☆ Are Queensland's new GP obstetricians going where they are needed?

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Abstract

Aims: To report on a comparison of the workforce distribution of obstetrically skilled graduates of the Queensland Rural Generalist Pathway (QRGP) and the birthing numbers in rural and remote Queensland

Methods: The Queensland Rural Generalist Program obstetrically trained graduates' destinations were mapped and compared with District of Workforce Shortage designations, Australian Standard Geographical Classification - Remoteness Area (ASGC-RA), and finally with the 2013 birth numbers in the Statistical Area Level 2 (SA2s) which drain to that hospital. Analysis was performed to determine if the newly qualified Rural Generalist Obstetricians were commencing work where they were needed as determined by these parameters.

Relevance: The QRGP aims to provide medical graduates with a supported training pathway to a career in rural medicine; and rural and remote communities with a skilled medical workforce. It is important to evaluate whether the skilled medical workforce is working in the areas where there is greatest need for their skills.

Results: Early indications are that newly qualified Rural Generalist Obstetricians are working in areas of need with some regional variation

Conclusions: The QRGP is providing Rural Generalist Obstetricians to areas of need. Further work is needed to refine incentives and supports to direct new Rural Generalist Obstetricians to the areas where they are most needed.

Background

In August 2005 a meeting of key stakeholders in Roma Queensland proposed what was to become the Rural Generalist Pathway (QRGP). The concept was for a supported training pathway to a generalist rural medical career which had specialist level remuneration. Rural Generalist Medicine was recognised by Queensland as a generalist discipline in May 2008, with the *Medical Officers' (Queensland Health) Certified Agreement (No.1) 2005.* The QRGP was formed with the aim to provide medical graduates with a supported training pathway and rural and remote communities with a skilled medical workforce. The first intake to the program occurred in 2007. In 2015 graduates of the QRGP are now working in Queensland rural and remote hospitals. It is timely to consider the degree to which the program is meeting its objectives.

In the Roma agreement it was recognised that a Rural Generalist should be skilled in least one specialist medical discipline (usually but not necessarily limited to obstetrics, anaesthetics and surgery). This paper examines the destination of QRGP graduates with obstetric as their specialist skill. The certification of this skill is the Diploma of the Royal Australian and New Zealand College of Obstetricians and Gynaecologists advanced (DRANZCOG adv).

Methodology

The workplace of Rural Generalists with advanced skills in obstetrics certified by DRANZCOG adv. qualification was identified in the Queensland Rural Generalist Pathway dataset. The qualities of these hospitals were then identified with respect to District of Workforce Shortage (DWS) designations, Australian Standard Geographical Classification - Remoteness Area (ASGC-RA) classification and the Queensland Maternal and Perinatal Quality Council (QMPQC) maternity service group classification. Then a judgement was made by the researcher on which Statistical Area Level 2s (SA2s) were most likely to supply those hospitals with patients. This decision was informed by locality, geographical boundaries such as mountain ranges and rivers, the path of highways and in some cases after discussion with doctors working in those hospitals. The 2013 birth numbers of the

SA2s thereby associated with each of the hospitals was then recorded. Logan hospital is in an urban area with several other nearby birthing services and it was found to be impractical to associate it with specific SA2s and so it is not included in these calculations. These clusters of SA2s are hereafter referred to as the "area" of a particular hospital. The AASGC-RA, DWS designation, was performed to determine if the newly qualified Rural Generalist Obstetricians were commencing work where they were needed as determined by these parameters.

Results

The QRGP graduates who have achieved vocational fellowship and have the specialised skill of obstetrics have dispersed across the state of Queensland. They are working in 22 Queensland Health hospitals: Ayr, Beaudesert, Bowen, Cairns, Chinchilla, Dalby, Emerald, Gladstone, Gympie /Cooroy, Innisfail, Kingaroy, Logan Hospital, Longreach, Mackay, Nambour, Proserpine, Roma, Stanthorpe, Thursday Island, Toowoomba, Townsville, and Weipa hospitals. The characteristics of these hospitals with respect to District of Workforce Shortage, Australian Standardised Geographical Classification Rural Area, the Queensland Maternal and Perinatal Quality Council group classification of these destination hospitals and the birth numbers of the various local Statistical Area 2s in the Australian Statistical Geography Standard as defined by the Australian Bureau of Statistics (SA2s), are set out in Table 1 and will now be discussed in detail.

