



NATIONAL RURAL
HEALTH
ALLIANCE INC.

A new geographic classification for a new health system

A submission to the
Department of Health and Ageing
related to its review of remoteness classifications

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*This Submission is based on the views of the National Rural Health Alliance but may
not reflect the full or particular views of all of its Member Bodies*

A new geographic classification for a new health system

This paper outlines the thoughts of the National Rural Health Alliance regarding geographic classifications used by government to allocate rural health incentives (scholarships, retention payments, etc). It proposes a layered system of geographic classifications that we believe could better target assistance in rural and remote areas and could therefore potentially be used to guide allocations in many rural health programs.

The National Rural Health Alliance is the peak non-government body concerned with rural and remote health issues in Australia. It comprises 28 Member Bodies, each a national body in its own right, representing health professionals, service providers, consumers, educators and researchers. The vision of the National Rural Health Alliance is equal health for all Australians by 2020. A list of Alliance Member Bodies is at Appendix 1.

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Introduction

In 2005, the Australian Government Department of Health and Ageing (DoHA) reviewed the geographic classification system used to describe broad levels of geography related to rurality or remoteness. This was called the ‘Review of the RRMA Classification’, although it was clear that what was being reviewed was geographic classification generally, rather than the RRMA classification specifically.

That work, developed with what appeared to be some good and wide consultation, was never released publically.

The Alliance is pleased that DoHA is currently in the process of reviewing geographic classifications along with its rural health programs generally. This represents a good opportunity to install a strong, flexible and long lasting tool.

Background to geographic classifications

Previously, the Rural, Remote and Metropolitan Areas classification (RRMA), Accessibility/Remoteness Index of Australia (ARIA) and the ABS Australian Standard Geographic Classification Remoteness Structure (ASGC Remoteness, sometimes known as ARIA+) have each been used by government to allocate funding, with all three currently being used by different programs within DoHA and/or for statistical reporting purposes.

Each of the classifications has its own strengths and weaknesses.

The RRMA classification is based on population data from 1991 and allocates a category to each Statistical Local Area (SLA). Since 1991, populations have changed (in some cases substantially), and many of the original SLAs have been broken up or amalgamated. One of the important things about RRMA was that it classified areas in what appeared to be a clunky but sensible way (eg large rural towns versus small rural towns), and both remoteness and town size were taken into consideration so that, for example, larger centres in remote areas like Broken Hill and Mount Isa are distinguished from centres of the same size in rural areas.

ARIA was developed by the Department of Health and Ageing in 1997. Under ARIA, 81% of the population lived in Highly Accessible areas (for example Tamworth and Inner Sydney). This left 19% of the population to be distributed among what were called Accessible, Moderately Accessible and Remote areas (the use of the term 'accessible' may have trivialised the remoteness issue and risked losing the concepts of rural and regional from the mix). On another note, places like Urana, Dubbo and Darwin were allocated similar levels of remoteness. From the perspective of the Alliance, and probably from the perspective of the residents of those places, this makes little sense. Additionally, the ARIA system formed the basis for classifying geography for other specific purposes, for instance, when it became useful to look specifically at the distribution of GPs, the ARIA methodology was used as the basis of GP ARIA.

ASGC Remoteness Structure – a recent addition to the ABS Australian Standard Geographic Classification (ASGC) - is what ABS call 'purely geographic'. It is based on the continuous ARIA+ classification – is like ARIA but with better definition at the remote end, and on a continuous scale of 0 (central Sydney or Melbourne) to 15 (somewhere very remote - deep space perhaps or Central Australia). ABS have allocated a remoteness category by inserting 4 cut-points on the ARIA+ scale of 0-15 (e.g. if ARIA+ score is less than 0.2, then the Remoteness category is 'major cities') to form the five categories Major Cities, Inner Regional, Outer Regional, Remote and Very Remote.

The ASGC Remoteness structure makes reasonable sense on the ground, as do the names of the categories. It also benefits from having been developed and maintained by ABS, who want a stable classification that will last for many years. SLA structural changes are taken into account by ABS each time SLAs are broken up or amalgamated, and all (or almost all) ABS (and AIHW) data is available for these categories (i.e. it is possible to statistically describe many of the characteristics of these areas).

One of the fundamental differences between RRMA and both ARIA and ASGC Remoteness is that RRMA combines a measure of remoteness (cities, rural and

remote) with settlement size (e.g. large rural, small rural, ‘other’ rural area), whereas the others relate only to remoteness from major population centres. None of them refer to remoteness from actual services: services are assumed to be related to the size of population centres. Also, RRMA uses remoteness based on straight-line distance and relates only to Statistical Local Areas, while the other two relate to remoteness based on road distance and can relate to any area that can be built from census collector districts (eg Statistical Local Area, Statistical Divisions, postcodes, Electorates, states etc).

NRHA struggles to define rural

The Alliance itself defines ‘rural and remote’ in a manner that does not neatly fit with any of the known geographic systems.

In its Constitution ‘rural and remote’ is defined as RRMA 3, 4, 5, 6 and 7, but not including Townsville. Which rural and remote cities should be ‘in’ and which should be ‘out’ continues to nourish debate within the Alliance. Some would advocate that (for example) Albury and Toowoomba (Inner Regional with populations~100,000) be included within the Alliance’s sphere of interest, but that ‘remote’ Darwin (Outer Regional with population~100,000) should not.

