A review of the structure and training pathways for obstetric medicine physicians in Australia and New Zealand

Irena Idel¹, Suet-Wan Choy^{1,2}, Catherine Marnoch³ and Lawrence P McMahon¹

Abstract

In recent decades, women with significant medical conditions have increasingly chosen to become pregnant. This has broadened and intensified the interface between obstetrics and internal medicine, a collaboration which has always needed cooperation but which increasingly demands open discussion and planning to ensure optimal outcomes for mother and fetus. The aims of this article are to describe the state of obstetric medicine practice in Australia and New Zealand, including its history and development, the training and education curriculum, organisation of its service delivery, and potential opportunities for research and collaboration.

Keywords

Maternity services, obstetric medicine, education, training

Date received: 30 May 2017; accepted: 23 August 2017

Maternity care in Australia and New Zealand

Australia

Maternity care in Australia has many management streams and, in some circumstances, provides women with several pathway choices.

Public hospital-based care is funded by the national Medicare programme which is supported by a direct levy on all tax payers and is delivered at no direct cost to the consumer. Pregnancy care is provided by a range of doctors, including obstetricians, general practitioners (GPs, also known as family physicians) and maternal-fetal medicine subspecialists, as well as midwives and clinical midwife consultants specialising in particular areas, such as mental illness. Depending on their particular health care network, women may be able to choose whether their care is provided by doctors or midwives, and may also have an option to work with a small group or a specific midwife throughout pregnancy and delivery. This model was utilized by 73% of the 307,844 women who gave birth in Australia in 2014, and comprised approximately 4% of all public hospital admissions.^{1,2} Private (non-government) care is partly covered by private insurance but usually carries direct costs to the consumer. Its advantage is that women may choose a specific obstetrician or group practice of obstetricians, or a specific midwife to provide antenatal care and accompany the woman through her delivery at the chosen hospital. This model was utilized by 27% of women who gave birth in Australia in 2014, and comprised almost 2% of all private hospital admissions.^{1,2}

GPs with specific maternity training (Diploma of Obstetrics) also provide antenatal care. This may be shared with a public hospital-based programme, which the woman would then attend for delivery, or the GP may deliver the woman themselves – an option more common in regional, rural and remote areas.

A small proportion of women elect to have a home birth. These women are usually encouraged to also book in at a hospital and to have a back-up plan for delivery.

When pregnancy becomes medically complicated either by maternal or fetal problems, care will be escalated to an obstetrician or a maternal-fetal medicine subspecialist with additional procedural or diagnostic qualifications, sometimes with input from a physician with experience in obstetric medicine.

In tertiary centres, or secondary and regional hospitals where obstetric medical care is established, women with medical disorders during and after the pregnancy are cared for by a multidisciplinary team including obstetricians and obstetric medicine physicians who are usually also trained in another primary sub-specialty. In private hospitals without a formal obstetric medicine service, medical problems in the expectant or post-partum woman not within the individual scope of expertise of the managing obstetrician are usually referred to a general or subspecialist physician.

The number of annual deliveries across Australia rose by 18% between 2004 and 2014. The number of complicated pregnancies rose similarly due to such factors as increasing maternal age (29.7 years in 2004 versus 30.2 years in 2014, with the percentage of women aged over 35 years who gave birth increasing from 20% in 2004 to 22% in 2014).² Greater reliance on assisted reproductive technologies (ART) has also likely contributed to pregnancy-related complications. In 2014, 12,875 babies were born from ART-assisted pregnancies (2.4% more than in 2013), of which 78% were born at term with a normal birth weight.³ Other contributing factors include maternal obesity (46% of pregnant women had a BMI ≥ 25 in 2014)⁴ and general maternal health, with chronic hypertension and pre-existing diabetes each present in approximately 1% of deliveries in 2014.

