

Models of Multi-Disciplinary Team Working in Rural Primary Care: An International Review

**Report to the Remote and Rural General
Practice Working Group**

November 2019



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MODELS OF MULTI-DISCIPLINARY TEAM WORKING IN RURAL PRIMARY CARE

SUMMARY

Aim:

To identify and compare current models of multi-disciplinary team (MDT) working in rural primary care provision in a range of developed countries.

Objective:

To provide context and comparative information on the contractual arrangements for MDTs in other developed countries to demonstrate what lessons can be learnt.

Method:

Structured interviews with key informants in a selection of identified developed countries.

Results:

- Interviews with rural health providers were a very effective and rewarding method, despite the fact that it was rapid, and unstructured sample, with missing elements.
- Participants had additional relevant information, not available in the formal literature. The process sparked interest and goodwill amongst participants who all agreed to be co-authors on the report.
- The Issues in rural primary care are complex, and so are the solutions. Rural health care delivery is a challenge everywhere, not just Scotland.
- Culture and context are important in relation to health service delivery, and it is difficult to change established practices.
- Necessity drives change. The most challenging environments often have the most innovation. There is much to be learnt from indigenous health delivery models in relation to multi-disciplinary team working.
- There are specific examples of excellence that Scotland can learn from.

Introduction

The Scottish Government (SG) commissioned a review of models of multi-disciplinary team (MDT) working in rural primary care, to provide an international context and comparative information for the Remote and Rural General Practice Working Group, which is helping to deliver the recent Scottish General Practice contract in rural areas.

This review was informed by a scoping review of the academic literature on rural primary care conducted by Healthcare Improvement Scotland (HIS). This concluded that it is not possible to comprehensively summarise the findings as the evidence base for models of rural care was fairly piecemeal, comprising a variety of study types (although mainly case studies), aims, outcomes and geographical areas. The evidence suggests that decision makers should follow general principles of service design, adapting them to needs, as opposed to applying specific models to practice. Much of the evidence described in the HIS report relates to specific socioeconomic and geographic conditions associated with rurality in Australia and America, care must be taken when considering these research findings in the Scottish context.

There has been much progress already achieved over many years at the global level on health workforce through bodies such as the World Health Organisation (WHO), and those specialising in rural health, the World Organization of Family Doctors (WONCA).

For example, the Dublin Declaration on Human Resources for Health: Building the Health Workforce of the Future emphasized the fundamental importance of a competent, enabled and optimally organized and distributed health and social workforce, especially in rural and under-served areas, for the strengthening of health system performance and resilience.

In the Delhi Declaration, “Alma Ata revisited” WONCA recognised that

- primary health care in rural and other areas must be delivered by teams of health workers with a broad range of skills and levels working together in partnership with communities;
- teams of health workers must focus on delivering comprehensive care that responds to the needs of individuals, families and communities, moving away from a narrow medical model and siloed thinking.

And identified the following six key areas as priorities:

1. Equity and access to care
2. Rural proofing of policy
3. Health system development
4. Developing and educating a workforce fit for purpose
5. Realigning the research
6. People and communities

It was agreed that this review would take the form of interviews with key informants who have day to day experience of delivery of rural health, as this might be a more productive approach. It is being produced in parallel with a report on the key descriptors and challenges of remote and rural general practice in Scotland. This review is an attempt to provide pragmatic information about the current status of multi-disciplinary teams in rural areas across different jurisdictions, and hopefully provides learning points for policy makers in Scotland, and beyond.

Methods

The primary method was a set of structured expert interviews with key informants in selected countries: academics working in rural primary care, rural general practitioners, nurses and physiotherapists, health care planners and policymakers. The review was underpinned by collation and review of relevant documentation provided by participants.

Selected countries had a public funded health service, and a significant rural population.

Informed consent was obtained from participants, data was stored by RRC for the duration of the project. All participants elected to become co-authors on the report. No ethics consent was required for the conduct of the review of current practice rather than research.

Interviews were informed by analysis to ascertain basic health delivery and demographic information. The interviewer collected data on history of primary care, characteristics of service delivery, the scope of activities undertaken, the nature of multi-disciplinary teams and their contractual status, the challenges faced, and barriers overcome, the interactions with other services, education of health care workers, the regulatory and contractual framework, the income stream, and interaction with patients and the local community. Interview questions are shown in Table 1 below:

Table 1 Interview schedule questions
How do rural patients access services?
Is it easy to recruit, and retain the different elements of the MDT?
Is the current care model perceived as stable?
What is the level of investment in rural primary health care?
What contracts are in place for the different elements of the MDT?
What is the role of General Practitioners?
To what extent is care provided by multi-disciplinary teams?
At what level are non-medics working in the system?
What is the interaction between health care and social care?
What are the perceived benefits and costs of the model of care?
Are there differences in the way rural and urban care are provided?
Has the model been changed in recent years or are there plans to change it?
Are communities involved in the design of health care models?