Necessarily when Government programs use new classifications, or a range of classifications, organisations such as the Alliance need to translate their understanding of the old classification so that it fits the new classification – this can be rather messy, it is certainly contentious and not at all satisfactory. For example, the Alliance may ask itself whether Inner Regional areas are pretty much the same as Large Rural Centres (RRMA3), and if not, how would RRMA3 be defined using ARIA+?

This new nested system we are proposing would go a considerable way to allowing the Alliance to review and better define its jurisdiction.

The Alliance recognises that along with needy areas outside Metropolitan boundaries, there exist many needy areas within metropolitan boundaries. The new system we propose may also be of use in providing a more uniform tool for allocating resources to populations of need, irrespective of their location. The new system we propose combines elements of place (rural, remote, urban) with elements of need (health and social status etc) – but in a manner which allows them to be dealt with separately when necessary.

What the Alliance would like to see is a well devised, powerful, flexible classification system, capable of being maintained and appropriately adjusted to reflect changes on the ground over a long working life. These characteristics are further discussed below.

Factors in designing a new classification system

In this section we will discuss:

- potential uses for a new classification system;
- desirable characteristics of a new system; and
- important parameters to include in a new system.

Uses for a new classification system

A new classification system could have a number of uses. It could be used to:

- allocate cash incentives, rewards and benefits to rural workers;
- allocate scholarships to students from rural areas;
- allocate and target community development programs, aimed at benefiting health and wellbeing in rural and remote areas;
- differentially stagger Medicare payments;
- differentially stagger health service budgets in rural and remote areas;
- differentially stagger patient assisted travel scheme (PATs) payments depending on circumstances;
- provide a single robust system to underpin the administration of many rural health programs;
- report health statistics in rural/remote areas (so as to monitor performance of and steer policy and programs); and, potentially
- for other purposes.

These are discussed in greater detail on page 12.

Desirable characteristics of the new system

The Federal Health Minister has expressed “concern” that the current system is based on population data from 1991. DoHA previously commenced a process of review with the intention of producing a ‘draft review of RRMA’, although this has not yet been released.

To the Minister’s concerns we add our own. Not only is RRMA based on 1991 population data, but some programs relating to rural health and wellbeing also rely on ARIA and ASGC Remoteness. Confusion and dated systems walk hand-in-hand. To this we would add that these geographic classifications by themselves are very blunt tools – they lump what we see as very different populations together in the same categories.

A new classification system would benefit from a number of qualities, which are discussed below.

The system must be compatible with other standard tools across professions and Departments. There is not much point having a great system if it is used only by Health (to the exclusion of other portfolios).

If the classification is useful only for allocating subsidies to health workers and students, then we will have a very limited system. For example, one would imagine that it would be useful to be able to refer to demographic, economic, health, workforce, etc data using one single set of classifications e.g. those used by ABS. Allocation of subsidies frequently relates to disadvantage on at least one of a number of fronts – and most of these would be available using standard ABS classifications.

The system must be widely adopted in Australia. We currently have at least three classifications in use, which is confusing and not very convenient. Also, current Health programs appear to rely on RRMA and ARIA while available data describing

demography, health status, risk factors and access to services in rural and remote areas employ ASGC Remoteness. Whichever system is adopted by Health, it would be extremely handy if this was also widely used elsewhere (ie in other portfolios and/or by statistical agencies).

The system must be meaningful for delivery of rural and remote health services and the overall management of people's health. Clearly the system must make sense on the ground for rural people, for service providers and for administrators.

The system must be long-lived. For example, will the system continue to be used for the next 20 years? The system needs an 'owner' and must be stable over time with regular updates (for example, reflecting population changes). RRMA had been developed by DPI, and was then adopted by DoHA. But no agency took responsibility for keeping it alive - refreshing and updating it so it could continue to be current and clearly justifiable. ASGC is 'owned' by ABS who aim to keep it operational and up-to-date for as long as possible and/or appropriate. Remoteness updates and tools are available from ABS, as is support expertise.

The system must be flexible and powerful. In other words it should provide the capacity for useful information to be both built up and disaggregated (i.e. a multilayered system), providing fine detail when necessary. By itself, ASGC Remoteness will not satisfy this criterion, however, as part of a larger system it may be very useful. If, for example, the new system utilised not only ASGC Remoteness but also SEIFA, local town size, percentage of population who were Indigenous, local health statistics (e.g. death rates) together, then a powerful and flexible classification could be developed.

Of course, potential downsides include the fact that not all components of the 'classification' could be used on every occasion when reporting statistics. For example, the reporter would start running out of people in very specific categories: eg Indigenous people aged 55-59 in outer-regional areas who are in the lowest SEIFA quintile. However, any of the components could be aggregated in reporting, and not all parts of the system would necessarily need to be reported simultaneously. However, for allocating subsidies, inducements or other benefits, such a system would appear to have real strengths.

The system must be capable of being used for multiple purposes. These might include allocating subsidies to individuals on the basis of their characteristics or those of their community, or allocating benefits to health districts on the basis of the characteristics of the people living there; and it might also be used to report health statistics. This is further discussed below.

The system must be easy to use. The components of the system need to be readily available, easy to use, and with access to expert advice. For example, all components could be available on the DoHA (or ABS) website, along with definitions, concordances, and lists of communities within each category.

Important parameters in an integrated classification system

In our opinion, the following parameters have a bearing on the health and wellbeing of people in rural and remote areas, and so should be included in the new system.