Table 1 Rural area, workforce shortage status, Queensland Maternity Group status and regional birthing numbers relating to hospitals where QRGP graduates with DRANZCOG advanced are working

Destination community	ASGC-RA[1]	District of Workforce Shortage status[2]	QLD Maternity service group[3]	Number of births in draining SA2s in 2013[4]
Ayr Hospital	3	No	E	194
Beaudesert	2	No	D	571
Bowen	3	Yes	X	13
Cairns	3	No	B	2699
Chinchilla	3	No	E	231
Dalby	2	Yes	E	202
Emerald	3	yes	D	697
Gladstone	2	Yes	D	972
Gympie /Cooroy	2	No	D	514
Innisfail	3	Yes	D	382
Kingaroy	2	Yes	D	553
Logan Hospital	1	No	B	urban
Longreach	5	Yes	E	142
Mackay	2	Yes	D	2111
Nambour	1	No	B	3702
Proserpine	2	yes	D	389
Roma	3	yes	E	231
Stanthorpe	3	No	E	196
Thursday Island	5	Yes	E	188
Toowoomba	2	No	C	2239
Townsville	3	No	A	4376
Weipa	5	Yes	X	209

Notes:

[1]ASGC= Australian Standard Geographical Classification:
RA1 Major Cities
RA2 Inner Regional Australia
RA3 Outer Regional Australia
RA4 Remote Australia
RA5 Very Remote Australia

[2]A district of workforce shortage (DWS) is a geographical area in which the local population has less access to Medicare-subsidised medical services when compared to the national average. These areas are identified using the latest Medicare billing statistics, which are updated regularly to account for changes in the composition and District of Work force shortage: geographic distribution of the Australian medical workforce, and the latest residential population estimates as provided by the Australian Bureau of Statistics (ABS). http://www.doctorconnect.gov.au/internet/otd/publishing.nsf/Content/dwsFactsheet

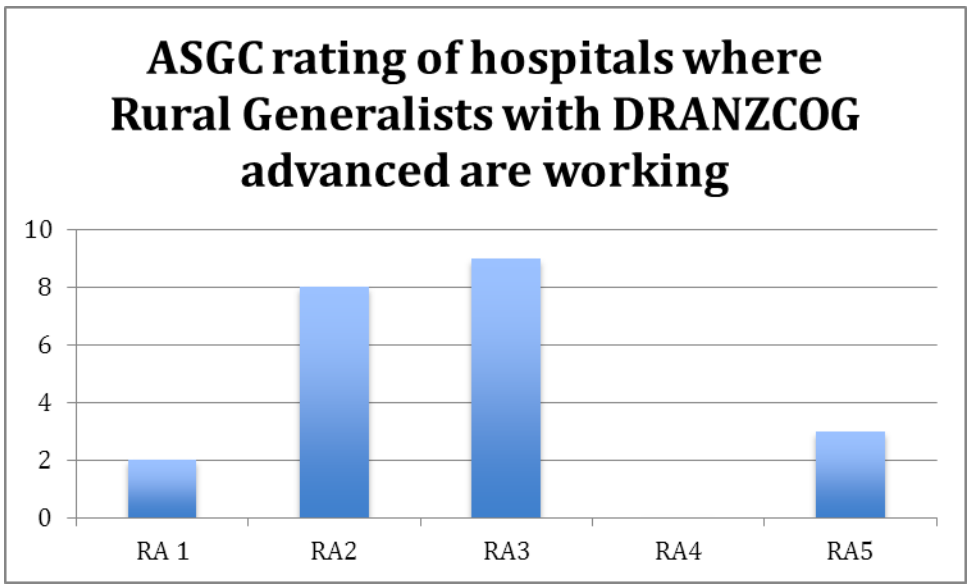
[3] Queensland Maternal and Perinatal Quality Council maternity service group classification
Group A: Specialist obstetric service with feto-maternal medicine and NICU
Group B: Specialist obstetric service and special care nursery >2000 births/year
Group C: Specialist obstetric service and special care nursery <2000 births/year
Group D: Rural generalist obstetric service and general nursery >250 births/year
Group E: Rural generalist obstetric service or primary midwifery care model and general nursery <250 births/year
Group X: Public facilities without maternity services
Council report. Brisbane: State of Queensland Department of Health GoQ; Septmeber 2013

[4]SA2# = Statistical Area 2 within the Australian Statistical Geography Standard which is defined by the Australian Bureau of Statistics http://www.abs.gov.au/websitedbs/d3310114.nsf/home/australian+statistical+geography+standard+(asgs)

