Obstetric medical care and training in the United Kingdom

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Abstract

The UK confidential enquiry into maternal deaths identified poor management of medical problems in pregnancy to be a contributory factor to a large proportion of indirect maternal deaths. Maternal (obstetric) medicine is an exciting subspecialty that encompasses caring for both women with pre-existing medical conditions who become pregnant, as well as those who develop medical conditions in pregnancy. Obstetrics and gynaecology trainees have some exposure to maternal medicine through their core curriculum and can then complete an advanced training skills module, subspecialise in maternal–fetal medicine or take time out to complete the Royal College of Physicians membership examination. Physician training has limited exposure to medical problems in pregnancy and has therefore prompted expansion of the obstetric physician role to ensure physicians with adequate expertise attend joint physician–obstetrician clinics. This article describes the role of an obstetric physician in the UK and the different career pathways available to physicians and obstetricians interested in maternal medicine.

Keywords

Maternal–fetal medicine, maternal medicine, maternal mortality, obstetric physician

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Introduction

In the UK, the terms ‘maternal medicine’ and ‘obstetric medicine’ can be used interchangeably, although the former is used most often by obstetricians and the latter by physicians who focus on medical problems in pregnancy. Maternal (obstetric) medicine is an exciting and expanding subspecialty that encompasses caring for both women with pre-existing medical conditions who become pregnant, as well as those who develop medical conditions in pregnancy. Maternal medicine strengthens and brings together the expertise of general and specialist physicians with that of obstetricians and midwives.

The last two UK confidential enquiries into maternal deaths (CEMDs)^{1,2} identified poor management of medical problems in pregnancy as a contributory factor in 30–40% of indirect maternal deaths^{1,2} (those related to medical or psychiatric diseases either pre-dating or developing during pregnancy). Overall, indirect deaths represented 68% of the total number of maternal deaths in the UK. No significant decrease in the number of indirect deaths was observed, in stark contrast to ongoing falls in direct maternal death (i.e. death due to the direct consequences of a disorder specific to pregnancy, labour, delivery, and the postpartum period, such as haemorrhage, sepsis and hypertensive disorders). This coincided with improved training in obstetric emergencies (such as eclampsia and massive obstetric haemorrhage) and high-quality guidelines, including those for sepsis that advocate prompt parenteral antibiotics, infection source control, and removal of placenta/retained products),^{3,4} and those for thromboprophylaxis.⁵

The CEMD has recommended that women with pre-existing medical and mental health problems receive pre-conception counselling, preferably with access to a coordinated multidisciplinary obstetric and medical clinic to improve communication between specialists and the quality and safety of care, aimed at modifying treatment before and during pregnancy.

Physicians training in the UK have limited exposure to medical problems in pregnancy and this has therefore prompted demands for some expansion of the obstetric physician role. This will ensure physicians with adequate expertise are available to attend the joint physician–obstetrician clinics and provide an inpatient liaison service. High-level actions led by the Royal Colleges and training programme directors are needed to ensure that sufficient physicians are

appropriately trained in, and engaged with, the care of pregnant women. As with the expansion of obstetric anaesthesia that was associated with an overall decrease in the number of anaesthesia-related maternal incidents, the same is expected for indirect maternal deaths with the expansion of maternal (obstetric) medicine.⁶ This article aims to describe the role of an obstetric physician in the UK and the different career pathways available to physicians and obstetricians interested in maternal medicine.

Maternity care in the United Kingdom

Obstetric care within the UK is primarily delivered through midwifery-led services, general practitioners and obstetricians. In low-risk pregnancies, midwives act as the coordinating professional, with support from general practitioners. The majority of pregnant women may never see or be examined by a medical practitioner. This has been further encouraged by the Department of Health by increasing the number of midwives and midwifery-led units. However, current midwifery staffing numbers continue to challenge service provision (for both low-risk and medically complicated pregnancies) in many parts of the UK. The actual numbers of national specialist midwives is not available, as they are provided locally and dependent on local service priorities.