At a broad level, interviews investigated the nature of multi-disciplinary teams in rural primary care, seeking evidence that organisational arrangements make a difference to staff, patients, and outcomes, establishing whether services are stable, and investigating the importance of resources, geography, population, and underlying differences in understanding of social contract.

A thematic framework was generated based partly on the research questions and data from the respondents.

In summary, the process of conducting the review took the following steps

- Interviewees recruited (including consent)
- Background material examined
- An interview arranged via the Zoom application
- With permission, interviews were recorded
- Notes were taken during and after the interview
- Audio recordings were listened to after the interview
- Themes were drawn from the data

Results:

Twenty one interviews were conducted. Three people were interviewed twice so that further contacts could be obtained for the study, and because there were large amounts of relevant information to discuss.

Country	Date	Background
Canada (2)	20/8	Health Service Manager
Canada (2)	22/8	Rural Health Academic
New Zealand	21/8	Rural Primary Care Network
Australia	23/9	Academic GP
Australia (2)	2/9	Chief Health Officer
Finland	3/9	Rural physiotherapist
Thailand	3/9	Medical Educator
Australia	10/9	Academic GP
South Africa	11/9	Rural Health Academic
New Zealand	11/9	Rural Nurse practitioner
Iceland	11/9	Rural medical director/ nursing director
Canada	12/9	Rural nurse
Canada	13/9	Academic GP
New Zealand	15/9	Rural GP
Australia	16/9	Rural Health Academic
New Zealand	16/9	Health Service Manager
Norway	20/9	Rural Health Academic
Canada	11/11	Rural Health Academic

Characteristics of participating countries

See Appendix 4 for population, income and health characteristics of participating countries. This is useful for setting the scene, but is of limited value as the statistics take no account of any differences between urban and rural areas.

Below is a brief summary of findings per country. The intention is to publish these findings in detail elsewhere.

New Zealand

Respondents included a rural general practitioner, a health service manager, someone from a primary care network, and a nurse practitioner

New Zealand [NZ] is possibly the best international comparator to Scotland in terms of geography and size. One fundamental difference is care for Maori people, who have reduced life expectancy of about 10 years.

In NZ, general practices are private businesses and set their own fees for consultations and other health services. The NZ Government subsidises fees for enrolled patients.

Some general practices join a Very Low Cost Access (VLCA) programme run by their primary health organisation (PHO). This means they get extra Government funding to keep their fees at low levels for all enrolled patients.

There is a complex payment system, practice income is derived from a number of sources. There are shortfalls in funding to rural practices. Different models of ownership exist within the NZ system, from community owned to corporate, although GP owned premises remain the most common.

Nurses are a key resource in rural health delivery in rural NZ, there are several different levels. Nurse practitioners who hold a masters qualification and are authorised to diagnose conditions and prescribe medications in the same range of conditions of a general practitioner. Nurses are often already embedded in their communities and, with the addition of support and training, have been a consistent provider of primary health care. There are 350 NPs in primary care in New Zealand.

Canada

Respondents included three rural health academics, a health service manager, and a remote nurse.

Through the Canada Health Act 1968 (adapted 1984) healthcare is public funded and free at point of use. There is no private sector. There are a range of different provincial models tied into a federal ethos of a public funded service. Contracts are varied, and not province -wide. Devolution between provinces is important. Rural health services and service to Indigenous populations are expensive. In the remote areas, nurses are the front line of care, and there has been a “grow your own” strategy.

There are separate negotiations for rural physician contracts in each province.

Norway

Respondent was a rural health academic

Norway has a traditional GP “fastiege” model, where every citizen has the right to be on a GP list. The GP is the key person, or gatekeeper, in rural health delivery. If there is no GP in a practice, then a locum will look after the enrolled patients.

The municipality pays the GPs a capitation fee. This is augmented by a patient fee and by state funded activities. GPs tend to work in groups of three to seven with medical assistants, although their income is independent. Generally, only GPs can prescribe medication, with the exception of contraception. There is a GP recruitment crisis, getting worse with more locums, even in cities. Everything in Norway varies by municipality. Contracts are variable and are mostly individually negotiated between the individual doctor and the municipality.

Thailand

Respondent was a medical academic.

Thailand, as a middle-income country, has a universal public funded free at point of access service, but there is a lack of health workers, and particularly doctors in the system. Care has been free since 2002, which has made a big impact. 95% of the population are covered. Thailand has progressive inter-professional education programmes where the health professions work together to transform service delivery. There are three main priorities:

1. How to produce physicians in under-served areas
2. The relationship between profession with a horizontal network for collaboration
3. Social accountability through community engagement

There are one million village volunteers in Thailand. Traditional medicine is an important element of service delivery, which works alongside mainstream medicine.

Finland

Respondent was a rural physiotherapist.

