

## REVIEW ARTICLE

# The Fly-in Fly-out and Drive-in Drive-out model of health care service provision for rural and remote Australia: benefits and disadvantages

R Hussain<sup>1</sup>, M Maple<sup>1</sup>, SV Hunter<sup>1</sup>, V Mapedzahama<sup>1</sup>, P Reddy<sup>2</sup>

<sup>1</sup>University of New England, Armidale, New South Wales, Australia

<sup>2</sup>Bloomfield Hospital, Orange, New South Wales, Australia

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Hussain R, Maple M, Hunter SV, Mapedzahama V, Reddy P

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## ABSTRACT

**Context:** Rural Australians experience poorer health and poorer access to health care services than their urban counterparts, and there is a chronic shortage of health professionals in rural and remote Australia. Strategies designed to reduce this rural–urban divide include fly-in fly-out (FIFO) and drive-in drive-out (DIDO) services. The aim of this article is to examine the opportunities and challenges involved in these forms of service delivery. This article reviews recent literature relating to FIFO and DIDO healthcare services and discusses their benefits and potential disadvantages for rural Australia, and for health practitioners.

**Issues:** FIFO and DIDO have short-term benefits for rural Australians seeking healthcare services in terms of increasing equity and accessibility to services and reducing the need to travel long distances for health care. However, significant disadvantages need to be considered in the longer term. There is a potential for burnout among health professionals who travel long distances and work long hours, often without adequate peer support or supervision, in order to deliver these services. A further disadvantage, particularly in the use of visiting medical practitioners to provide generalist services, is the lack of development of a sufficiently well-resourced local primary healthcare system in small rural communities.

**Lessons learned:** Given the potential negative consequences for both health professionals and rural Australians, the authors caution against the increasing use of FIFO and DIDO services, without the concurrent development of well-resourced, funded and staffed primary healthcare services in rural and remote communities.

**Key words:** DIDO, FIFO, healthcare service delivery, primary health care, resource allocation.



## Context

Available evidence shows that rural Australians bear an unequal burden when it comes to their health and suffer from the double disadvantage of poorer health and poorer access to health services<sup>1,2</sup>. Rural Australians are often stereotyped as stoical<sup>3</sup>. Certainly they consistently use fewer Medicare services and see their general practitioner (GP) fewer times per annum than their urban counterparts<sup>2,3</sup>. However, this may relate more to lack of opportunity than to inherent stoicism<sup>4</sup>.

Rural health care and service delivery is recognised as a problem all over the world, not just in Australia<sup>5</sup>. However, the vast geographical expanse of the country makes it even more difficult to attract the requisite health workforce to rural and remote regions. Consequently there is a chronic shortage of health professionals in rural and remote Australia<sup>6-10</sup>. While nurses are the group best represented in rural areas, there is still a severe mal-distribution of health professionals in Australia. The need for additional healthcare services in the bush is well recognised. According to data from the Australian Institute of Health and Welfare Medical Labour Force Survey 2011<sup>2</sup>, there are very low rates of medical specialists by population in remote and very remote Australia compared to the national average (Table 1).

Various strategies have been used in order to recruit and retain the rural health workforce. These strategies have been described as 'selection, education, coercion, incentives, and support'<sup>5</sup>. The current evidence supports the use of careful and well-defined selection and educational policies, and incentives and support schemes may also have value<sup>5</sup>. Despite compulsory programs being implemented in as many as 70 countries worldwide, there is no strong evidence to date that they succeed<sup>11</sup>.

Compulsory programs vary in scope and duration and can be classified into three main types: (1) state or government employment programs (or condition of service contracts)

with a requirement to work for the government with little or no provision for working in private practice, (2) compulsory programs with incentives and (3) compulsory programs without incentives. Examples of the first type of compulsory program in Australia include the requirement for international medical graduates to work within the Australian healthcare system in a district of workforce shortage, as part of their immigration and relocation. Compulsory programs with incentives can offer options for future educational and/or employment opportunities, the provision of financial support such as house rental or other family benefits or a program offering one or more of the above incentives. Compulsory programs without incentives are less common compared with the first two categories<sup>11</sup>.

A systematic review by Bärnighausen and Bloom of 43 studies (of which 34 were US-based and none Australian) found that programs offering financial incentives do lead to increased numbers of health workers in under-served regions. Nonetheless the evidence was limited in generalisability and no evidence was found that could conclusively attribute increased workforce redistribution to such financial incentives<sup>12</sup>. In their review, Frehywot et al. suggest that compulsory programs may not provide a permanent answer to capacity development or guarantee that remote communities will receive a permanent workforce<sup>11</sup>. Dwyer argued that Commonwealth-funded rural clinical schools, especially those within metropolitan-based universities, have had limited impact in terms of attracting doctors to work in rural areas<sup>13</sup>. In a counter-argument, Walker claimed that the main issue was not rural clinical placements but the lack of postgraduate medical training places<sup>14</sup>.

