Mining towns—does the boom mean bust for health services?

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Background
The Bowen Basin in Central Queensland is one of Australia’s fastest growing mining regions in Australia. In the Isaac Local Government Area (LGA) alone it is anticipated that there will be at least 10,000 new resident and non-residents by 2018. Resource communities benefit from this growth through the creation of more jobs and strengthened economies. However, the unprecedented level of mining activity in the Isaac LGA combined with the fast growing trend of non-resident worker operations in the region has triggered concerns on a range of issues and in particular the impact on the demand for health services.

An enduring issue in resource boom towns is the inability of the public and private sectors to attract and retain staff whatever their occupation. Essential community services such as health, education, local government and emergency services are increasingly finding they are unable to retain and recruit workers due to wages incompatibility, housing affordability and lack of supply of personnel.

In the Isaac LGA the increased growth has impacted on the availability of permanent housing as a result of inflation in purchase and rental cost of housing. Attraction and retention of employees that are not in the mining sector is difficult and exacerbated by the conversion of low cost housing options to single-person-quarters for non-resident workers.¹

Currently there are significant health workforce shortages in the entire Bowen Basin region in Queensland. The focus of this project was to identify issues impacting on access to health services in the Isaac LGA and identify potential models and strategies to ensure sustainable medical and allied health services in the two Bowen Basin towns of Moranbah and Dysart.

Context
The need for expansion of health services in Moranbah and Dysart can be connected to the significant increase in population, due mainly to the unprecedented level of mining activity in the region.

There has also been a significant change in the Australian health care system at a national, state and local level. The National Health Reform is now well underway with much of the focus on the establishment of Hospital and Health Services (HHS) and the Medicare Locals (ML) as the two key organisations to drive the reform agenda. A key objective of the health reform is to enhance integration of primary and acute health services so that they are responsive to, and tailored, to the healthcare needs of local communities.

Locally, this has led to the Commonwealth establishing the Townsville-Mackay Medicare Local (TMML) in July 2011 with the aim of improving coordination and integration of primary health care in local communities; addressing service gaps and supporting patients to navigate their local health care system. The TMML works alongside the Mackay Hospital and Health Service (HHS) within this region.

Purpose
The purpose of the project was to develop a sustainable model for provision of medical and allied health services in Moranbah and Dysart to meet the health needs of these rapidly expanding communities.

Specifically, the project aimed to:
- develop a comprehensive information base of health services in Moranbah
• identify opportunities for collaboration and creative use of resources to determine an innovative and realistic model to address the medical workforce issues and the needs of the community

• develop recommendations to support sustainable recruitment and retention of medical workforce in Moranbah and Dysart.

Health Workforce Queensland was commissioned to undertake the project in conjunction with Kristine Battye Consulting. Health Workforce Queensland is part of a network of Rural Workforce Agencies within Australia and works with rural communities and organisations by addressing local health service workforce and planning issues.

The project was funded by the local mining companies and was administered through a local community service organisation.

Methodology
The project was led by a community steering committee, including representatives from mining companies, the local council, community organisations and the state government. The project methodology included:

Analysis of relevant data and literature
A review of available information was undertaken to identify and describe:

• the demographic and industry profile of the Isaac Region

• key issues impacting workforce and the delivery of health services in Moranbah and Dysart

• health service plans that may impact on health service delivery in the short, medium and long term.

Stakeholder consultations
There was extensive face to face consultation with key stakeholders at a local and regional level. Key groups consulted included Local Government, Queensland Department of Health System Manager (previously Queensland Health corporate office), Local Hospital and Health Services, local health professionals including doctors, nurses and allied health, mining industry representatives, non-government organisations, Townsville-Mackay Medicare Local and Central Queensland Division of General Practice.

The consultations sought to identify workforce, service and system gaps, local rural health priorities and opportunities to address these issues.

Workshop
In addition to the consultations, a full-day workshop was held in Moranbah with key representatives from health professionals, local government and mining industry. Strategies to promote and support solutions to improve the numbers and capacity of the health workforce and access to health services in the Moranbah and Dysart were discussed.

Reporting
The findings from the consultations were synthesised into a final report for use by the steering committee and the local health service providers to inform service and workforce planning activities in Moranbah and Dysart.
**Snapshot of Moranbah and Dysart**

The towns of Moranbah and Dysart are located within the Isaac LGA in Central Queensland (Figure 1). At June 2012, the resident population of the Isaac LGA, based on place of usual residence was 23,720, of which 2.7% were Indigenous. At this time there were 17,125 non-resident workers in Isaac LGA, making up over 40% of the total population (40,850).