Finland is interesting because it is similar to Scotland in terms of population and size, and in attitude to public health provision. Payments for access to service have been brought in over the last twenty years up to a ceiling up to 693€ per year, including some medicines. All staff are salaried, funded by taxation. Some areas (3.5- 4 million patients) of Finland have a self-referral system. There is a move away from a GP being the gatekeeper for services. The new system is self-referral for physiotherapy, and other services, and they are finding it more effective.

For twenty years, there have been attempts to reform healthcare. There was a move to introduce more private health care several years ago, to a mixed healthcare model. It didn't get through Parliament and directly led to a change of government.

Iceland

Respondents were a clinician and a nurse in charge of rural hospital

In Iceland, adults pay at point of access to primary care services, children don't pay, and retired people pay a reduced amount, the range is £10-20. Rural primary care is in crisis due to a shortage of doctors. It is severely undermanned, only the older doctors are left. There are too few GPs per 1000 population. There are very few NPs in Iceland. Nurses can't prescribe. Therapists are all in rural teams – they visit rural health care stations.

On the whole, Icelandic people understand that rural primary care is struggling, but often they prefer to go straight to specialists.

South Africa

South Africa has a dual health system, private (20%) and public (80%). Nonetheless, as the total spend is 80% private sector, 20% public, there are massive inequities. A national health insurance bill is being reviewed by Parliament. First contact care is at primary care clinics, staffed by NPs, with visiting doctors, the aim is that everyone is within 5km of a clinic, this is

not achievable. Health centres are supposed to have more facilities and a doctor present every day.

Australia

Respondents included a rural health academic, an academic general practitioner, and a health service manager

There are massive differences in rural and urban delivery in Australia. Urban delivery remains dominated by the traditional general Practice fee for service model and market forces make it difficult to introduce coherent reform. Provision varies considerably by state.

In the remote areas of Northern Territory, Western Australia, South Australia and Queensland the fee-for-service model is not workable, and need has driven change. The Aboriginal health service is seen as an example of multi-disciplinary team working which has not been able to be replicated in urban Australia. One doctor towns have become a thing of the past. Community involvement is key, and respondents stressed the importance of rural generalist practice.

Conclusions

This review was undertaken at a rapid pace and was an unstructured sample, which was identified from existing knowledge about the field, augmented by “snowballing” to find health care staff working on the frontline. Many of the participants had worked in different jurisdictions, which was useful for this review as it provided a rounded perspective. These people with stories to tell have progressive ideas for the rural community which can be effectively applied to Scotland. The interviews tapped into a well of hard-earned knowledge. Although the interviews were engaging, and views were insightful, the analysis presented here can only scratch the surface of the potential for future work together across international boundaries. The views expressed were therefore only in part academic, in fact one rural GP said *“we don’t have enough rural health academics... we don’t sit still long enough”*. The participants were working in environments where change had been essential – so there were experienced rural medics espousing protocol driven multi-disciplinary teams, others describing long term success in interprofessional education, and a nurse practitioner who said *“we did it...and the sky didn’t fall in”*.

- Speaking to experts in other jurisdictions is highly informative. The issues are similar issues, however, little of it is recorded in published papers. Useful and relevant documentation has been collected from New Zealand, Australia and Canada. Everybody has been most welcoming in participating in this review.
- The documentation collated demonstrates that this review only scratches the surface of what might be possible to undertake, in terms of detail, and scope, in international rural health collaboration.

- With Zoom and other video links, there is real potential for service planners and health care providers to work more closely together at a transnational level, at low cost, without the need for foreign travel.
- Issues are complex, and so are the solutions, and nowhere entirely resolved.

The learning points of the review were:

- Interviews with international rural health practitioners and academics were a very effective and rewarding method of gaining perspectives useful to policy development in Scotland
- participants had lots of additional relevant information, not available in the formal literature.
- The process sparked interest and goodwill amongst participants
- The Issues in rural primary care are complex, and so are the solutions. Rural health care delivery is a challenge everywhere, not just Scotland.
- Culture and context are important in relation to health service delivery, and it is difficult to change established practices.
- Necessity drives change. The most challenging environments often have the most innovation. There is much to be learnt from indigenous health delivery models in relation to multi-disciplinary team working.
- Places where there had been less innovation appear more likely to be in crisis
- There are specific examples of excellence Scotland can learn from.

Elements that are missing:

- a detailed description of the Scottish contractual situation, although Gillies et al are providing key descriptors and challenges in Remote and rural general practice in Scotland to the Remote and Rural General Practice Working Group in parallel to this report.
- a view from England, Wales and N.Ireland - which now have independent and diverging health care delivery under the central concept of the NHS
- a stronger representation from Western European countries. This can be remedied by linking up with EU work, and potentially seeking funding. The European Commission recognise that capacity of health systems to deliver health services and meet the changing demands of care strongly depends on the availability of a workforce with the right skills and flexibility
- this work can be more closely aligned to international policy context, WHO in particular have undertaken important work.
- It would be useful align fully into the work on rural health established by WONCA, who for many years have brought family doctors from across the world together, this could be the mechanism to formalise ongoing collaboration.