Remoteness

This tells us about the average distance of a particular location from a range of population centres. For example, a location classified as 'inner regional' could be a small town (eg Tumut) moderately close to larger centres, or a large relatively isolated town (eg Dubbo). Remoteness does not necessarily tell us about the size of the population of the urban centre, and it can sometimes be a proxy for other issues, for example, socioeconomic status, or the percentage of the population who are Indigenous.

Living in a rural or remote area may not influence access to some things (eg a doctor, a nurse or to open space), but it likely reduces access to other things such as specialists, schools, universities, public transport, broadband, television, lower prices, teaching hospitals and the ballet.

So remoteness can mean different things in different situations. For example, while a person living in a rural town of 8,000 people may be remote from an oncologist, they may be less remote from a GP (if they have one) than a person living in a major city. Use of remoteness alone and uniformly in each situation to describe rural disadvantage is likely to be inappropriate.

Size of the urban centre

The size of the urban centre is an important concept which is not the same as remoteness. For example, both Darwin NT (population about 100,000, ARIA score 3.0) and Urana NSW (population about 1,200, ARIA score 2.8) are classified as Outer Regional areas. Clearly opportunities for a range of benefits in each urban centre are different, employment and education opportunity will be different, access to a GP, cancer treatment, aged care and trauma care are likely to be very different in each centre, and while one centre may be attractive to health workers, the other may not.

The size of the local urban centre tells us something about the range of services likely to be available locally and the setting in which health workers and others in the population work and live their lives. It is an important parameter, and one that RRMA (but neither of the ARIAs) recognised.

Prevalence of Indigenous people

The presence of Indigenous people in the population is important because a substantial Indigenous population in an area may require additional and an especial focus on culturally appropriate care. It may also be desirable to increase funding in areas with proportionally large Indigenous populations so as to better address poor health and infrastructure issues.

Recognising the prevalence of Indigenous people in the population is important because closing the gap between the health of Indigenous and other Australians is a national priority.

Socioeconomic status

Socioeconomic status (SES) is important because populations with low SES will tend to have poorer health outcomes and will tend to be less able to access services. Populations with low SES also tend to have lower health literacy, and are more likely to smoke and exhibit other poor health behaviours.

Socioeconomic status can also influence the sustainability of rural and remote communities; for example, industry is more strongly attracted to areas with a well educated workforce. Populations with higher SES are also more likely to be able to take advantage of opportunities and may be more capable of attracting and retaining health workers. Populations with low SES are also less likely to be able to pay for their health care and may have difficulty accessing interventions or diagnostic tests.

Health outcomes

Health outcomes could arguably be regarded as a consequence of all of the other parameters mentioned here. However, it is also arguably a useful parameter to be included in a classification suite.

Some measure of health deficit is important because it informs where and on what additional effort is required, and where there may be special need for additional health workers.

It is possible that health outcomes (perhaps as measured by mortality) may be correlated with SES, and may be a redundant factor; perhaps SES tells us all we need to know? The degree of correlation may need to be tested.

Law and order/social cohesion

Such a factor is important because safety, fear (and its converse, community social cohesion) are critical for a healthy environment, the development of health itself, and the recruitment and retention of health workers.

Communities with poor social cohesion or law and order problems are unlikely to be attractive places to live, and are less likely to be sustainable communities.

Communities with high levels of social cohesion tend to be more likely to take care of one another in adversity.

We are unsure which measures would adequately and conveniently describe this concept. One option would be a measure, for each area, of the per-capita reported crime rate (eg assault rate). There may also be other, less negative measures.

Amenity

Amenity is an important parameter. In the context of this paper it relates to the physical attractiveness of a location, climate, trees along streets, things to do (eg surfing at beach or skiing on the dam), butterflies, mosquitoes, quality of urban planning etc; that is, those parts of the built and natural environment that allow or encourage residents to enjoy life.

Amenity is the first aspect of a community to strike someone newly arrived (including a health worker), and it is frequently what attracts people to an area in the first place, but for some reason it has tended to be ignored as an important factor affecting rural health.

Good amenity affects health because it attracts health workers, helps to attract industry (eg tourism) and impacts directly on the health of individuals by providing residents with a sense of joy, encourages people to spend time outside and be engaged with life, with each other, with activity and with the environment.

Amenity may explain some of the difficulty in attracting health workers to inland compared with coastal regions.

While some rural and remote towns are outstanding on this criterion, others have poor amenity.

We are unsure what to suggest as a measure of, or proxy for, amenity. It is possible that no single measure currently exists. Bearing in mind the importance of the concept, we believe that it is important (and not only from a health perspective) for a measure to be identified and/or developed.

Existing health workforce

Information about the existing workforce is important – why encourage health workers to move to areas where there are already enough? Why improve access for a population for whom it is already outstanding?

If done cautiously, we suspect that reducing focus on areas with adequate health workforce while increasing the focus on areas with an inadequate health workforce could reduce expenditure overall, and provide greater power to address workforce shortages in those areas truly experiencing them.

Development and use of this parameter, in conjunction with use of the other parameters mentioned above, has the opportunity to feed research identifying those factors that make communities healthy and/or adequately populated by health workers.

Identification of, and action on, the key factors for enhancing the health of people in rural and remote communities, for attracting and retaining health workers, and for bolstering the sustainability of rural and remote communities would reduce the need for the Department of Health and Ageing to inject funds into other rural health programs.