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Specialist midwives in maternal medicine are usually highly trained nurses who are also trained as midwives. Although there is no formal training available, informal on-the-job experience is acquired by interested (usually senior) midwives by working locally within the Maternal Medicine Team. Also, they may undertake additional training such as non-medical prescribing (NMP) offered by the Higher Education Institute; although this course is normally reserved for nurse practitioners, there are about 40 NMP midwives nationally. Finally, interested midwives are encouraged to undertake advanced clinical reasoning and physical assessment training (30 credits). Training for midwives is evolving and requires investment and promotion. Currently, there is only one consultant specialist midwife in maternal medicine in the UK (London).

Obstetricians usually lead and manage high-risk and complex pregnancies often with close working relationships with other specialties. More frequently, combined obstetric and medical specialty clinics are offered to meet individual needs in higher volume areas, such as cardiology, diabetes, haematology, renal and neurology.

Internal medicine and obstetric medicine training

There is currently no official UK training programme for physicians wishing to become specialists in obstetric medicine. There are fewer than 10 obstetric physicians in the UK, and they are mostly based in London and Oxford. These doctors have not followed a standardised career pathway and have built up experience over time in obstetric medicine, proactively developing inpatient (obstetric medicine ward rounds) and outpatient (obstetric medicine and joint physician-obstetrician clinics) services. Their backgrounds vary considerably, ranging from endocrinologists, nephrologists and acute physicians.

All medical graduates must complete two years of foundation training (FY1-2) to gain a broad experience with a variety of different specialties and achieve full registration with the General Medical Council. Trainees then choose, for the next three to eight years, a broad specialty-training route, such as medicine, surgery, general practice or another broad specialty such as obstetrics & gynaecology, psychiatry or radiology. Medical training has a generalised two-year core medical training programme (CT1-2) before a medical subspecialty is chosen, i.e. specialist trainee (ST 3-7). The end result is a certificate of completion of training (CCT) in the chosen medical specialty as well as general internal medicine, and the doctor can then apply for a consultant post.

Obstetric medicine training can take one of a number of forms. First, some deaneries offer a one-year out-of-programme experience in obstetric medicine. This allows the trainee to obtain vital exposure and experience dealing with medical problems in pregnancy in both the in- and outpatient settings. Alternatively, obstetric medicine can be integrated into acute internal medicine, if this is the subspecialty chosen. In the UK, acute internal medicine focuses on the 72 h following assessment, diagnosis and management of adults presenting with acute medical illnesses to secondary care. All acute internal medicine trainees must develop a specialist skill in addition to their broad understanding of the management of acute medical presentations. That skill can be obstetric medicine. Trainees who are ST4+ can apply for the 'Obstetric Medicine Specialist Skill', which is currently offered in London and Oxford. This follows an obstetric medicine curriculum through work-based assessments for a minimum of six months. This time in obstetric medicine can count towards overall training but permission to be released from training must be sought from the training programme director at the deanery. As a third, inferior alternative, trainees who have chosen a medical specialty other than acute internal medicine can gain exposure in managing pregnant women with associated medical conditions within their specialty in an outpatient setting. However, exposure is usually limited, varies significantly between hospitals and is normally reserved for senior trainees.

Newly appointed consultants who require new or further maternal medicine experience to support service needs may find this a challenge.

They may apply for post-CCT clinical fellowships in obstetric medicine but funding for such posts is not currently secure. This is different from the fellowship that the medical trainees can apply to do through their deanery.

Obstetrics and gynaecology and maternal medicine training

A doctor choosing training in obstetrics and gynaecology can enter a seven-year run-through programme after foundation training. This is made up of basic (ST1-2), intermediate (ST3-5) and advanced (ST6-7) training before a CCT is awarded. Trainees do not formally rotate through maternal medicine and historically surgical experience was considered more useful. There is, however a degree of basic maternal medicine training within core obstetric training at ST1-5, typically from the obstetric (not medical) viewpoint. Trainees are expected to cover all topics within a systemic review, but they are not expected to be competent to work independently. They are expected to achieve level 1 competency (observation/exposure) in most areas and level 3 (independent practice) in a limited number such as in the hypertensive disorders of pregnancy. It is expected that the obstetrician will work alongside the medical specialist/obstetric physician to manage patients with medical disorders in pregnancy.