Table 1 reflects the largest population centre of the Isaac LGA by resident and non-resident population is Moranbah, with 8,990 residents and 4,585 non-residents (13,575 in total). Dysart is the second largest population centre (5,645) with over 40% of its population being non-residents.

Four of the seven major towns in the Isaac LGA have non-resident populations that comprise over 40% of their population total (Coppabella, Dysart, Middlemount and Nebo). Eighty per cent (80%) of the Coppabella population is non-resident.²

Figure 1  Isaac Local Government Area
### Table 1: Isaac Regional Council population data by town

<table>
<thead>
<tr>
<th></th>
<th>Moranbah</th>
<th>Clermont</th>
<th>Dysart</th>
<th>Middlemount</th>
<th>Glenden</th>
<th>Nebo</th>
<th>Coppabarra</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total (number) Resident population (a) at June 2012**</td>
<td>8,990</td>
<td>2,260</td>
<td>3,280</td>
<td>1,960</td>
<td>1,340</td>
<td>495</td>
<td>630</td>
</tr>
<tr>
<td>Total (number) non-residents population in June 2012*</td>
<td>4,585</td>
<td>130</td>
<td>2,365</td>
<td>2,110</td>
<td>535</td>
<td>555</td>
<td>2,575</td>
</tr>
<tr>
<td>Resident and non-resident population total in June 2012*</td>
<td>13,575</td>
<td>2,390</td>
<td>5,645</td>
<td>4,070</td>
<td>1,875</td>
<td>1,045</td>
<td>3,210</td>
</tr>
<tr>
<td>Percentage of population that are non-residents in June 2012*</td>
<td>33%</td>
<td>5.4%</td>
<td>42%</td>
<td>51%</td>
<td>28%</td>
<td>53%</td>
<td>80%</td>
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(a) Total population based on usual place of residence

Population projections for the resident population and non-resident workforce of the Isaac LGA (2011 to 2018) are presented in Figure 2. The resident population is expected to gradually increase, reaching 29,520 in 2018, while the non-resident workforce population is expected to peak in 2016 at 19,290 equalling 40% of the total population.

**Figure 2**: OESR estimated resident and non-resident population projections for Isaac LGA (2011-2018)

### Findings

#### Health services

**Significant demand on health services by non-resident population**

The influx of non-resident populations impacts on the capacity of health services in Moranbah, and it likely that these issues would be replicated in surrounding towns to a similar degree. Analysis of service activity data of three key local health services in Moranbah demonstrate that between 25 – 30% of all health service presentations are by non-residents.

Table 2 represents an analysis of patient presentations to Moranbah Medical Practice over a five year period. It shows that the percentage of non-resident patients has been increasing over the past five years, and adding a considerable work burden. Almost a quarter of patients seen in 2011 were non-residents.
In 2011, a study was undertaken to quantify the impact of the non-resident workforce on Moranbah hospital. Using Queensland Health’s patient record database, a search was done of all admissions and emergency presentations to Moranbah Hospital in the month of June over the last six years and demonstrates that there was a gradual increase in the percentage of non-resident patients admitted or presenting to the Moranbah Hospital emergency department. Table 3 reflects that by June 2011, almost one-third of all admissions and emergency presentations to Moranbah hospital were by non-resident patients, of which 50 per cent lived in work camps. Almost half of the emergency presentations by non-residents in June 2010 were triage category 5, non-urgent.6

Table 3  Moranbah Hospital emergency presentations and admissions during the month of June from 2006 to 2011

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<tr>
<td></td>
<td>Adm</td>
<td>A&amp;E</td>
<td>Adm</td>
<td>A&amp;E</td>
<td>Adm</td>
<td>A&amp;E</td>
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<tr>
<td>Resident</td>
<td></td>
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<tr>
<td>#</td>
<td>45</td>
<td>296</td>
<td>52</td>
<td>263</td>
<td>46</td>
<td>250</td>
</tr>
<tr>
<td>%</td>
<td>71.4</td>
<td>68.0</td>
<td>83.9</td>
<td>73.9</td>
<td>75.4</td>
<td>75.3</td>
</tr>
<tr>
<td>Non Resident</td>
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<td></td>
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<tr>
<td>#</td>
<td>17</td>
<td>136</td>
<td>10</td>
<td>89</td>
<td>13</td>
<td>75</td>
</tr>
<tr>
<td>%</td>
<td>27</td>
<td>31.3</td>
<td>16.1</td>
<td>25</td>
<td>21.3</td>
<td>22.6</td>
</tr>
</tbody>
</table>

In another example, the number of people requiring mental health services at the Moranbah Mental Health Service has increased over the last three years. This service is offered to people diagnosed with an Axis I Mental Health Disorders. These include depression, anxiety disorders, bipolar disorder, ADHD, autism spectrum disorders, anorexia nervosa, bulimia nervosa, and schizophrenia. Data in Figure 3 provided by the service indicates that they have over 100 patients, and 25 per cent of them are non-resident patients who have a primary residence elsewhere.7
Health Service

Lack of effective occupational medicine services
There are increasingly more mining-related workplace injuries including fractures, sprains and stress-related conditions often requiring acute care and then ongoing specific referral and rehabilitation. Currently, there are limited medical and allied health practitioners in the region with specific skills in occupational medicine limiting effective return to work strategies.