Two measures of the existing health workforce in an area may be necessary:

- a measure of health workforce in the community in question; and
- a measure of the health workforce in the broader ‘region’ or catchment.

Currently, information about the presence of health workers on the ground is poor because there is still no single national register and no effective compilation of national health workforce data. Both Medicare data and AIHW survey data can only describe some parts of the workforce, or suggest what it might look like nationally.

The anticipated establishment of a new single registration board for all registrable health professions, if linked to an appropriately confidential dataset, would provide better data for populating this parameter.

Potential difficulties in introducing a new system

Introduction of a set of new classification systems could be disruptive. Everyone (except the unimaginative) would go through a period of some confusion. Not only would administrators need to become familiar with the new system, but the new system could disadvantage some ‘clients’ while benefiting others. It might take some time for a new system to become bedded down and accepted. The Government will be concerned that some people and communities will be classified differently under a new system.

Some people have made financial or business decisions based on the understanding that they are eligible for benefits under the current system, and the new system might threaten that eligibility.

Clearly, classifications have been changed in the past, and will be changed in the future. We believe that the plethora of wrecked classifications littering the landscape, and which are still hobbling along trying to fulfil their purpose, is evidence of this assertion. We also believe that this soup of multiple classifications of varying levels of utility signals the need to ‘tidy-up’ and to move on to a single well-devised system.

The timing to move to a new system would appear to be good. The Government’s focus on overall reform of the health system and its review of rural health programs, in conjunction with the availability of improved data, classification systems and tools (for example Meshblocks – see box) makes this an auspicious time to move to a single and better system.

ABS is very soon to commence the use of Meshblocks. These are discrete geographic areas of a small number of households (nominally 50); that is, they are smaller than a Census Collector District. These Meshblock areas will be geocoded by street address (including RMB address). This will allow a finer detail of mapping, and more accurate and easier allocation of remoteness than is currently possible using postcode. Meshblocks can be aggregated-up to any other ABS geographic area (e.g. SLAs, Remoteness category, postcode, etc). Also, usefully, Meshblocks are designed to ‘never’ change (unlike SLAs) - making the application of geography substantially less troublesome that it has been in the past.

A potential solution to address the concern about disadvantaging some beneficiaries of the current classification system is to employ time-limited grandfathering, giving people time to adjust before they become subject to the new system. For example, while fresh applicants would need to be assessed under the new system, people who have been eligible under the old system could continue to be classified as eligible for the duration of their tenure (eg if students), or for a specified amount of time (eg 3 years). People who had previously been classified as ineligible, would need to reapply.

Levels of eligibility would also likely change – so not only would some people become ineligible and others eligible, but the degree of eligibility could change - for example, benefits for some may increase by (say) 20%, while for others they may decline by 30%. Again, negative (and possibly positive) changes could be buffered by time-limited grandfathering.

Of consolation is the fact that if the older systems were 'about right', and if therefore resources are being allocated appropriately, the number of losers will be small, as will be their loss.

Additionally, the influence of each of the components of the classification suite could be adjusted so that the initial net change (as experienced by incentive recipients) is small. Over time, the influence of each of the components could slowly be adjusted so as to fine-tune the system and deliver optimal benefit to the right people in the right areas.

The Government has been at pains to stress that net expenditure on the programs involved should not increase. This might well limit the pace at which a new classification system is rolled out. At present, it appears very likely that people in rural and remote areas not only have lower access to public medicine, but also to a wide range of publically-provided services - even though they pay the same level of tax. For example, apart from lower levels of access to health services, people in rural and especially remote areas also appear to have lower levels of access to education, public facilities (eg Opera House), public transport, roads, libraries and so on.

People in rural and remote areas provide many of the basic and essential raw materials upon which the rest of us rely, while at the same time earning less, dying younger, paying as much tax and individually consuming fewer taxpayer dollars than people in Major Cities. As might be expected, the Alliance is attracted by the argument that if people in rural and remote are to continue to pay taxes at the same rate as those in the major cities (the very small remote zone allowance notwithstanding), they deserve and need access to more services than they are currently receiving.

How an integrated classification system might work

This draft method suggests:

- adoption of ASGC Remoteness (ARIA+) as a remoteness classification;
- adoption of a multilayered classification system to take account also of other issues (where important), such as town size, Indigenous status etc;
- a mechanism for using this multilayered system for allocating funding using easily derived and pertinent parameters, which can be easily applied by the funding body, and which arguably distributes funding more effectively;
- that the multilayered classification should reduce the reliance on and/or become the new basis of a range of specific rural health programs, many of these would no longer be required in their present form;
- that the multilayered classification would be the framework for monitoring health status, determinants, access to services and health workforce in rural and remote areas; and
- that the multilayered classification would be the framework for better targeting and funding Indigenous population health.

As discussed previously, a multilayered classification system could draw on:

- remoteness of the SLA or postcode (R);
- town size (using GISCA or ABS data to classify the area based on the population size of the closest urban centre. It may be best to use ARIA+ settlement cut-offs of 1000, 5000, 18,000, 48,000 and 250,000 population)
- an Indigenous component (either percentage population that is Indigenous or whether applicant is Indigenous or not);
- socioeconomic status (SEIFA);
- mortality index for the area;
- social cohesion/crime index;
- amenity index;
- index relating to the existing health/welfare workforce.

No longer would remoteness alone dictate funding.