Obstetric trainees wishing to work in maternal medicine have a few options.

First, they can complete the Advanced Training Skill Module (ATSM) in maternal medicine during the last two years of their training (i.e. ST6/ST7). There are currently 20 ATSMs; five obstetric (including maternal medicine), 14 gynaecology and one medical education. Two ATSMs must be completed alongside their obstetrics and gynaecology training prior to gaining a CCT. Trainees must register their interest in the ATSM with the Royal College of Obstetricians and Gynaecologists (RCOG) by completing the appropriate forms, and the process includes finding a preceptor (either an obstetric physician and/or an experienced obstetrician/maternal medicine practitioner) who will supervise their training and sign-off on its completion. The trainee will then have 12–24 months to complete the ATSM. The maternal medicine ATSM is comprehensive, covering all medical systems divided into 53 competencies. Only 14 competencies must be completed at level 3 (individual practice) level: the hypertensive disorders (N=6 competencies), diabetes (N=4), pyelonephritis (N=1), obstetric cholestasis (N=1) and dermatologic disorders (N=2). Also, the trainee is expected to attend relevant medical specialist clinics, be competent in history and physical examination, and have had exposure to obstetric anaesthesia, the intensive care unit and investigation suites (such as in cardiology). Figures from the RCOG suggest that around 5–7% of eligible trainees apply for the maternal medicine ATSM.

The exposure obtained as part of the ATSM is varied, depending on the institution, preceptor and timetabling. As a result, many trainees completing this module are not competent or confident to function as independent maternal medicine specialists. Hence, the maternal medicine ATSM via the RCOG does not provide a certified maternal medicine obstetrician. In addition, while there are mandatory continuing medical education and continuing professional development mandates for revalidation post-CCT, particularly in the area of practice, there are no such requirements for ATSMs.

Another option is a fellowship alongside an obstetric physician or experienced maternal medicine obstetrician. However, these posts are few in number, with opportunities primarily available in London. They are usually reserved for medical trainees who wish to become obstetric physicians.

Another option for formal training is subspecialisation in Maternal-Fetal Medicine (MFM). These training posts are limited in number (about 20) and highly competitive. As many MFM consultants practice predominantly fetal (rather than maternal) medicine, particularly in academic centres, trainees committed to maternal medicine may choose a third option – completion of the Royal College of

Physicians (RCP) membership examination (MRCP diploma), which is required by core *medical* trainees prior to ST3 training. This diploma gives the trainee useful grounding in general medicine on which to build expertise in medical problems in pregnancy.⁷ This can be obtained through completion of two years of core *medical* training. Although it can also be achieved through self-directed learning, this is difficult given the time commitment and lack of exposure to general medical patients. Neither of these two alternative routes are easily undertaken or easy to achieve given the current emphasis on acute labour ward service provision.

Informal training may be obtained through attendance at maternal/obstetric medicine conferences offered by the RCOG, RCP, London Universities and maternal medicine societies (MacDonald UK Obstetric Medicine Society and International Society of Obstetric Medicine). In addition, a London Obstetric Medicine Group has been running for around 20 years. Members meet monthly to discuss interesting obstetric medicine cases and disseminate learning points. The meetings are attended by both junior and senior obstetricians, physicians, anaesthetists, midwives and other allied health professionals. To our knowledge, there are no other regular formal multidisciplinary group meetings within the UK regarding obstetric medicine. In addition to helping core medical trainees access basic education in obstetric medicine, an e-learning module has been developed which is free to access for anyone with an NHS email account <http://www.e-lfh.org.uk/programmes/medical-problems-in-pregnancy/>. This e-learning has been available since 2014, and there have been more than 1000 registered users per quarter with 150 active users and 300 completed sessions per quarter. Feedback has been very positive. It is hard to judge the impact of this e-learning, but anecdotally, junior physician trainees have described feeling more confident in dealing with medical problems in pregnancy and the module gives users some basic insight into the specialty of obstetric medicine.