New Zealand

Maternity care in New Zealand is divided into primary, secondary and tertiary services depending on the complexity of care required.⁵

¹Department of Renal and Obstetric Medicine, Eastern Health Clinical School, Monash University, Box Hill, Victoria, Australia

²Mercy Hospital for Women, Heidelberg, Victoria, Australia

³Obstetric Medicine Service, National Women's Health, Auckland District Health Board, Grafton, Auckland, New Zealand

Corresponding author:

Lawrence P McMahon, Department of Renal and Obstetric Medicine, Eastern Health Clinical School, Monash University, Box Hill, Victoria 3128, Australia.

Email: Lawrence.mcmahon@monash.edu

Maternity care is publically funded for eligible women at all levels, although for some services a co-payment is required. Private services also co-exist. Most maternity services are primary services delivered in the community by a lead maternity carer who will provide continuity of care throughout the pregnancy and post-natal period.⁵ A pregnant woman may choose her lead maternity carer, most of whom are midwives (81.6% of pregnancies in 2012). Relatively few women choose a private obstetrician or a GP with maternity training as their lead maternity carer (5.5% and 1.1% of pregnancies respectively).⁵ A woman may also choose one of 20 regional District Health Boards (DHBs) as their lead maternity carer, in which case primary maternity care is provided by a mixture of midwives and obstetricians (about 10% of pregnancies).⁵ Most women deliver in a secondary or tertiary level maternity facility, with a smaller number in a primary birthing unit or at home.

If risk factors or obstetric complications develop, as occurs in approximately 30% of pregnancies, the lead maternity carer will refer the woman to secondary or tertiary level services, following rigorous referral guidelines.⁶ In such situations, they may still stay involved in the woman's care. Secondary maternity services are provided by each of the 20 DHBs, by obstetricians and DHB-employed midwives plus specialist adjunct services. Six DHBs provide the tertiary maternity services for care of women with high-risk pregnancies by specialised multidisciplinary teams. In two DHBs the teams include maternal-fetal medicine (MFM) subspecialists.⁵

Women with medical complications during pregnancy are either looked after by their GP in primary care or are referred by maternity care providers, their GPs or emergency department doctors. Most often this is to general medicine or other sub-specialty medical services in secondary and tertiary DHBs for outpatient or inpatient consultation. In some centres, internal medical specialists with an interest or specific training in obstetric medicine (i.e. obstetric medicine physicians) will provide this care.

History of obstetric medicine in Australia and New Zealand

Obstetric medicine has been practised in Australia and New Zealand for over 30 years. There are over 50 obstetric medicine physicians in Australia and New Zealand on current estimates. Founding obstetric medicine physicians developed local and international experience in obstetric medicine after training as specialist physicians in general medicine or sub-specialties including endocrinology, nephrology, haematology and cardiology. Some also gained qualifications in obstetrics and gynaecology. Subsequently, these pioneers have together expanded clinical practice, research and education in obstetric medicine by creating registrar training positions, initiating work on an obstetric medicine curriculum, and founding the Obstetric Medicine Group of Australasia in 1992 – which merged in 2004 with the Australasian Society for the Study of Hypertension in Pregnancy to become the Society of Obstetric Medicine of Australia and New Zealand (SOMANZ). SOMANZ is a multidisciplinary society comprising physicians, obstetricians, midwives, anaesthetists, pharmacists, neonatologists and other craft groups. It is a mix which enables local and international collaboration to advance clinical and scientific knowledge of hypertensive diseases and medical disorders in pregnancy.

Internal medicine and obstetric medicine training

Upon the completion of undergraduate training, doctors in Australia and New Zealand work in a closely supervised capacity in a public hospital, known as the intern year. Thereafter, they may choose a training path, one of which may be physician (internist) training. Basic physician trainees undergo 36 months of full-time training or its equivalent in adult internal medicine and must be employed at an