These parameters would feed individual funding formulae for a range of purposes discussed below. Each formula would be used to calculate the incentive/reward/etc applicable in each situation.

For example, the formula used to determine the scholarship received by a student would be different from the formula used to determine the practice incentive received by a GP, because in each case a different set of issues is important.

The formulaic approach should not be an issue for those allocating funding because all they need to know is the nature of the application, the applicant's postcode and perhaps some personal details (for example, Indigeneity). These details are then entered into a 'black box' (eg secure excel worksheet) to calculate the size of the benefit.

We believe that the ABS ASGC Remoteness Structure (sometimes known as ARIA+) is the most appropriate current geographic classification on the basis that it actually makes sense on the ground, is a truly geographic measure of remoteness, and is regularly serviced and updated by ABS (unlike RRMA and ARIA which are not serviced and not updated). It is also a classification for which much ABS and other data is or could easily become available, and it lends itself to the use of meshblocks (which could be particularly useful in this context in the future).

We have substantial concerns about ARIA+ being used in isolation. At the very least, remoteness should be coupled with a measure of local town size but overall our strong preference is for the development and application of the multilayered index proposed in this paper.

Under the current system, an applicant either receives funding or doesn't; under the proposed system, funding could better reflect the particular circumstances (not just the remoteness) of the applicant (i.e. funding is in shades of grey rather than black and white).

Characteristics (for example, the remoteness, mortality, SEIFA, etc) of the postcode or SLA could easily and reliably be available through ABS at relatively small cost.

Allocating incentives, rewards and benefits to rural health workers

There is currently an undersupply of GPs, specialists and allied health workers in rural and remote areas.

Doctors and other health workers are less likely to want to work in rural and remote areas than in Major Cities for a number of reasons.

- The opportunities for a spouse's career are poorer outside major cities; this can result in lower household incomes and/or feed spouse discontent.
- Net incomes for health workers are thought to be lower outside major cities. In the case of GPs this is partly due to the existence of two markets: one for those who, like IMGs, are required to practise in specific areas, while others are free to go where they will. The market for health workers is also affected by the absence of economies of scale in small hospitals and solo practices.
- Most training centres for the health workforce are in major cities, young people from major cities are more likely to study medicine than young people from the country, and social networks and responsibilities (including marriage and aging parents) developed while studying and in early career can make it difficult for health workers to move away from major cities.
- Access to formal recreation of particular kinds (eg theatre) is poorer outside major cities.
- The perceptions of living and working in rural and remote areas can be negatively stereotyped.
- The opportunities to take time off work (eg for holidays, a day or a weekend) and for a decent roster are lower outside major cities, largely because of the limited availability of colleagues and of locums to cover the workload.

- Smaller population centres and smaller aggregations of health workers reduce the opportunity for professional interaction, contributing to feelings of professional isolation.
- Lower levels of choice regarding schooling for children, especially in secondary school, reduce the attractiveness of many of the smaller rural and remote towns for parents at a particular stage of their life.
- There may be a fear of becoming ‘locked-in’ because of personal financial investment in the practice, with little opportunity to escape without losing a substantial investment, and/or leaving patients without care.
- Some rural and remote areas, like some major cities areas, are dangerous or unpleasant places in which to live. For example, some areas have higher crime rates than others, which would tend to reduce the level of attractiveness, or they may simply be very hot and very humid.
- There may be limited availability of good housing at affordable prices.
- There may be a limited range and quantity of supportive infrastructure and equipment, and the scope of practice may limit people’s ability to self-actualise and control their own destiny.

The plethora of government programs to encourage health workers, especially doctors, to work in rural and remote areas attests to the established belief that the supply of health workers needs to be improved.

Clearly there are a range of potential actions to address each of the concerns listed above, with many of these having been addressed by the Alliance in previous submissions and position papers.

We believe that an effective resource allocation tool, such as an improved and well devised geographic classification or classifications, driving a formulaic approach to providing incentives, is key to addressing some of the rural health and welfare divide.

One possible action to address or compensate for this long list of issues is the payment of incentives which may overcome some of these concerns and encourage doctors and other health workers to actively seek work in areas outside major cities.

Relevant variables to be built into a formula which would be used to calculate size of the incentive would include the following:

- the remoteness of the town;
- the population of town and town catchment (hinterland);
- the Indigenous population in town;
- a law and order/social cohesion index;
- health outcomes (eg death rates) or SES as a proxy for health generally;
- an amenity index;
- the state of the existing workforce in or servicing town, relative to the population; and
- the existing workforce in the region or catchment, relative to the population.

It may also be useful to include an index of the ‘economy of scale’ likely to be achieved by a health worker. For example, such a measure could be used to encourage

the development of group or regional practices, or affiliations of solo practices which aim to mutually support and share resources.

A demonstration of how these parameters might be used to allocate incentives is included as Appendix 2.

Allocating scholarships to students from rural areas

Rural/remote students are less able to study a range of health-related courses for a number of reasons (access to quality education, aspirations, poverty, costs of living away from home, etc), but are more likely to work, when qualified, in rural and remote areas than those who have grown up in metropolitan areas.

We believe that the rural and remote health workforce would be bolstered if more students from rural and remote areas chose to study medicine and other health disciplines.

Financial incentives based on an appropriate funding formula could encourage students who grew up in rural and remote areas and perhaps those who are Indigenous to study target health courses. Additional bonuses may be appropriate for students from poorer areas, or for other desirable characteristics, using a simple formula backed by high quality and consistent data.