Lack of access to radiology services
X-ray and ultrasound services have been identified by the key stakeholders as a priority need. There is currently only one radiographer that travels the entire region and supports eleven licensed operators. The large demand for chest X-rays as a requirement of mines medicals places additional pressure on the service. Ultrasound is also recognised as a big need particularly for private obstetrics with women having to travel to Mackay for any scans after 13 weeks. Local health professionals estimate only 50 per cent of imaging needs are met locally.

Knowledge and utilisation of appropriate health services
The resident population in general have a good understanding of the health services available to them, and most would contact their GP, the hospital, the community health centre or friends in order to source further information. The non-resident population were less sure of the health services available to them.

Both Moranbah and Dysart hospitals are experiencing a high number of after hours presentations to the hospital by non-resident mining workers. The hospitals reported that they manage a large number (up to 80 per cent) of low acuity presentations in the emergency department that could be managed in general practice.

The non-resident population have expectations to be able to access a doctor at any time of the day at the hospital. As there are no doctors permanently onsite at the Moranbah and Dysart hospitals, awareness of the breadth and limitations of the health service provision in the area is required for visiting workers.
Health workforce

Challenges in attracting and retaining health workforce

The key challenges include:

- Lack of availability of affordable housing hindering growth of medical, nursing and allied health services into the future. One practice is subsidising accommodation for two doctors to support retention. In addition long term accommodation and short term accommodation is required to enable visiting medical specialists, nurses and allied health.

- Shortage of affordable clinical space for private allied health to work. Expansion in clinical infrastructure for visiting allied health and specialist rooms will be needed into the future to ensure that services are able to grow to meet future demand.

- Access to child care for nursing and other reduces availability to work, and contributes to high levels of part time staff.

Health planning

Uncoordinated health services planning leading to a disconnected local health service

Due to medical workforce shortages, mining companies moved to open their own medical clinics in camps just outside the town of Moranbah. The fly in fly out (FIFO) doctors employed in these camps were not orientated to the local health services resulting in a disconnect between health professionals in the community, and some inappropriate referrals to services that were not available locally such as CT scans.

Key strategies identified

The stakeholder workshop identified strategies to address issues including:

- establishment of a Health Care Partnership Group to be a representative group ensuring a coordinated approach to planning to respond to the health needs and priorities of the community into the future

- recommendation to engage a “driver” to ensure the proposed strategies are progressed into actions

- harnessing existing local capacity to make the health services more sustainable

- attracting and retaining visiting and resident health workforce through provision of affordable housing and clinical infrastructure

- development of private/public service partnerships to meet health service needs including occupational medicine and radiology services.

Summary

Although there has been a recent decline in the price of coal and with that some activities throughout the industry, there is and will continue to be, significant population growth occurring in the Isaac LGA. There are at least 23 mines earmarked for the Isaac region in the next ten years and it is anticipated that the non-resident workforce population will reach 19,290 in 2016, equalling 40% of the total population. The project identified that there is a significant impact on health services from the non-resident population that will need to be taken into account for future health service planning. There also needs to be more available and affordable housing and clinical workspaces for the health workforce in order to recruit and retain quality staff. Harnessing existing capacity at the local level through coordination and collaboration of public and private partnerships, with engagement of the resources sector is essential to ensure the ongoing sustainability of the health services in the region. Whilst the project has concluded, follow up planning meetings have been held and a Health Care Partnership
Group has been formed. The Group are extremely motivated to implement the strategies that have been developed and to continue to prioritise the sustainability of health in the region.

**Policy recommendation**

The project identified that the non-resident population in the mining community of Moranbah have a significant impact on health services and this burden may be similarly reflected in other mining communities. As workforce and service planning is usually based on resident population, and does not include non-resident workers, there is an under-allocation of health workforce and workforce support resources for these mining boom areas. There is a need to rethink the process of planning health services in these communities. FIFO/DIDO populations must be taken into account for future health service planning.

**References**

1. FIFO/DIDO Senate Enquiry, Isaac Regional Council Submission, October 2011.
7. The Consumer Integrated Mental Health Application (CIMHA) database (2012)