Fly-in Fly-out/Drive-in Drive-out practices and health service delivery in rural areas of Australia

Executive summary

Policy Context

Anecdotal accounts suggest that, in some regions of Australia, fly-in fly-out, drive-in drive-out, and bus-in bus-out mining sector workers, seasonal workers and ‘grey nomads’ (here collectively known as FIFO/DIDO) place pressure on already overstretched rural and remote health services. The aim of the current investigation was to investigate FIFO/DIDO in rural Australia involving mining workers, seasonal agricultural workers, and grey nomads, with a focus on identifying studies that examined the impact of these groups on rural health services.

Key findings

FIFO/DIDO populations

Based on published data and company input, there are at least 50 000 mining FIFO/DIDO (and possibly up to 100 000 depending on data source) on-shift in rural and remote regions of Australia at any one time. However, this is relatively minor compared to estimates of approximately 400 000 grey nomads (primarily during the winter months); 37 000 backpacker seasonal workers (as recorded during the period from 2007-2008); and an agricultural industry need for 93 000 marginally attached workers (data from 2008). However, these data are unreliable due to methodological weaknesses underpinning some estimates, and high levels of uncertainty about forward-looking estimates. In particular, long-term estimates of mining FIFO/DIDO populations are unreliable and difficult to determine due to multiple fluctuations including: shifts in mining phase, changing economic conditions, changes in resource demand, and availability of labour forces. For seasonal work alone, five sources of workers have been identified, each differing with respect to general nature of employment, worker age and ethnicity/language; therefore, the complexity of determining the needs of these cohorts is evident. Challenges were repeatedly identified in relation to defining and measuring all three populations. Nevertheless, the data available suggest that there are high numbers of these groups in regions throughout Australia.

Health risks and service use among FIFO/DIDO populations

Similar health risks were identified for mining sector and seasonal workers, due predominantly to the physically-demanding nature of the work and the environmental conditions; whereas grey nomads often presented a different set of health challenges (i.e. chronic conditions) based on the average
age of the cohort. Further, whilst the mine workers are predominately male, seasonal worker cohorts include many females, and in many cases they are accompanied by their families.

Increased ED presentations during warmer months and coinciding with harvest and peak tourist seasons suggest that seasonal workers and grey nomads increase demands on health services. Therefore, whilst limited evidence was available on the specific impact of seasonal worker FIFO/DIDO and grey nomad populations on local communities’ health services, the data sourced suggested a negative impact. However, in many cases the regions typically recording high numbers of FIFO/DIDO workers or visitors already experience health service problems related to availability of workforce and access, and the influx of these populations may simply exacerbate the problems already present.

**Health services and impact of FIFO/DIDO populations**

It is likely that the wide dispersal of seasonal workers and grey nomads across Australia reduces their impact compared to the more geographically concentrated mining FIFO/DIDO. In contrast, mining-related FIFO/DIDO practice has increased significantly and abruptly in Australia in the past decade, and in some cases the non-resident population constitutes 25-75% of the total service population (resident plus non-resident).

Anecdotal accounts of the demands placed on rural and remote health services by FIFO/DIDO workers and visitors abound, but, in most cases there is very little published quantitative evidence to support or challenge these claims. One exception to this is a study conducted in the Bowen Basin coal mining region of Queensland. In the Bowen Basin study, a number of very informative analyses were conducted based on a series of one-month ‘snapshots’ taken over a five-year period; and application of a purpose-built computer-based Infrastructure Service Model (ISM). The study demonstrated FIFO/DIDO-related demand for general practitioner consultations and hospital services. Comparison of observations in the Bowen Basin, with population statistics for the same year (2011), revealed that FIFO/DIDO demand for health services was proportional to FIFO/DIDO representation within the total service population, with the exception of disproportionately high FIFO/DIDO-related emergency department (ED) presentations. The Bowen Basin study supports anecdotal accounts of the increased demands placed on health services by FIFO/DIDO in that region, but lack information on the nature of this demand (i.e. disease or conditions treated, length of consultations etc.); nor do they distinguish between resource sector and non-resource sector FIFO/DIDO; although approximately 75% of the Bowen Basin on-shift FIFO/DIDO workers in June 2011 were employed in mining or construction industries.