Australian Standard Geographical Classification – Rural Area

The Australian Bureau of Statistics has developed the Australian Standard Geographical Classification – Rural Area. The Classification includes major cities as RA1, inner regional areas as RA2, outer regional areas are RA3, remote is RA4 and very remote is RA5. As shown in Figure 1 destination hospitals (9%) are located in Major Cities (RA1), eight (36.3%) are in inner regional areas (RA2), nine (41%) are in outer regional areas (RA3), and three (13.6%) are in very remote areas (RA5). Seventeen (77%) RG graduates with DRANZCOG Adv. are working in regional areas and twenty (90%) work in regional and remote areas. No Rural Generalist Pathway graduates are working in remote areas (RA4)

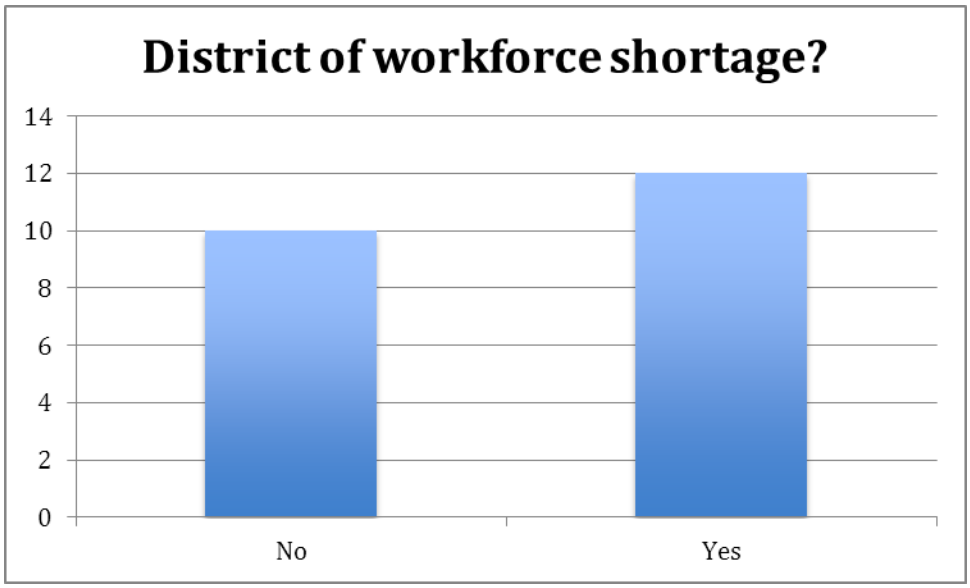
Figure 1 Australian Standardised Geographical Classification Rural Area (ASGC RA) for destination hospitals of QRGP graduates with DRANZCOG advanced



District of Workforce Shortage

The concept of a District of Workforce Shortage (DWS) is used by the Australian Government to describe a geographical area in which the local population has less access to Medicare-subsidised medical services when compared to the national average. Medicare access is used as a surrogate marker of the number of doctors working in the area and the Australian Government Department of Health uses this classification to identify areas where more doctors are needed. As can be seen in Figure 2, twelve (54%) of the twenty-two hospitals that the Rural Generalist obstetricians are now working in are in Districts of Workforce Shortage and ten (46%) are not. Longreach, Thursday Island, Weipa, Emerald, Innisfail, Roma, Bowen, Gladstone, Kingaroy, Mackay, Proserpine and Dalby are in Districts of Workforce Shortage. The other hospitals are not so classified.

Figure 2 District of Workforce Shortage classification of Hospitals where Rural Generalist Pathway graduates with DRANZCOG advanced are working



Queensland Maternal and Perinatal Quality Council maternity service group classification