Such funding formulae may rely on variables such as:

- the remoteness of the area in which the student grew up;
- the population of the town associated with the area in which the student grew up; and
- Indigenous status.

Remoteness of the area and size of the town where students grew up is important because it influences the sort of 'place' where students prefer to work after they qualify.

Indigenous status may be an important variable if it is considered important to give Indigenous students a 'leg up' so as to overcome disadvantage, encourage the development of Indigenous role models and increase the size of the Indigenous health workforce.

Incentives (eg scholarships) would be calculated using formulae in a similar way to that used to calculate incentives for health workers (see Appendix 2).

For example, a formula designed to seek students who grew up in small rural towns would weight outer regional and remote areas with small population centres higher than areas of similar remoteness but with large centres.

The number of 'scholarships' available would be determined in consultation with the single health professions registration (board) apparatus, training bodies, and workforce planning organisations within Australia.

Specific intake of students from suitable rural and remote areas should be mandatory for all health faculties responsible for training professionals for which workforce shortages exist in rural areas. And there should be further investigation of (and consequent action on) the reasons why so many in some health professions do not practise long in their chosen field. (What is the point of training astronauts if they choose to stay on Terra Firma?)

Differentially stagger Medicare payments

While enjoying many benefits (and suffering a few disadvantages), people living in rural and remote areas experience the related evils of lesser ability to afford to pay for health services, lower rates of bulk billing, and lower access to medical practitioners.

Differentially staggered Medicare rebates could potentially address all of these problems.

For example, if GPs in small rural towns were entitled to a higher Medicare rebate than their metropolitan colleagues, they may be more inclined to bulk bill, or to charge the patient a smaller co-payment. Rural practice would then potentially be more attractive, rural GPs better rewarded for providing a more complex service than their metropolitan colleagues, and hopefully residents would have greater access to Medical services, especially to primary care.

Additionally if, under national reform, Medicare were to be modified and broadened so as to bolster medical practitioner, nurse practitioner and allied health efforts to prevent or delay the onset of chronic disease and other costly health conditions, it is plausible that there would be an overall benefit to economic productivity (and that frequently discounted intangible 'health and wellbeing') if not also a reduction in expenditure on health care in Australia.

Potentially a model that might successfully enhance Medicare along these lines could include parameters such as:

- remoteness of the area in which the worker operates;
- town size in which the worker operates;
- SES of the area in which the patient lives;
- possibly health outcomes (although this might be covered by SES?); and
- Indigenous status.

Under such a model, Medicare rebates would be higher than is currently the case for health workers in small rural towns, populated by people who, on average, have lower incomes, higher death rates and who are more likely to be Indigenous.

Differentially stagger health service budgets

Should the Australian health system undergo radical improvement over the next few years, it could potentially be feasible for a region's whole health budget to be allocated on the basis of need, rather than on the basis of supply as is currently, at least partially, the case. For example, this could be the case if management of all health services were managed by regional health authorities under the 'supervision' of a single national health authority. Under such a radically improved scenario, it may be possible to use a formulaic approach to allocate budgets to regions on the basis of:

- remoteness;
- town sizes;
- SES;
- health outcomes;
- Indigenous proportion;

- and possibly other factors.

Regions would then deploy resources locally so as to best address the specified aims of their charters.

Differentially stagger patient assisted travel scheme (PATs)

If health services are not available for taxpayers close to where they live, they must either pay to travel to the service, be assisted to travel to the service, or choose not to access the service.

As well as being unpalatable to an egalitarian society, the choice not to access the service reduces or prevents their ongoing contribution to the nation's productivity. However, we believe that this choice is made too frequently because people, especially in the smaller towns and more remote areas, too frequently cannot afford to pay to travel and for accommodation, even with the contribution made by PATs payments.

In some instances relatively poor (and not so poor) people from rural communities need to rely on the generosity of the community to raise funds to attend essential medical care. In communities where social capital is poor, community support may not be an option. Assistance may be especially difficult in some Indigenous communities where the supply of money may be limited, and when travel away from their own community may be especially traumatic for cultural reasons.

In our opinion, there is a case for PATs to be enhanced so that payments reflect a number of factors:

- remoteness;
- town size;
- SES of town;
- Indigenous status of the patient; and
- social capital.

We believe that social capital should be drawn upon - but not to the point that it drains and exhausts the community. People should be given the opportunity to give since it makes them feel good and bolsters social capital. However, assistance could be in-kind, should not be critical to the decision to seek care or not, and should not be habitually relied upon nor be a drain on the community.

Allocate and target community development programs

The Alliance believes that many of the problems associated with rural health (eg health outcomes and supply of workforce) would dissipate or reduce if rural centres were more sustainable in economic, social and ecological terms.

The sort of economic decline that comes from drought-reduced farm incomes, lower expenditures in the local town, closure of the local supermarket, redundancy of staff and their migration to another area is likely to lead to further decline in the community. Such decline could take the form of the loss of the town's doctor or downgrading or closure of the local hospital, despondency, greater reliance on social security, reduced opportunities for youth, reduced opportunities for care of the elderly locally, and so on.

Local development has a number of effects. It can shield or bolster a community from damage to its sustainability, improve efficiencies of scale, and/or increase income diversity. These things in turn will enhance sustainability and boost prosperity. They will also improve local ‘amenity’ or attractiveness of the area as a place to live (including for health professionals), and help improve people’s health directly.