accredited hospital or health service and receive training approval from the Royal Australasian College of Physicians (RACP) local representative: the site (or network) director of physician education. Training includes experience in general medicine and some sub-specialties (core and non-core rotations). During the third year of training, basic physician trainees sit a rigorous written and then clinical exam set by the RACP. Successful trainees may apply for advanced physician training in a sub-specialty of their choice, which can include general medicine or any of the internal medicine sub-specialties. Advanced physician trainees can also dual train in two sub-specialties, e.g. general medicine and endocrinology, a route which has become more popular recently because of the competitive selection process. Advanced physician training usually involves a further 36 months (full-time clinical training) under supervision by the RACP Advanced Training Committee for their sub-specialty. Dual training often requires four years to accommodate the requirements of both general and sub-specialty courses. There is an advanced training committee for each sub-specialty, including General and Acute Care Medicine. Advanced physician training assessments are formative, signed off by the trainee's advanced training committee, and include completion of at least one research project. Further research, such as a PhD, is then encouraged in most sub-specialties, particularly if seeking employment in tertiary-level academic centres.

Progressively since 1992, tertiary hospitals in Australia and New Zealand have offered four to six months' optional advanced training rotations in obstetric medicine, usually completed as part of general medicine sub-specialty training. After completing sub-specialty or general medicine training, many physicians interested in obstetric medicine have then completed post-fellowship training in obstetric medicine at overseas sites, including particularly the United Kingdom, the United States of America and Canada. More formalised obstetric medicine training in Australia and New Zealand has been developed in the last five years.

SOMANZ Obstetric Medicine Certificate

Obstetric medicine is not currently recognised as a sub-specialty by the medical registration boards in Australia or New Zealand, or by the RACP. However, since 2013, through a formal relationship with the RACP, obstetric medicine trainees must apply prospectively to the College to accredit their advanced training and concurrently to SOMANZ for their obstetric medicine training. Six months of their 12-month obstetric medicine rotation can be accredited towards core training in general medicine and six months as non-core training. For some sub-specialties, the full 12 months may be credited as a non-core training year. An advanced physician trainee who successfully completes the training criteria preset by SOMANZ (including completion of the 12 months' obstetric medicine training at an accredited training site, submission of a research project on an obstetric medicine topic, and attendance at a scientific meeting relevant to obstetric medicine), is granted the Obstetric Medicine Certificate by SOMANZ. The certificate is issued in recognition of the trainee's completion of SOMANZ-recommended training and not as a separate qualification, although they are recognised as obstetric medicine physicians once their advanced physician training is completed. To date, SOMANZ has issued the certificate to four trainees, with at least another four due for completion of training in 2017.

Obstetric medicine training is supported by the curriculum document, *Recommended training experiences for advanced trainees with an interest in obstetric medicine*⁷ adapted from prior obstetric medicine curriculum work developed by physician/internist members of SOMANZ and the International Society of Obstetric Medicine (ISOM). This document guides relevant knowledge in various areas and outlines requisite personal and professional qualities relevant to obstetric medicine training.

In order to obtain SOMANZ accreditation for obstetric medicine training, sites must have fulfilled both site (number of deliveries,

infrastructure, the range of problems managed, and the number and nature of relevant specialist clinics) and supervisor requirements. Obstetric medicine training sites are accredited by the General Medicine Advanced Training Committee of the RACP after recommendations from SOMANZ Council. Supervisors are Fellows of the RACP in adult medicine and are accredited as advanced trainee supervisors by the RACP. At least one of two supervisors must be practising general obstetric medicine. Sites and supervisors must be able to provide adequate experience and supervision to trainees in both inpatient and outpatient settings. Currently, there are eight sites in Australia and one in New Zealand accredited for the full 12 months' training for the Obstetric Medicine Certificate, and four sites in Australia accredited for six months' training.