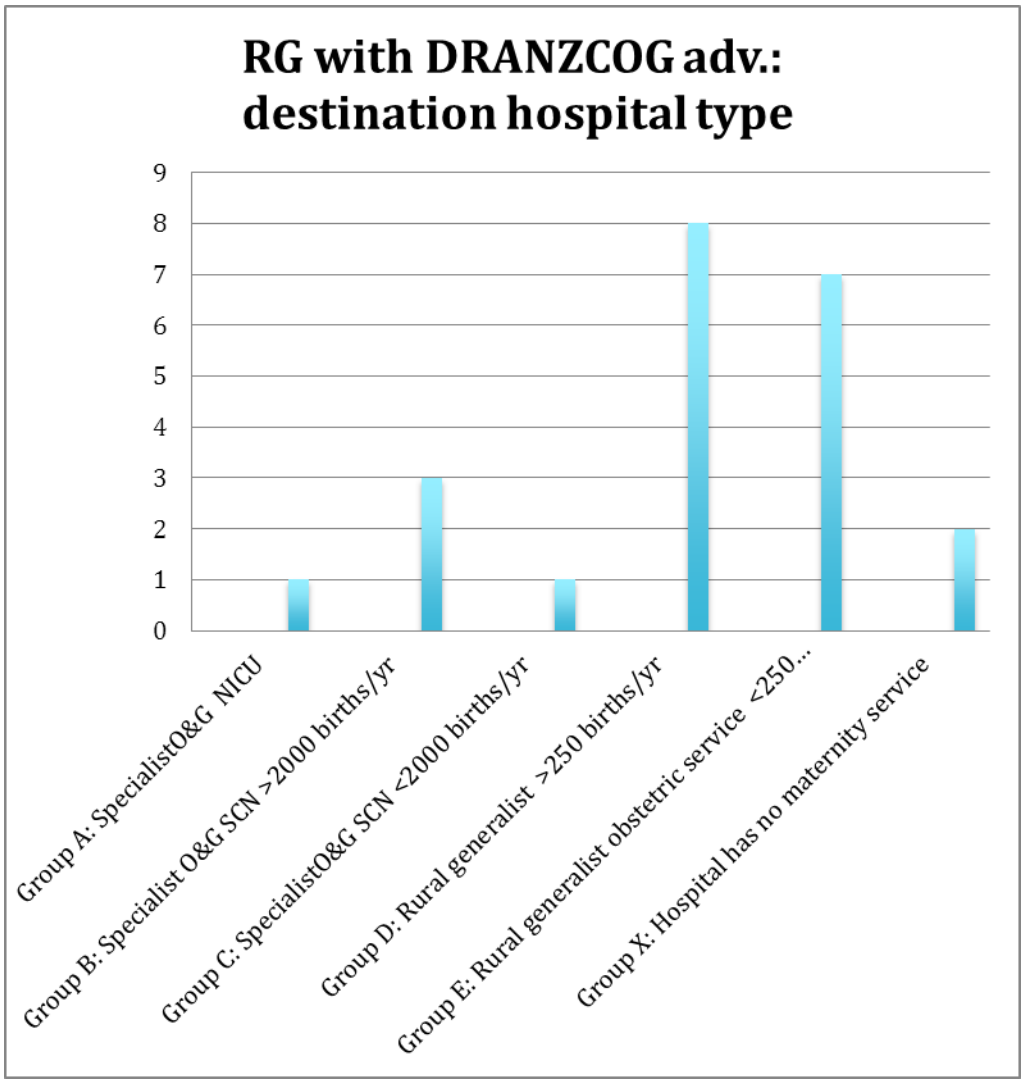
The Queensland Maternal and Perinatal Quality Council designates maternity service group classifications:

- **Group A:** Specialist obstetric service with feto-maternal medicine and NICU
- **Group B:** Specialist obstetric service and special care nursery >2000 births/year
- **Group C:** Specialist obstetric service and special care nursery <2000 births/year
- **Group D:** Rural generalist obstetric service and general nursery >250 births/year
- **Group E**: Rural generalist obstetric service or primary midwifery care model and general nursery <250 births/year
- **Group X:** Public facilities without maternity services.

These describe the level of service provided within a hospital and the specialty of the doctors working it. General Practitioners with DRANZCOG adv. are competent to work in hospitals without specialist obstetrician supervision

Rural Generalists with DRANZCOG adv. are needed in hospitals in group D and support an expanded service in group E hospitals. Figure 3 portrays that the 22 QRGP graduates with DRANZCOG advanced one third of them are in group D hospitals, one third in group E hospitals, and the other third are distributed between group A,B and X hospitals.

Figure 3 The Queensland Maternal and Perinatal Quality Council classification of destination hospitals of Queensland Rural Generalist Pathway graduates with DRANZCOG adv



Birth Statistics of "draining" regions for hospitals

All destination hospitals for QRGP graduates with DRANZCOG advanced are associated with areas where births are occurred in 2013. The range of birth numbers for the destination hospital areas in 2013 is 13 to 4376. Fourteen (64%) of the destination hospitals had fewer than 900 births in their area and seven (36%) had over 900 births in 2013. The numbers of births in the associated regions are displayed in Figures 4 and 5. The mean birth numbers for the 14 areas with less than 900 births in 2013 was 314. The median birth numbers for areas with less than 900 births in 2013 was 213. There is a cluster of destination hospitals in areas with birth numbers of around 200 with eight (36.4%) of the twenty-two areas associated with QRGP DRANZCOG graduates' destination having birth numbers between 100 and 300, three (13.6%) had birth numbers between 2000 and 3000 and three areas had birth numbers over 3000. Logan hospital is not included in these results.

