions. We're in the process of analyzing our data and will be submitting for publication shortly, however, based on our experiences, the program has improved early identification and optimization of high-risk patients and collaboration of care amongst providers.

In order to properly manage high-risk parturients, they first need to be accurately identified and triaged. The National Institute of Child Health and Human Development (NICHD) has defined high-risk as anyone with existing health conditions, overweight or obese, multiple gestations or young or old maternal age.[1] The American Society of Anesthesiology (ASA) originally had six classifications to describe a patient's physical status, but this was later modified in 1961 to the five classifications that are used today.[2,3] Pregnancy classifies one as an ASA II patient. The physiologic changes of pregnancy can complicate and exacerbate underlying disease states dramatically, changing risk stratification and anesthetic management. Both the NICHD definition and the ASA classification system provide a broad overview of the issue but neither stratifies risk according to the severity of disease in the pregnant state or takes into account how an underlying disease affects overall morbidity and mortality and the potential for adverse outcomes. It has been noted that being pregnant also results in more inconsistencies when it comes to assigning ASA status by physicians.[4,5] In recent years, some anesthesiologists have proposed the idea of either adding 'E' or 'P' modifiers to pregnant patients.[6–8] While this method identifies the patient as pregnant, it does not stratify risk and we have yet to reach a consensus in terms of classifying and stratifying risk based on the severity of disease and risk of adverse outcome in obstetric patients. Our system of risk classification will take into account not just the comorbidities present but their severity; and how they affect functional status throughout the peripartum period. With this method, a patient with corrected uncomplicated severe congenital heart disease may be classified as at lower risk than someone with asymptomatic aortic root dilation, a condition that, although asymptomatic, has the potential for significant harm. We believe that this new system of classification will aid obstetricians and anesthesiologists to properly triage high-risk patients and arrange for further resource allocations if needed.

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Antenatal anaesthetic assessment clinics: a survey of United Kingdom practice

A survey of United Kingdom (UK) practice in 2005 showed that only 30% of obstetric units ran a regular anaesthetic pre-assessment clinic for obstetric patients. The remaining 70% saw patients only on an ad hoc basis.[1] In light of these findings, we conducted a survey to look again at the provision of antenatal anaesthetic assessment clinics in the UK, in order to establish if the provision of such a service has improved since 2005. The Obstetric Anaesthetists' Association (OAA) survey subcommittee approved this survey and it was subsequently sent via email to the lead obstetric anaesthetist in all obstetric units registered with the OAA.

Replies were received from 110 of the 191 units contacted (60%). Ninety-three percent of units who responded have an anaesthetic antenatal assessment clinic with a structured referral process. Of those that do have a clinic, over 90% utilised a referral mechanism

on a trust intranet site or a proforma completed at an antenatal clinic. Of the 7% which are without a clinic, the majority were units with fewer annual deliveries (less than 2500). The reasons for not having such a clinic in this group were evenly distributed between a lack of funding, a lack of clinical space or staff, or a workload that is too low to warrant a service. Despite there not being a dedicated clinic in these units, anaesthetic advice was often sought by midwives and obstetricians on an ad hoc basis. As one might expect, in units with higher numbers of deliveries the frequency of the clinic was highest (Fig. 1).

The provision for a consultant-led clinic was almost universal among respondents. However, in almost 25% of units teaching or training was not offered to junior anaesthetists by means of attendance at the clinic.

Respondents were asked for the most common reasons that women were referred to the anaesthetic assessment clinic. The most common was spinal deformity, trauma or previous back surgery, these being quoted as a reason for referral in over 50% of responses. This was followed by a body mass index of greater than 40, a history of previous unsuccessful neuraxial block or an anticipated difficult airway. These may be grouped together as general anaesthetic concerns. The next most common reasons for referral were more specific anaesthetic concerns, such as a haematological, cardiorespiratory or neurological disease. This group was one of the main reasons for referral for about 25% of respondents.

We noted from the survey that in a number of units, women deemed to have general complicating factors are seen by an anaesthetist who is based in the general obstetric antenatal clinic. On the other hand, those with a specific clinical problem are often seen in a dedicated multidisciplinary clinic, with involvement of obstetricians and a relevant medical physician. This arrangement was more likely to be used in units with higher numbers of deliveries.

A key consideration for many of these conditions leading to referral is that they rarely occur alone. In the case of cardiovascular disease, it may be complicated by hypertension, obesity, diabetes and/or smoking. This increasingly complex set of co-morbidities poses an anaesthetic challenge. Consequently, in our now enhanced role as peri-obstetric physicians, alongside our midwifery and obstetric colleagues we may have an increasing part to play in the planning of safe maternal care. The survey findings suggest such an idea is gaining traction in the UK. They also highlight the benefit of early involvement in maternal care, as advised by the Guidelines for the Provision of Anaesthesia Services for an Obstetric Population, published by the Royal College of Anaesthetists in 2018.[2] We are increasingly aware that a woman's health may change during pregnancy and that capturing a baseline level of morbidity will help with the shared decision-making that may be required later.

There has been a significant increase in the availability of antenatal anaesthetic assessment clinics in the UK in the past decade and the process by which women are referred has become more formal. In most units, dedicated clinical space and consultant sessions are allocated to provide the service. Anaesthetists are seeing a wide variety of cases in these clinics and we suggest future studies aim to establish whether these clinics contribute to improving morbidity and mortality statistics, as well as improving the woman's anaesthetic experience. Further efforts could be made to improve trainee atten-
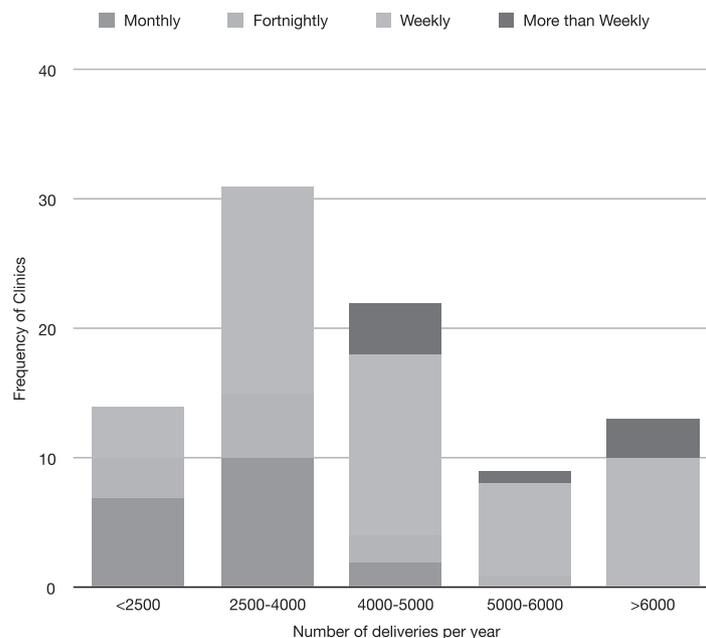

Fig. 1

dance and participation to the clinics, as they offer excellent training opportunities.

Declarations of interest

None.

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