However, extrapolation of results from the Bowen Basin to other regions would be problematic due to: differences in injury rates and health service needs dependent on type and phase of mining; variation in the proportion of FIFO/DIDO and in the size of resident populations of affected communities (and hence in existing infrastructure); variation in source of FIFO/DIDO (proportion of mining, seasonal worker or grey nomad) and hence variation in needs. Community-specific analyses are required, and would be facilitated by including home address postcode for each patient together with diagnoses or reasons for presentation.

Mining operations in remote areas such as the Pilbara, with limited access to local amenities, are likely to provide more extensive health services beyond on-site emergency first aid staff and facilities, whereas, for others, proximity to established communities may obviate this need. Nevertheless, in response to the inability of Moranbah Medical services (Bowen Basin) to attend to all patients in a timely manner, at least one mining company established their own on-site clinics using FIFO health care professionals.
Policy considerations

Based on the findings of this report, the following points may be considered:

**FIFO/DIDO population needs**

- A trend of recruiting older employees in the mining sector has implications for provision of the types of services that may be required for this cohort.
- There is a need for improved health literacy related to health risks and appropriate use of services (e.g. planning and preparation related to medications among grey nomads).
- Culturally and Linguistically Diverse (CALD) issues need to be addressed in FIFO/DIDO populations, particularly regarding health and safety in seasonal workers.

**Data collection and analyses**

- To generate more accurate estimates of total FIFO/DIDO populations it would be useful to improve data collection by recording patient usual residence postcode, reason for (and length of) consultation, and employment status to differentiate between mining, seasonal work, and grey nomad FIFO/DIDO.
- Data collection and analyses should include other relevant industries that may impact on health services in mining areas (e.g. construction).
- Data sets could be further enhanced by monitoring a greater range of health services, including pharmacy prescription dispensing, dental services etc.
- Due to the dynamic nature of FIFO/DIDO populations, data collection should be regarded as an ongoing requirement to support optimal allocation of funding and resources (e.g. based on ISM projected needs) to meet the health service needs of rural communities.

**Assessing needs and planning**

- Accurate estimates of the mobility of FIFO/DIDO populations and the areas of greatest impact may identify areas of need in terms of investing in local infrastructure and/or staff and services, particularly in regions where the ratio of non-resident to resident population is large.
- Flexible arrangements for services may be considered in some areas: telehealth, mobile clinics, FIFO health care professionals, flexible access to medications (e.g. for grey nomads)

**Funding sources**

- In general, mining companies acknowledge the demands placed on health services by FIFO/DIDO workers in some regions, but also acknowledge the responsibility of governments in providing this service and the value of processes such as the Royalties for Regions program to address these needs.

**Methods**

A thorough (non-systematic) review of Australian and international literature was undertaken, with materials collected from academic and grey literature sources, including, but not restricted to: PubMed, Trove, Google Scholar; and publicly accessible websites of relevant companies and organisations including the Minerals Council of Australia, the Australian Bureau of Statistics, Rural and Regional Health Australia, and the National Harvest Labour Information Service. Keyword search-terms included: “rural health services”; “seasonal workforce”; “itinerant workforce”; “transient workforce”; “mobile workforce”; “mining”; “FIFO”; “DIDO”; “fly-in fly-out”; “drive-in drive-out”; “grey nomad”; “gray nomad”.

Searches were restricted to English language, the publication period was primarily 2008-2013, and limited to Australia, Canada, Alaska and Scotland. A snowballing technique was used to identify additional relevant studies from bibliographies of sourced citations. Individual experts and local community-based organisations in mining-related areas (e.g. Pilbara, Kimberley, Darwin, Darling
Downs, Mackay, Isaac) and organisations relevant to grey nomads and seasonal workers were also contacted for information.

For more details, see the Full Report.