The next stages for this work are to publish a paper, and capitalise on the findings, through presentations to relevant academics, policymakers and health service staff. The methods used here could be used again for other issues in health and beyond, for including international perspectives on policy development: “international proofing”. From respondents in this review, it is evident that there is enthusiasm to develop this kind of approach.

General Recommendations

- The review acts as a reminder that rural health delivery challenges are evident in all countries with a rural population. Some issues are the same, some are different, but nowhere are the issues entirely resolved. This is a key message to make to health professionals, policy makers, politicians, media and the wider public in Scotland.
- Further international proofing of policy would be useful for Scotland and enhance its reputation as a forward looking, modern jurisdiction. The methods used here could be used for other issues in health and beyond, for an international perspective on policy development.
- Most health systems examined have more than one contractual arrangement for delivery of primary care services; following the notion that one size does not fit all, and often there is variation in contract between rural and urban areas (the extreme case is Norway). It would be valuable to test the flexibility of the Scottish general practice contract or consider the potential for different contracts, to enable different models of delivery tailored to rural Scotland. This could include the possibility of community owned practices.
- Ensure Scottish policy is fully aligned with international health workforce strategy, and rural health strategies, to ensure excellence and innovation. There may be opportunities for further engagement with international bodies at government, academic and professional levels. There are also opportunities for policy makers and health service staff to link to their peers in other jurisdictions.
- Find ways to ensure that multi-disciplinary team members, including GPs, are acting at the higher limit of their competencies rather than undertaking tasks that could be delegated. This change, when done correctly, and with communities on board, can lead to more effective care, more manageable workload, more challenging caseloads, and less shortages of staff.

Specific Recommendations

- Test the New Zealand Population-based Funding Formula, and see if it any elements of it improve resource allocation modelling in Scotland.
- Examine in more detail how New Zealand primary care managed to get past the “tipping point” for the introduction of Nurse Practitioners into health care delivery.

- Undertake detailed analysis of the strategy, protocol and recruitment from Northern Territory, Australia, where progress in rural health delivery has been made, and a model which may have specific learning points is in place.
- Investigate further detail the community retention model from Victoria, Australia
- Investigate in further detail the Finnish Self-Referral Model, which is run from Social and Healthcare Stations, and has spread to serve the majority of the Finnish population
- Primary care networks seem to be common and effective in many rural areas, and Scotland could examine the various models to inform policy development on clusters.
- Investigate the extent of multidisciplinary learning in British Columbia.

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Case Study Appendices

Appendix 1: New Zealand

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Appendix 1: NZ Documents for Case Study

2015 Population-based Funding Formula Review (released 2016)

What is the PBFF?

- The Population-based Funding Formula (PBFF) is used by the New Zealand Ministry of Health to distribute the funding between District Health Boards (DHBs).
- It does not set the level of funding received; it just distributes the fund between different health boards.
- The formula covers a wide range of health services such as primary care, hospital services and mental health.
- It does not cover disability support services for younger people, or public health services.

What is the PBFF comprised of?

There are two parts to the PBFF:

1. The **core model** that determines relative health need; and,
2. Three **adjusters** that modify funding allocations between DHBs.

The core model

- The most important factor that the core model of the formula considers is the **number of people** in each NZ district.
- Then it will adjust the share in light of the particular demographic of each district, such as **age, ethnicity** and **socioeconomic status**.
- The variable for a NZ citizen's socioeconomic status is based on the New Zealand **Index of Socioeconomic Deprivation 2006**, which itself is derived from census data.
- There are **cost weights** in the core model. A **cost weight** is "the average expenditure per head per year for a person in a particular demographic group. Under the PBFF, the Ministry applies these cost weights to DHBs according to their numerical populations together with their demographic profiles in order to determine the share of funding each DHB should receive".
- To work out how the population in each DHB has changed, each financial year, the PBFF uses population projections produced by Statistics New Zealand.
- The **cost weights**, therefore, "**represent an estimate of future health need**".

The three adjusters

There are three adjusters used to vary the funding allocation between DHBs:

1. The **unmet need adjuster**

This adjusts the formula for “population groups with issues accessing health services (Māori, Pacific peoples and those living in areas of high deprivation)”.

2. The rural adjuster

This adjusts the formula for people living in rural areas.

3. The overseas eligible and refugees adjuster

This accounts for the cost of caring for those from overseas who are eligible for health care in NZ and refugees.

Review of the PBFF

This was undertaken by a technical advisory group (TAG) which is made up of members from DHBs, the Ministry of Health and the Treasury.

The TAG investigated the extent to which the PBFF was:

- “robust (developed with sound technical processes based on reliable evidence and data)
- legitimate (based on transparent formulae accessible to the sector and wider public)
- efficient (making use of formulae that were as simple as possible, with factors only included if they made, or could be expected to make, a significant material difference)
- effective (providing a workable outcome and minimising perverse incentives)”.

The TAG reviewed both the core model and the adjusters.