Potentially, the multilayered classification system proposed here (or a relative of it) could be used to differentially stagger income-tax liabilities for people living in rural and remote areas. This would be justified by the fact that they have lower levels of access to public funded benefits such as health care, secondary and tertiary education, public transport, public facilities, broadband etc, as well as lower levels of job mobility.

A model that, as part of a broader Australian Government policy, aims to enhance rural and remote area sustainability, could make use of the following parameters:

- town size;
- remoteness;
- health outcomes;
- Indigenous proportion; and
- SES.

A potential danger of targeting rural development is that it may be like joining in guerilla warfare: once committed, it is difficult to withdraw, even when it becomes obvious that you ain’t going to win. Government commitment at any one time may be taken to mean commitment for all time. Political expectations are raised. Certainly recent experience shows that all governments have been unwilling to ‘pick winners’, whether communities, regions or industries.

Nevertheless, there will always be government intervention in many of the policy areas that impact on regional and local growth and decline: taxation, schools, telecommunications, housing, transport and other infrastructure – as well as hospitals and other health services.

We believe that the classification system and process outlined in this paper would have the capacity to throw light onto these important policy areas and, potentially, be used to guide intervention justified on the basis of a collection of indicators.

Report health statistics in rural/remote areas (so as to monitor performance of and steer policy and programs)

Monitoring and evaluation of the effectiveness of policy and programs is critical.

Without adequate evaluation, government is unaware whether expenditure of public funds is having an adequate impact or whether it could be better deployed elsewhere.

Administering without evaluation is like driving with your eyes closed: you can hear the ‘suggestions’ and abuse of the onlookers, but you can only guess where you are going and when you are going to get there, and may miss the destination by miles (and hours). This should not be a model for the administration of publicly-funded programs.

Previously, reporting for rural and remote areas has employed a single ‘remoteness’ classification (eg RRMA, ARIA or ASGC Remoteness (ARIA+)). While this has provided adequate detail to identify poorer health in rural and remote areas generally, it could be greatly improved upon to closely steer rural health policy.

Use of a multilayered classification system to describe health determinants and status, and to assess the effectiveness of rural and remote health policies and programs, has the capacity to be tremendously useful.

If the classifications are chosen carefully, it should be possible to ‘easily’ and readily report for several selected variables at once (although it may not be possible to report for all variables simultaneously - at least because we would likely ‘run out of numbers’ if we stack too many variables on top of one another simultaneously). Such an ability should allow greater power to ‘see’ where we are going than is possible under the current system.

Potentially useful variables and their suggested classification systems

Variable	Classification
Remoteness	ARIA+
Town size	Size of urban population (employing ‘Section of State’ boundaries)
SES	SEIFA index of disadvantage
Indigenous	Percentage Indigenous
Workforce	Based on registrations with the proposed National health workforce registration entity
Amenity	To be developed
Industry	ABS industry classification (broad ASIC)?
Health outcome	Standardised Mortality Ratio

Appendix 1

Member Bodies of the National Rural Health Alliance

- ACHSE** Australian College of Health Service Executives
ACRRM Australian College of Rural and Remote Medicine
AGPN Australian General Practice Network
AHHA Australian Healthcare & Hospitals Association
AHPARR Allied Health Professions Australia Rural and Remote
AIDA Australian Indigenous Doctors' Association
ANF Australian Nursing Federation (rural members)
APA (RMN) Australian Physiotherapy Association Rural Member Network
ARHEN Australian Rural Health Education Network Limited
ARNM Australian Rural Nurses and Midwives
CAA (RRG) Council of Ambulance Authorities - Rural and Remote Group
CRANA Council of Remote Area Nurses of Australia Inc
CRHF Catholic Rural Hospitals Forum of Catholic Health of Australia
CWAA Country Women's Association of Australia
FS Frontier Services of the Uniting Church in Australia
HCRRA Health Consumers of Rural and Remote Australia
ICPA Isolated Children's Parents' Association
NACCHO National Aboriginal Community Controlled Health Organisation
NRHN National Rural Health Network
RACGP(NRF) National Rural Faculty of the Royal Australian College of General Practitioners
RDAA Rural Doctors' Association of Australia
RDN Rural Dentists Network
RFDS Royal Flying Doctor Service of Australia
RGPS Regional and General Paediatric Society
RHWA Rural Health Workforce Australia
RIHG Rural Indigenous and Health-interest Group of the Chiropractors' Association of Australia
RPA Rural Pharmacists Australia—Rural Interest Group of the Pharmacy Guild of Australia, the Pharmaceutical Society of Australia and the Society of Hospital Pharmacists of Australia
SARRAH Services for Australian Rural and Remote Allied Health

Appendix 2

This Appendix provides a hypothetical demonstration of how modelling could be used to allocate financial loading incentives for health workers (in this case GPs) in rural and remote areas.

Adjustment to the Medicare rebate, or flat rate payment, or other form of incentive may be based on a formula such as:

Financial Loading=WRIPSED (ie $W * R * I * P * S * E * D$).

Where W,R,I,P,S,E and D are defined below.

For simplicity's sake, both the social cohesion index and the amenity index have been omitted from this demonstration.

Clearly there are many options for the design of the specific formula, and indeed, the design of the formula would likely be subject to manipulation over the years as it becomes clearer how to wield it for good, justice and the ~~American~~ Australian way! The formula provided here is an example only.