Grand-parenting of the Obstetric Medicine Certificate

Acknowledging that the obstetric medicine trainees need supervisors and that there is already an established workforce of obstetric medicine physicians in Australia and New Zealand, SOMANZ is preparing to issue the Obstetric Medicine Certificate to physicians experienced in obstetric medicine prior to 2013. This will also serve to identify a group of suitably experienced physicians who can be called upon by obstetricians or other medical practitioners to provide appropriate medical care to their maternity patients. The application process for this grand-parenting of the Obstetric Medicine Certificate commenced in 2017 for a three-year period. Applicants are assessed based on weighted scoring criteria developed by a working group of the SOMANZ Council in consultation with educators and senior obstetric medicine physicians. Scoring aligns with and reflects compulsory clinical practice criteria and supplemental criteria from training, research and academic activities, leadership and educational contributions to obstetric medicine. As with the current training process, this is a certificate issued by SOMANZ in recognition of contributions to obstetric medicine, and not a qualification recognised by the RACP or medical registration boards. In 2017 there will be 36 successful applicants, with others able to apply in the next two years.

Job prospects

Obstetric medicine continues to play a more active role in Australia and New Zealand with an increasing number of hospitals recognising the need for obstetric medicine services. However, funding for both positions and training opportunities are often limiting factors. The respective state governments fund most obstetric medicine training jobs as part of RACP general medicine or sub-specialty training. There are two sites in Australia currently accredited for training in obstetric medicine but without funded training positions. Most obstetric medicine physicians combine work in obstetric medicine with general medicine or another sub-specialty. Some will also combine administrative and academic roles to create full-time positions. Departments of general medicine or other medical sub-specialties usually employ most obstetric medicine physicians and liaise with the obstetric departments for the nature of services required. One obstetric unit in New Zealand directly employs obstetric medicine physicians, as part of their tertiary maternity service.

Obstetric medicine models of care

Similar to the Canadian general obstetric medicine model of care,⁴ a referral to an obstetric medicine physician is received from maternity care providers, GPs or emergency departments. The physician, alongside obstetric colleagues, will review and co-ordinate care for a woman with medical problems in pregnancy. This model is most common in Australia and in New Zealand at DHBs where obstetric medicine

physicians are employed. The direct-to-subspecialist model,⁴ with referrals made from the maternity carer direct to the relevant subspecialist, is utilised more at centres with few or no obstetric medicine physicians, such as regional centres and in private practice. There are few such physicians who practise in outpatient private obstetric medicine practice in New Zealand.

In Australia, some private hospitals with tertiary maternity services employ obstetric medicine physicians who also practise privately (non-government-funded institutions). Unlike Canada, obstetric medicine physicians in Australia practise at both secondary and tertiary maternity care facilities, and most tertiary and some secondary maternity care facilities specifically employ obstetric medicine physicians. By contrast, nearly half the DHBs in New Zealand (9/20) employ obstetric medicine physicians, who provide both inpatient and outpatient services.

The extent to which obstetric medicine physicians may participate in co-located clinics with the obstetric teams and share the inpatient consultation roster with other general physicians depends on the number of obstetric medicine physicians at each site. Usually, if there are at least 2–3 obstetric medicine physicians employed at one site then a more comprehensive service can develop. In most of Australia's and half (3/6) of New Zealand's tertiary maternity services obstetric medicine physicians are an integral part of the specialised multidisciplinary team, which also includes obstetricians and MFM subspecialists, obstetric anaesthetists, MFM midwives, radiologists, neonatal services – and where available, genetic services and relevant medical or surgical subspecialists. Currently in New Zealand, there are approximately 20 obstetricians with either formal training in maternal fetal medicine, a Diploma of Diagnostic Ultrasonography, or who identify a developed interest in managing high-risk pregnancies. About the same number of physicians identify themselves as working in obstetric medicine. In general, MFM subspecialists and obstetric medicine physicians work cooperatively rather than in competition. There are nine DHBs in NZ with secondary obstetric units where maternal medical problems are managed by obstetricians and general physicians (or subspecialists) without MFM or obstetric medicine physician input. In Australia, there are over 30 obstetric medicine physicians working cooperatively with the highest qualified obstetric care providers at tertiary, secondary and private obstetric units, some of which employ obstetricians with formal MFM or diagnostic ultrasonographic qualifications, while others have obstetricians with expertise and interest in managing high-risk pregnancies but no additional formal qualifications.