Component	Review Finding
Core model	Retain, but update inputs (e.g. age, sex and ethnicity)
Unmet need adjuster	Retain, but update the model with current model with excess unmet need based on the New Zealand Health Survey
Rural adjuster	Retain but change to the rural population index model
Overseas eligible and refugees adjuster	Retain with updated inputs and review the overseas eligible portion in one year with a report back as part of the 2017/18 DHB indicative funding advice
Tertiary adjuster (not part of PBFF)	Retain outside model The National Costing, Collection and Pricing Programme (NCCP) will review this adjuster and report back

Land adjuster (not part of PBFF)	Retain outside model Ministry of Health will provide recommendations
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Testing of variables

- The Review tested the current variables against ambulatory sensitive hospitalisation (ASH) and amenable mortality rates (AM) to see if there was a reasonable distribution of funding between DHBs.
- They concluded that the current variables worked well and chose to retain them.

The rural adjuster

- This adjuster for the funding formula is based on “rural population numbers and geography and the diseconomies of providing hospital services to a small population.”
- Three options were considered for allocating the rural adjuster against the criteria of “fairness, flexibility, robustness and transparency”.
- The Review recommended to maintain the rural adjuster with the caveat of using a new and different way to measure this – the **weighted rural population index**.

How does the rural adjuster work?

1. The NZ Ministry of Health allocates “DHBs funding from a rural pool to cover the additional costs of providing small and dispersed rural population groups with access to primary care, travel and accommodation, inter-hospital transport and community services”.
2. The Ministry then funds for unavoidable costs of providing full scale hospital services for small populations (the review describes this as “secondary level”, so guessing anything under accident and emergency).

Advantages of the weighted rural population index

- Allows funding to be targeted more directly to a district with more rural residents.
- “Prior spending patterns of DHBs are less likely to lock them into future funding entitlements with only a small necessary inclusion of cost structures to account for diseconomies”

Tertiary and land adjusters

- The review recommended that neither of these adjusters should be included in the funding model (PBFF).

The revised PBFF cost weights

The Review recommended updating the core model cost weights. The biggest change was for Maori and Pacific people rather than average cost per head by age group, which remained relatively the same.

The implementation of the PBFF

The formula seems to be robust, as the review report states that “the changes made to the PBFF following this year’s Review are minimal”.

The final funding allocation depends on further data inputs, such as “new population projections, new DHB starting points, and the level of new funding for DHBs”.

Further recommendations of improvements prior to any future review

1. Ensure districts have a costing system in place and comply with costing standards
2. Update the role delineation model [RDM]
3. Explore whether it is possible to create cost outputs for mental health care

The rural adjuster in depth

- “The rural adjuster allocates funding to DHBs for the unavoidable extra costs associated with providing health services to rural communities”.
- “It is based on seven separate service areas in which DHBs have previously indicated they face additional costs relating to rurality, and the distribution of funding is strongly linked to existing service provision”.

Seven service areas for rural funding

1. Offshore islands
2. Rural GP payments
3. Travel and accommodation
4. Inter-hospital transfers
5. Community services
6. Facilities
7. Governance (this service area was removed in the review of the rural adjuster)

The Review looked at an enhanced version of the current model and proposed two alternative models. These alternatives put an emphasis on distributing funding more in line with rural populations and travel distances and times.

New rural indexes

The Project team proposed two new rural indexes to allocate funding (the weighted density index and the weighted rural population index). These both use three new inputs:

1. **Weighted density** – uses Statistics New Zealand’s estimated resident population data split into five population density quintiles. Quintile 1 is for the most rural areas (as it is the least dense in population). 30% of the funding pool will go to each district’s share of the number of people in quintile 1.
2. **Weighted travel time** – uses the estimated resident population that is within a certain travel time away from a base hospital. This model will give 32% of the funding to those who live 60-245 minutes away and >245 minutes away from the base hospital.
3. **Weighted travel to tertiary** – divides the estimated resident population into categories according to their distance from the nearest tertiary hospital, with 15% of the funding going to the population furthest away (quintile 4 and 5).

Results and Application to Scotland

- The two population-based models worked better than the enhanced current model.
- A similar model could be implemented in relation to districts in Scotland provided recent data can be found similar to that of Statistics New Zealand (e.g. census data).

Appendix 2: Australia Documents for Case Study

1) Literature Review prepared for the Northern Territory PHN: Models for practice and primary health human resource stability in rural and remote locations

Introduction

- Rural care is facing a crisis due to the current unsustainable health service delivery model, so a literature review was undertaken for possible alternative models.
- A theme across the research is that “the ‘one coat fits all’ model does not exist”.
- The Literature Review identified 48 articles to include in their final set of recommendations.

Discrete Services model

- Discrete services were identified as a potential model for walk in/walk out clinics, particularly in rural areas.
- The Rural Doctors Network (RDN) in New South Wales analysed the effectiveness of this model in 2003.
- In this model (much like the planned model of SG rural care) practices were sublet to general practitioners by the local council. However, it was the GPs themselves who managed practices rather than delegating this to consultants/directors as suggested in the SG model. Any corporate decisions though still lay with a Board of Directors.
- This model proved fairly successful, with an increase in the number of resident doctors from 3 to 9, increase in outreach services and enhanced relationships including new strategic partnerships.