Using this simple formula, and inserting dummy values, a GP electing to work in Wilcannia would be eligible for a loading of 2.1, a GP in Dubbo for a loading of 1.35, and a GP in Wellington for a loading of 1.75.

Now, it is quite possible that the calculated loading in Dubbo is too high, while that in Wilcannia (relative to Wellington) too low. Others may feel differently. However, the working formula would need to be modelled so as to adjust the outcomes to what appears to be 'reasonable'. It should then be tested on the ground and finally adjusted based on the reaction of health workers – its actual effect. If incentives based on this formula above appeared to yield optimal numbers of health workers in Dubbo, Wellington and Wilcannia, one would assume that it is 'about right' and needs no further adjustment.

With the Australian health system under reform, we are unsure by which vehicle financial loadings should be delivered to the recipient; but options include Medicare (ie a Medicare loading), an annual payment, tax relief and so on.

Parameter definitions

Workforce (W)

It is undesirable for a rural community to have no locally based health workers or insufficient workers, and it is undesirable for health workers if the town is crawling with them, and that they have to engage in arm wrestling to apportion work.

Using medical practitioners as an example.

We are assuming for the purposes of this demonstration that the population/GP ratio be as close as possible to (say) 1,000 people per GP:

- if health district Population/GPFTE ratio is more than 1200 then $W_1=1.05$;
- if town Population/GPFTE ratio is more than 1200 then $W_2=1.1$;
- if GP is only GP and town population is less than 2,000 people, then $W_3=1.1$;

- $W=W_1*W_2*W_3$.

The modelling for this parameter could be quite tricky. On the one hand it should reward GPs for working in difficult circumstances, on the other, it would be sensible not to organise the financial incentives in such a way as to perversely discourage a GP from welcoming others to town. Allowances would also need to be made for the on-call duties (in hospital and/or practice) of the GPs.

Regional population/GP ratios (W_1) should be included because regional GP loads would take some of the pressure off sole practitioners in small towns and could potentially be a source of collaboration, locums, filling rosters, outreach or efficiencies of scale.

Remoteness (R)

The more remote the location, the less likely health workers are to be attracted to it and be retained.

- if Remoteness=MC then $R=1$;
- else if Remoteness=IR then $R=1.05$;
- else if Remoteness =OR then $R=1.1$;
- else if Remoteness=R then $R=1.15$;
- else if Remoteness =VR then $R=1.2$.

Indigenous population (I)

The greater the proportion of Indigenous people in the population, the greater the likely need for health services.

- If indigenous pop>50% then $I=1.2$;
- Else if indigenous pop>20% then $I=1.15$;
- Else if indigenous pop>10% then $I=1.1$;
- Else if indigenous pop>5% then $I=1.05$.
- Else $I=1.0$

Town and catchment population (P)

The smaller the town, the greater the need to attract and retain health workers.

- If the population>25,000 then $P=1.0$;
- If the population>10,000 and $\leq 25,000$ then $P=1.01$;
- If the population>5,000 and $\leq 10,000$ then $P=1.02$;
- If the population>2,000 and $\leq 5,000$ then $P=1.03$.
- If the population>1,000 and $\leq 2,000$ then $P=1.04$
- If the population $\leq 1,000$ then $P=1.05$

Socioeconomic index of disadvantage (S);

Low SES is linked with poorer health determinants and poorer health outcomes. While these areas may be less competitive at attracting a health worker, the people living in them will likely have greater need of health services.

If SEIFA quintile='lowest (5)', then $S=1.04$;

Else if SEIFA quintile='4', then $S=1.03$;

Else if SEIFA quintile='3', then $S=1.02$;

Else if SEIFA quintile='2', then $S=1.01$;

Else if SEIFA quintile='highest (1)', then $S=1.0$;

Economy of scale (E)

An economy of scale index could reward efficient group or regional practices, amalgamations and partnerships. For the purposes of this demonstration practices are either classified as efficient ($E=1.15$) or not efficient ($E=1.0$).

Health outcomes (eg death rates) (D)

Areas with poorer health outcomes may well benefit from greater prevalence of health workers. Compared with other health outcomes measures, death rates in small areas are easily and accurately measured.

It is unlikely that death rates and need for health workers are directly correlated (eg death rates are affected by many issues, only one of which is access to health care). However, for the purposes of this work, it is assumed that death rates could be lowered to some extent by greater presence of health workers.

If $SMR > 1$ but ≤ 1.1 , then $D=1.05$;

Else if $SMR > 1.1$ but ≤ 1.2 , then $D=1.1$;

Else if $SMR > 1.2$ but ≤ 1.3 , then $D=1.15$;

Else if $SMR > 1.3$ but ≤ 1.4 , then $D=1.2$;

Else if $SMR > 1.4$, then $D=1.25$;

Results

Calculation of Financial Loading, using dummy values for each parameter, and the trial formula $FL=WRIPSED$

Index	Wilcannia	Dubbo	Wellington
	Estimated Index value		
Workforce	1.05	1.00	1.10
Remoteness	1.20	1.05	1.10
Indigenous	1.20	1.05	1.05
Population	1.05	1.00	1.02
SES	1.05	1.01	1.03
Efficiency	1.00	1.15	1.15
Death rates	1.25	1.05	1.15
Calculated Financial Loading	2.08	1.34	1.77