Depending both on the institution and available resources, obstetric medicine physicians practise a full range of obstetric medicine: acute and chronic conditions, medical problems pre-dating pregnancy or developing in pregnancy, pre-conception counselling and subsequent care throughout pregnancy, and post-natal follow up before returning the woman to her primary physician, GP, or usual medical subspecialist.

Research and collaboration

Obstetric medicine is a growing field with a diverse range of clinicians and researchers who have an interest in the care of pregnant women with underlying medical disorders. There is a great need for research to improve the care of patients whose pregnancies are complicated by medical illness. Within Australia and New Zealand, internationally recognised experts contribute substantially to the growing body of knowledge that informs practice. Leading experts currently participate in multi-national research endeavours and collaborations in a growing number of medical disorders. The extent to which each health service engages in research is largely bounded by public health interest and limitations of funding.

Current research funding is primarily sought from the highly competitive National Health Medical Research Council (NHMRC) or from grants obtained through professional bodies, which may be in

partnership with the pharmaceutical industry. SOMANZ offers an AUD\$10,000 research grant to its members every two years to encourage research in the field of obstetric medicine. These grants are funded directly by the Society and are designed to fund either clinical or basic science research projects, including pilot studies. These research findings are then presented at the Annual SOMANZ Scientific Meeting within 1–2 years of receiving the award.

There are ongoing collaborative partnerships with professional colleges and other national and international bodies. These include the Australasian Maternity Outcomes Surveillance System (AMOSS), the Royal Australia and New Zealand College of Obstetrics and Gynaecology (RANZCOG), ISOM, the Australian and New Zealand Society of Nephrology (ANZSN) and the Australasian Diabetes In Pregnancy Society (ADIPS), all of which play a role in shaping the development of obstetric medicine in Australia and New Zealand. These continued partnerships and funding initiatives support surveillance and research of selected maternal conditions that reflect public health priorities.

These are exciting times requiring the ability to recognise diverse links and research options in order to better inform risk factors, diagnosis, management and outcomes. Ultimately, established findings will support translation of these findings into policy, clinical guidelines and education resources and enable promotion of excellence in the care of medical illness in pregnancy.

The future of obstetric medicine in Australia and New Zealand

As more women with medical co-morbidities choose to be pregnant the number of obstetric medicine physicians will likely increase and obstetric medicine services, will continue to develop in multidisciplinary environments. Such changes will help define and characterise the boundaries of obstetric medicine, thus strengthening its claim for recognition as a distinct sub-specialty both by the RACP and by the medical registration boards in Australia and New Zealand.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

Guarantor

LPM.

Contributorship

II and SWC contributed details and commentary pertaining to Australian training and CM for New Zealand training. LPM devised the overall manuscript plan and collated comments and contributions. All authors contributed editorial comments and changes.

References

1. Australian Institute of Health and Welfare 2016. *Australia's hospitals 2014–15 at a glance. Health services series no. 70.* Cat.no.HSE 175. Canberra: AIHW.
2. Australian Institute of Health and Welfare 2016. *Australia's mothers and babies 2014 – in brief. Perinatal statistics series no. 32.* Cat no. PER 87. Canberra: AIHW.
3. Harris K, Fitzgerald O, Paul RC, et al. *Assisted reproductive technology in Australia and New Zealand 2014.* Sydney: National Perinatal Epidemiology and Statistics Unit, the University of New South Wales, 2016.
4. Magee LA, Cote A, Joseph G, et al. Obstetric medical care in Canada. *Obstetric Medicine* 2016; 9: 117–119.
5. Ministry of Health. *Report on maternity, 2012.* Wellington: Ministry of Health, 2015.
6. Ministry of Health. *Guidelines for consultation with obstetric and related medical services (referral guidelines).* Wellington: Ministry of Health, 2012.
7. RACP. *Specialist Advisory Committee in general and acute care medicine: Recommended training experiences for advanced trainees with an interest in obstetric medicine.* Available at: <https://www.racp.edu.au/trainees/advanced-training/advanced-training-programs/general-and-acute-care-medicine> (accessed 26 May 2017).