Integrated Services model

- There was no formal structure for developing this, so there was no pooling of resources as such.
- This model also had management at each site by a community-controlled board of proprietary company; general practitioners (GPs) acting as private practitioners with a proportionate contribution to practice management costs; allied professionals employed by the health authority; and effective consultation and collaboration to support integrated care.
- This model would work well in other settings. As the authors Taylor (et al) conclude, “Independent organisations can collaborate in the provision of integrated health care if they see mutual health benefits”.
- However, as this model is quite new, at the moment it is too recent for its impact to be assessed.

Main challenges for primary health care (as identified by David, Macdonald and Williams)¹

- Lack of clear and consistent policy directions throughout the sector;
- Poorly integrated service planning; and
- Difficulty in accessing coordinated multidisciplinary and multisector care.

Comprehensive PHC Services

- These are broader in scope than most integrated service models and “include primary clinical care, preventative health promotion activity, as well as education and development in relation to workforce training and governance/community capacity building”.²
- The main example of a comprehensive PHC Services provider in Australia are the Aboriginal Controlled Community Health Organisations (ACCHO).

Aboriginal Controlled Community Health Organisations (ACCHO)

- Advantage: provision of comprehensive primary health care often encompassing emergency care, outreach services, acute health services, counselling and a range of educative and preventative programs.
- Has over time (with right connections) been able to maintain community support with a consciousness of social and cultural demands.

Outreach Services

- May include “Fly-in, Fly-out” (FIFO) models of delivery.
- Benefits included positive health outputs, increasing access to health specialists in remote areas and mitigating health professional’s feelings of isolation.
- Concerns arising through these services include how outreach services had previously been delivered; factors contributing to the poor retention of Allied Health Professionals; and integration with other health providers.

Specialist Outreach

- This outreach aims to break down the barriers faced by Indigenous people in accessing health care services, such as geographical remoteness, poverty and health service structure.
- There will always be a cost associated with this in that as the patient is dealt with by outreach, the hospital-based service will need to take on more work as a result. This is known as an ‘opportunity cost’ – Gruen et al (2002).

¹ Davies GP, P. D., McDonald J, Williams A. (2009). Integrated primary health care in Australia. *International Journal of Integrated Care*, 9(14), 1568-4156.

² Wakerman et al, Innovative rural and remote primary health care models: What do we know and what are the research priorities? *Australian Journal of Rural Health*, 17(1), 21-26. doi: 10.1111/j.1440-1584.2008.01032., p6

- The benefits of specialist outreach in the Northern Territory of Australia include no need for patients to travel large distances, specialist interaction with primary care practitioners, and cost.

“Hub-and-spoke” models

- There were a number of benefits identified in this model, such as the opportunity to increase cultural sensitivity, local ownership and strong local linkage to the service.
- However, there is very little information on hard financials and the cost/benefit analysis of this model (and most of the other models in the literature review).

Fly-in, fly-out (FIFO) services

- There is some negativity around the costs of these services. Margolis notes (2012, p3) that the high cost of travel imposes an additional cost on health and aged care services.
- Some community members did identify an increased likelihood of confidentiality (noting that the FIFO professional does not reside in the community). Further research was also suggested by the authors on exploration of rural community views on the model.
- Wakerman (et al) in 2016 conducted a new study to assess the impact and cost of FIFO professionals, or the short-term health workforce across 54 remote clinics managed by the Northern Territory Department of Health. However, as this study is relatively new, it is too early to come to a conclusion.

Telehealth/telemedicine

- Telehealth did have good benefits, but it should not be used as a substitute for the provision of one-to-one health care.

Key issues for model and workforce sustainability

- Impact of globalisation, privatisation and depopulation on rural communities
- Stakeholder engagement on model and workforce planning in rural settings

“Core” primary health care services

- These featured very strongly in the literature review of each model.
- Across the research sourced and studied in producing this literature review, a broad range of authors agree on the need for a set of principles on which primary health care services and delivery models are built. Although the specific principles and their priorities differ across the spectrum.
- The literature makes reference to this set of commonalities when addressing a range of delivery models.

Conclusion

- The “one size fits all” model will not work and does not exist.
- Financial analysis is sparse.
- That said, there is a wide range of models that can be implemented, which is “limited only by imagination”. These could be analysed and taken forward to shaping rural practice in Scotland (as these are just as relevant to Scottish rural areas as Australia).
- There is not the cultural issue of avoiding the doctor/health care in Scottish culture when compared to aboriginal culture in Australia.

2) NTH Strategic Health Plan (all slides)

Dr Hugh Heggie, Chief Health Officer, Department of Health

Strategic Directions

A: Prevent illness

Goal of this strategic direction is to invest in and deliver health promotion across the lifespan, initially targeting reduction in at risk behaviours.