Figure 4 Birth numbers of “draining” SA2s for all destination hospitals of Queensland Rural Generalist Pathway graduates with DRANZCOG adv

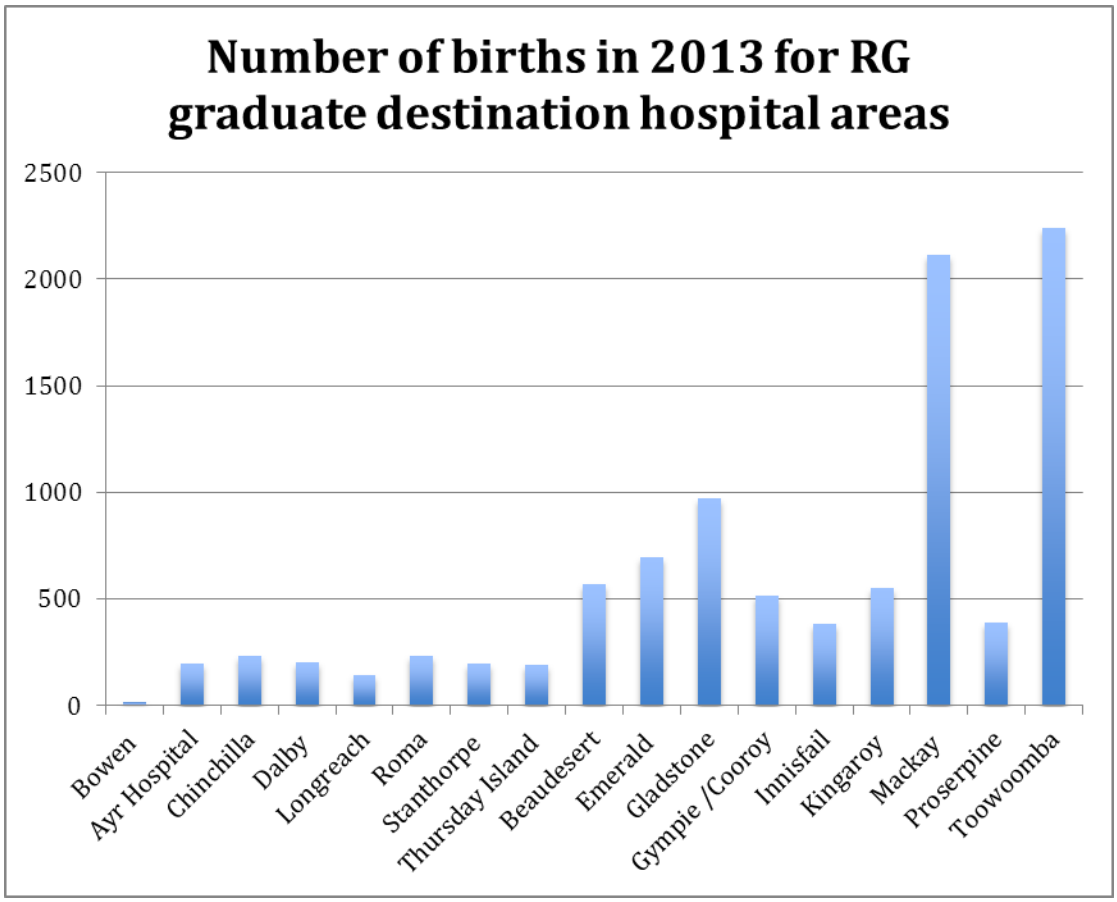
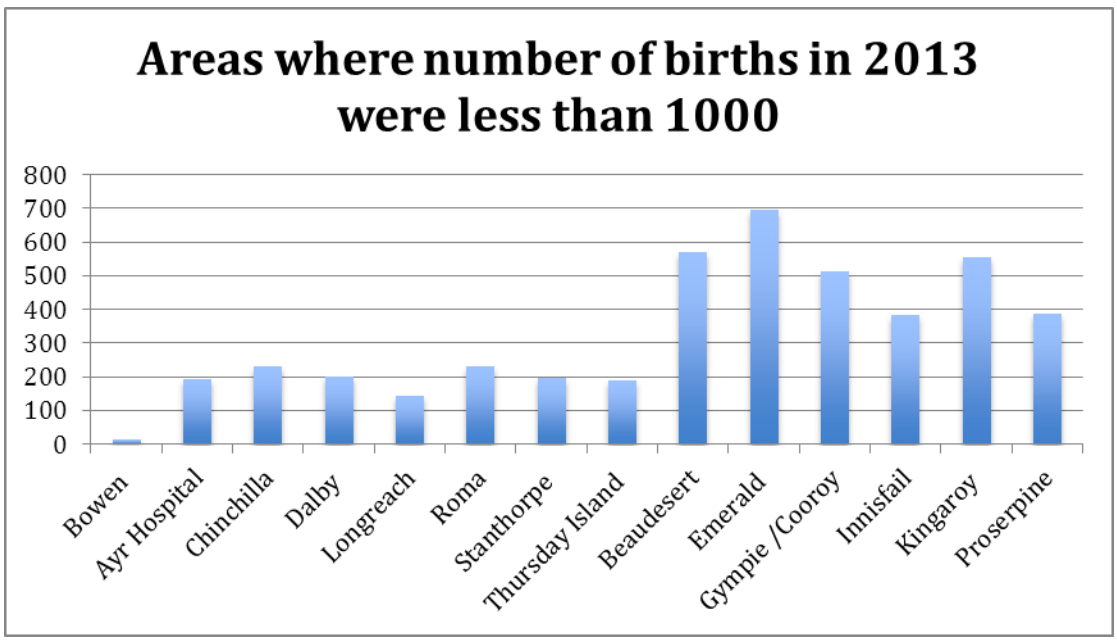