Wakerman et al<sup>15</sup> described the need for different service delivery models for differing levels of remoteness. They also emphasised the need to ensure that a comprehensive range of primary healthcare services were available locally wherever possible, and defined the critical minimum population base as about 5000 inhabitants in order to sustain such services. In remote areas, there is a need to provide services that are



culturally appropriate for Aboriginal and Torres Strait Islander people<sup>16</sup>.

The inclusion of flying-in and flying-out (FIFO) and drive-in drive-out (DIDO) models of service delivery in the definition of remote medicine formulated by an experienced working group of doctors and academics<sup>17</sup> indicated the importance and need for such models of care. According to Bourke et al. there are a number of recognised fit-for-purpose models of care operating in rural and remote Australia including FIFO and DIDO services<sup>18</sup>. Wakerman et al. pointed out there are various ways of defining FIFO or DIDO services that are currently used<sup>19</sup>:

1. *Specialist outreach services.*
2. *Hub-and-spoke or outreach arrangements for various allied health and specialist programs.*
3. *'Orbiting staff' who spend significant periods of time (12 months or more) in one or two specific communities.*
4. *Long-term shared positions, such as month on/month-off, where the same practitioners service the same communities.*
5. *Short-term locum or agency staff who move from place to place or as a one off<sup>19</sup>.*

In February 2013, the House of Representatives released the report of a comprehensive inquiry on FIFO health services<sup>20</sup>, which is discussed in a later section.

In this article we review the recent literature relating to FIFO and DIDO healthcare services and discuss their benefits and potential disadvantages for rural Australia, and for health practitioners. We question whether or not FIFO and DIDO are a form of expediency or efficiency in relation to healthcare service delivery.

## Issues

FIFO and DIDO service provision relies heavily on the existence of a well-functioning primary healthcare system to operate efficiently. It also relies on the altruism of the clinicians involved, who offer many forms of support to local

staff through 'education, mentorship, shared care and supervision to name a few'<sup>9</sup>, thereby strengthening local service delivery.

The main advantages of FIFO and DIDO healthcare services are that they provide much-needed care to people who would otherwise need to travel large distances, often at their own cost. Provided that there are adequate and well-resourced primary care services in place, visiting specialists can add significantly to the quality of care being offered<sup>19</sup> and are often greatly appreciated by locals. Clearly, such services offer health care that could otherwise not be provided in small rural or remote communities, with the resultant benefits to both patients and to resident clinicians.

The recent report from the House of Representatives inquiry conducted by the Standing Committee on Regional Australia<sup>20</sup> urged the Australian Government to see FIFO and DIDO workforces as the exception rather than the rule, due to concerns that the practice 'could lead to a hollowing out of established regional towns, particularly those inland'. Although the report focused mainly on the resources industry, it also made recommendations about the need to develop 'strategies and targets for achieving fair access to health services for people living in regional and remote areas recognizing the use of fly-in, fly-out/drive-in, drive-out health services, *providing for appropriate funding and infrastructure support* [our emphasis]'<sup>20</sup>.

The report acknowledges the reluctance of medical staff to live and work in rural and remote communities, because of barriers such as poor or inadequate accommodation, security concerns, poor rosters leading to a poor life-work balance, inadequate orientation, poor access to professional development and training, and the relatively high cost of some services and essentials such as food<sup>20</sup>. It recommends developing policy that acknowledges the infrastructure needs of FIFO medical professionals including accommodation, the need to have residential staff with capacity, the administrative burdens placed on residential staff by FIFO medical professionals, the role that technology can play in future, and the need for funding models that reflect the true cost of service provision through FIFO delivery.



**Table 1: Specialists, specialists-in-training and total medical practitioners:full-time equivalent per 100 000 population by remoteness area 2011**

	Major city	Inner regional	Outer regional	Remote/ very remote	National
Specialists	149	73	49	37	123
Specialists-in-training	85	31	30	19	68
Specialists indexed on national data	121	60	40	30	100
Total medical practitioners	433	270	247	274	381
Total medical practitioners indexed on national data	114	71	65	72	100

Calculations based on data from ref. 2.

Many health professionals have expressed concern over the dismantling of community care, as demonstrated within the mental health sector. This has occurred despite a consensus among experts that 'community centred health services should be placed in the centre of communities'<sup>21</sup>. There is a danger that FIFO and DIDO services will 'have a deleterious effect on the community. Both communities and the level of service delivery are eroded by FIFO' especially in communities that are large enough to support residential health workers<sup>20</sup>.