Job prospects

At present, obstetric physicians are employed primarily by larger obstetric units. These individuals are responsible for conducting out-patient clinics and inpatient ward rounds. It has been estimated that approximately 10,000 deliveries per year are needed to support a full-time obstetric physician.^{8,9} As this number of births is larger than any single unit in the UK, it is not surprising that some obstetric physicians have alternative jobs splitting their time between clinical posts and academic/research posts, or between different types of clinical posts, such as obstetric medicine and acute medicine, or diabetes and endocrinology, with the doctor participating in the acute medicine on-call rota. Given the current financial position in the UK NHS, it is likely that this trend will continue.

The future in the United Kingdom

It is unlikely that obstetric medicine will become a recognised medical specialty or subspecialty in the foreseeable future, despite the best efforts of practitioners in the area. However, there is a growing recognition in the UK by both obstetricians and physicians that training in the care of medical problems before and in pregnancy/postpartum must improve if we are to make a favourable impact on the indirect causes of maternal mortality and morbidity.⁶

What are urgently needed are: (i) the creation of more specialist obstetric physician training posts, (ii) a hub for advice in each region and (iii) upskilling of the entire medical and obstetric workforce in the care of acute and chronic medical problems in pregnancy. Importantly and especially with local service provision variations, it is likely that all of these steps will be required in parallel with efforts to strengthen links within medical specialists and between medicine and obstetrics.

Options include the rotation of physician trainees through an obstetric medicine service as part of their training, and rotation of obstetric trainees through general medicine as part of their training. As midwives also provide an important part of medically complicated care, they too will need to be included in any clinical upskilling of care.

In conclusion, there is a real challenge for the care of women with medically complicated pregnancies. This challenge needs to be addressed at the high-level service and training levels, the latter requiring new ways of thinking for obstetricians, physicians and allied staff. If we are to make real progress in reducing maternal deaths and medically related morbidity in the UK, urgent action is needed.

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References

1. Knight M, Kenyon S, Brocklehurst P, et al. *Saving lives, improving mothers' care – lessons learned to inform future maternity care from the UK and Ireland confidential enquiries into maternal deaths and morbidity 2009–12*. Oxford: National Perinatal Epidemiology Unit, University of Oxford, 2014.
2. Knight M, Tuffnell D, Kenyon S, et al. *Saving lives, improving mothers' care – lessons learned to inform future maternity care from the UK and Ireland confidential enquiries into maternal deaths and morbidity 2009–13*. Oxford: National Perinatal Epidemiology Unit, University of Oxford, 2015.
3. Royal College of Obstetricians and Gynaecologists. *Bacterial sepsis in pregnancy*. Green-top Guideline No. 64a. London, UK: RCOG, 2012.
4. National Institute for Health and Care Excellence. *Intrapartum care for healthy women and babies*. Clinical guideline [CG190]. London: NICE, 2014.
5. Royal College of Obstetricians and Gynaecologists. *Reducing the risk of venous thromboembolism during pregnancy and the puerperium*. Green-top Guideline No. 37a. London, UK: RCOG, 2015.
6. Nelson-Piercy C, Mackillop L, Williams DJ, et al. Maternal mortality in the UK and the need for obstetric physicians. *BMJ* 2011; 343: d4993.
7. Kenyon AP and Nelson-Piercy C. Careers in maternal medicine. *BMJ Careers* 2002; 9 February.
8. Nelson-Piercy C. Obstetric medicine training: picking up where the licentiate in midwifery left off. *Clin Med (Lond)* 2002; 2: 119–121.
9. Nelson-Piercy C, Peek MJ and de Swiet M. Obstetric physicians: are they needed? The workload of a medical complications in pregnancy clinic. *J R Coll Physicians Lond* 1996; 30: 150–154.