Figure 5 Birth numbers of “draining” SA2s where births were less than 1000 where Queensland Rural Generalist Pathway graduates with DRANZCOG adv. are working



Discussion

The majority of RG graduates with DRANZCOG adv. are working in areas of Queensland classified as regional and remote and just over half of the graduates are working in districts of workforce shortage. All of those destination hospitals in district of workforce shortage are regional or remote. Two thirds of the RG graduates with DRANZCOG adv. are working in General Practitioner associated birthing services

Of the two QRGP graduates with DRANZCOG advanced working in group X hospitals, one is working in a hospital that has begun planning to recommence birthing services and the other provides antenatal services in the group X hospital and provides continuity of care following patients with a planned elective caesarean section to the nearest group E hospital and performs the surgery. The four QRGP graduates with DRANZCOG advanced who are in group A and B hospitals are all pursuing double advanced skills certification and have only completed one of these. It is probable that their current site of practice is related to their training in the second advanced skill.

Twenty-one (99.5%) of the QRGP DRANZCOG adv. graduates have distributed to facilities with a birthing service. Graduates are unlikely to work to their full scope of practice without a local maternity service. Rural Generalists have made a commitment to work in rural or remote areas on acceptance into the QRGP. There are return of service obligations for those who have any of the various rural bonded scholarships and additionally there are currently Higher Education Contributions Scheme rebating incentives for them to work in rural or remote areas. It is probable that these incentives support the high return on investment demonstrated in this study. It is uncertain whether these rates of commitment to rural and remote maternity service practice will be maintained without the financial incentives of return of service obligations and educational loan relief for work in DWS.

Limitations of this study

There may be areas without an existing maternity service for which a case of need for General Practitioner Obstetrician could be argued but the methodology of this study does not enable the identification of such areas.

Conclusions

The QRGP is providing Rural Generalist Obstetricians to areas of workforce shortage where birthing services exist with models of care that they can work within. Further work is needed to refine incentives and supports to direct new Rural Generalist Obstetricians to the areas where they are most needed as defined by appropriate models of care, workforce shortage and birthing numbers.

Presenter

Dr Ruth Stewart is the Director of Rural Clinical Training and Support, Associate Professor of Rural Medicine at James Cook University School of Medicine, Australia. She worked for twenty-two years as a procedural GP in South West Victoria, Australia where she developed and implemented the Integrated Model of Medical Education in Rural Settings (Deakin IMMERSe) for Deakin University. Ruth received a PhD in December 2015 from Flinders University for her thesis “Lessons from the development of a maternity managed clinical network in a low volume rural context” Ruth’s research interests are rural maternity care and policy, rural medicine and rural medical education.