FIFO and DIDO services are complicated to administer, particularly in remote communities where the provision of culturally appropriate services is so critical. Personnel tend to change frequently and women working in remote communities often have to deal with gender issues<sup>17</sup>. The main difficulties experienced by female FIFO and DIDO service providers are feeling lonely, finding it difficult to fit in (both at work and socially), and feeling undervalued. Nurses and female doctors, especially those working part-time or who are new to practice, feel excluded from decision-making at work, which leads them to feel undervalued, frustrated, excluded and lonely.

Rural clinicians work long hours and often have few colleagues that they can turn to for peer support<sup>22</sup>, which can lead them to feel deskilled over time. It is known that 'specialists that deliver services to rural and remote areas

often do this at considerable personal cost of time and effort'<sup>7</sup>. Many FIFO health practitioners work long hours, including after hours, have a poor life-work balance, and are consequently at risk of burnout<sup>3</sup>. The Department of Health and Ageing workforce audit (2008) noted that medical specialists in rural Australia struggle with professional isolation, lack of support and lack of infrastructure. Nonetheless, it is important to acknowledge that various models of FIFO/DIDO services have different impacts on underlying health services infrastructure (see Wakerman's list above). The adverse impact of 'short-term locum-tenant' (model 5) or 'orbiting staff' (model 3) arrangements are greater as compared to 'long-term shared positions' (model 4) as these options are expensive and do not create an environment in which there is a critical mass of health providers who are able to sustain peer networks and/or offer mentoring to clinical teams.

A detailed analysis of FIFO and DIDO health services in remote Indigenous communities identified the positives and negatives attached to current service provision and made some suggestions for improvements in relation to convenience and cost of services, social diversity of the service personnel, quality of service personnel, quality of service provision for the providers, quality of service provision for the community and the nature of social relationships<sup>4</sup>. For example, the cost and convenience was seen as an advantage to community members but it was



recognised that service providers sometimes have to waste their time travelling for up to 2 days before even providing a service. We suggest that a cultural broker could help to improve planning for such visits.

Perkins questions whether or not 'all this travelling' by visiting health professionals is sustainable and deducts from the 'development of a robust local workforce with impacts for the sustainability, productivity and quality of services'<sup>9</sup>. Wakerman et al. question whether or not FIFO health services are part of the problem or a panacea and are concerned about adding to the deficit view of working in rural and remote health care<sup>19</sup>, and Hanley expresses concern that such services do not contribute to social capital or social cohesion<sup>23</sup>.

The concept of social capital has been increasingly used in relation to individual health and in health systems research. Putnam considers social capital to be a form of reciprocal communal interest that binds individuals through common interests, cooperation and collaboration<sup>24,25</sup>. When social capital is limited, there is no strong sense of community or reciprocity, as is the case in areas with large numbers of FIFO workers. This is likely to undermine social cohesion, largely because of the transient nature of the FIFO healthcare workforce. They place disproportionate demands on local services and infrastructure, but offer limited returns for the permanent health professionals in the community in terms of building professional and communal relationships.

## Lessons learned

FIFO and DIDO service models already play an important role in the bush, and could be used in future to deliver innovative methods of practice, higher levels of clinical acumen among health professionals, cross-cultural understanding and resourcefulness<sup>17</sup>. The current literature suggests that FIFO and DIDO healthcare services operate best where local primary healthcare services are adequately resourced and staffed. The advantages of FIFO and DIDO services are that they offer services that would otherwise be

unavailable, avoiding the need for patients to travel large distances to receive health care. In most instances, it is not just the patient who is greatly inconvenienced but also their families, since a designated carer has to accompany the patient, causing considerable disruption to family caring arrangements. The issue of equity is a core issue. However, FIFO and DIDO services 'should be seen not as a replacement for local health care, but as a necessary compromise between the tyranny of distance and equity of access to health services'<sup>23</sup>.

It is of concern that, by continuing to use FIFO and DIDO services, especially to fill generalist positions, local services and infrastructure may be eroded over time. This is particularly true where certain localities are so dependent on the ever-increasing locum-tenant system of service provision that they have undeservedly gained a reputation as places to which no clinician wants to move. These services are often eventually downgraded and full-time positions are, at times, withdrawn.

Whilst FIFO and DIDO services create opportunities for clinicians, they also create challenges, including travelling long distances, working long hours, a lack of collegial support and supervision, and a lack of local infrastructure. In order to make FIFO and DIDO services work well, continued support for local primary healthcare services is essential and a new funding model is necessary. One option would require greater flexibility on the part of employers to sustain a team of FIFO health professionals in rural regions on a longer term job-share basis, so that they and their colleagues feel part of the local healthcare system and communities<sup>26</sup>. Another longer term option would be to create a robust rural generalist pathway for clinical practice, with appropriate remuneration benefits.

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