B: Focus on each person

Goal of this strategic direction is to create innovative and evidence-based models of health service delivery that deliver excellent patient experiences and improved outcomes in the context of the many unique challenges for service delivery.

C: Redesign to improve access

Goal of this strategic direction is to reduce duplication of service provision.

D: Lift performance towards excellence

Goal of this strategic direction is to create a reputation for being a workplace and environment where people want to come to work, live and learn.

E: Embed research

Goal of this strategic direction is to effectively and based on evidence achieve service delivery.

F: Systematise effectiveness and efficiency

Goal of this strategic direction is to pursue organisational excellence through effective systems.

Strategic Factors over the next 4 years – ACACIA (Core Clinical Systems Renewal Project)

10 National Standards (First Edition)

- clinical and organisational governance for safety and quality
- partnering with consumers
- preventing and controlling healthcare associated infections
- medication safety
- patient identification and procedure matching
- clinical handover
- blood and blood products
- preventing and managing pressure injuries
- recognising and responding to clinical deterioration in acute health care
- preventing falls and harm from falls

These are being revised to 8 in the Second Edition of National Standards through the gap analysis. The 8 in the Second Edition are:

- clinical governance
- partnering with consumers
- preventing and controlling healthcare associated infections
- medication safety
- comprehensive care
- communicating for safety
- blood management
- recognising and responding to acute deterioration

New & Proposed Actions

- 50 new actions introduced in the Second Edition of National Standards include public access to My Health Record, nutritional care and greater use of deteriorating patient response and recognition systems.
- Proposed key strategic action areas include a clinical governance framework for partnering with consumers and support of effective communication
- For the accreditation scheme, repeat assessments and assessor training have been proposed

Clinician Engagement

- There are three main clinical networks: a network for cancer care, for rehabilitation and for renal health.
- There is also a clinical senate.
- be beneficial for rural Scotland? Or should there just be a focus on patients as there are different health issues in rural areas?

Australian Northern Territory (NT) Health Clinical Quality and patient safety incidents, Jan 2015 – June 2018

- Concerning behaviour (incidents reported on a severity scale of 1-5) is a major issue across Australia
- This system requires better definitions to improve accuracy and analysis
- Staff should be better and more widely informed as to how to report such incidents

Hospital Acquired Complications (HACs)

- A hospital acquired complication (HAC) is “[a] complication acquired in hospital for which clinical risk mitigation strategies may reduce (but not necessarily eliminate) the risk of that complication occurring”.
- These are assessed according to the following criteria: preventability; patient impact; health service impact; and clinical priority.
- Tests between 2014 and 2015 found that the HAC rate is 2.91 per 100 episodes
- From 1 July 2018, Australian Govt funding adjusted in line with HACs and risk of occurrence

Safety and Quality Reporting Framework

- Safety and quality reports already published by each area and help to promote quality improvement and governance

NT Health Strategic Plan 2018-2022 – Priority themes and recommendations

- Australian Primary Care Collaboratives and national KPIs have already helped to improve standards and data and continue a high quality/standard of service
- Barriers include lack of awareness and funding uncertainty (much like Scotland model)
- Hugh recommends that “There needs to be an overarching policy, framework and implementation of performance monitoring and CQI processes across the whole Primary Health Care sector and across the country”.
- He also recommends that leadership supports governance, and leadership also supports management.

3) Advice to the National Rural Health Commissioner on the Development of the National Rural Generalist Pathway

Introduction

- This advice is a proposal to develop a Pathway to encourage doctors to become rural generalist practitioners and, more importantly, retain them.
- Tailored selection that involves the community is important and integral to this recommended pathway as it allows a better connection between health care staff and the community.

The Collingrove Agreement

- In January 2018, the two General Practice Colleges of Australia (the Australian College of Rural and Remote Medicine (ACRRM) and the Royal Australian College of General Practitioners (RACGP) came together at the invitation of the Commissioner to agree on what it means to be a Rural Generalist.
- This is known as the **Collingrove Agreement**, and states that:

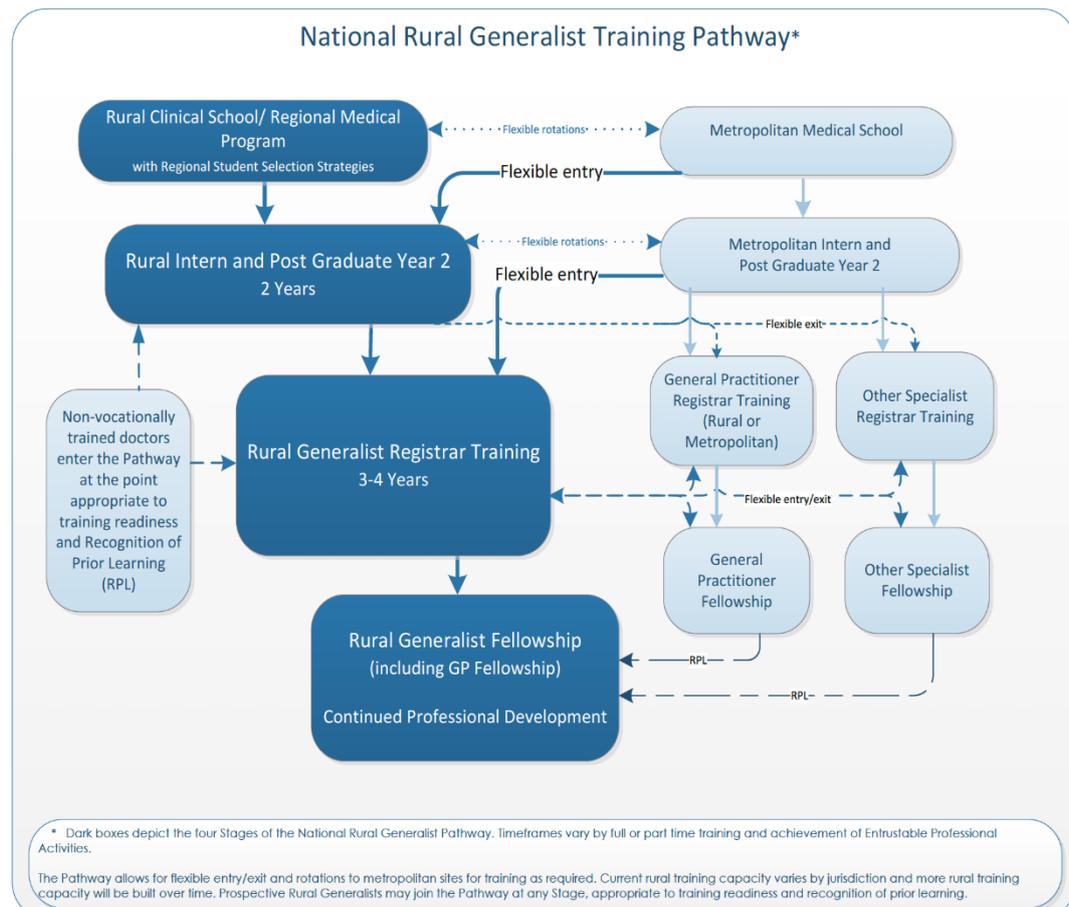
A Rural Generalist is a medical practitioner who is trained to meet the specific current and future healthcare needs of Australian rural and remote communities, in a sustainable and cost-effective way, by providing both comprehensive general practice and emergency care and required components of other medical specialist case in hospital and community settings as part of a rural health care team.

The National Rural Generalist Taskforce

- In May 2018, this was set up to guide development of the rural Pathway and to “harness the broad-based expertise of the rural health sector”.

Taskforce Recommendations

- 1) That the structure below is adopted by the Australian Health System.



- 2) That there is a holistic and integrated understanding of health and importance placed on the word “country”.
- 3) That certain elements (see p11 PDF) are identified for development as part of the National Generalist Rural Pathway.
- 4) That certain Educational Outcomes (see pp.11-12 PDF) are adopted for the National Rural Generalist Pathway.
- 5) A funded evaluation programme monitors the impact and outcomes of the Pathway on trainees and supervisors within the rural medical workforce.
- 6) That the two General Practice Colleges support the national recognition, as a protected title, of a Rural Generalist as a Specialised Field within the Specialty of General Practice.
- 7) The development of endorsements to provide a public register of Rural Generalists’ additional skills.
- 8) Functions for case management (such as tailored training) are added to the pathway.
- 9) Methods of continuous employment (e.g. a training contract with one employer) should be added to the business case for the pathway.
- 10) Clinical governance and genuine peer review, as part of this Pathway, is costed and implemented in a consistent way throughout Australia.
- 11) Consideration given to a tiered reform of the General Practice Rural Incentive Program (GPRIP), using the key standard that medical workforce incentives should recognise and reward working in more remote locations.
- 12) Support of a capital purchase by the rural community through ‘front loading’ of the GPRIP.

- 13) Widen the review of the Procedural Grants Program to include rural generalists.
- 14) Keep the existing indemnity process.
- 15) Locum access and professional development made available to all rural GPs throughout Australia.
- 16) Access to specialist items (including telehealth).
- 17) Increase of relevant Medicare provision and rural loading for all rural generalist services.
- 18) Rural hospital teaching and research is recognised in the Hospital Funding Agreements.
- 19) Recognition of a state certified Rural Generalist.

Relevance to Scotland?

- Recommendations 7, 9, 11, 12 and 16 seem most relevant to Scottish practices. The definition of 'rural' here is different and there are not the same cultural divides in the rural community

4) Core functions of primary health care: a framework for the Northern Territory

- Scotland could adopt many of the functions identified in this framework, such as providing effective management and leadership and developing staff. However, the cultural element is quite different, so the focus should be on allowing the rural community to purchase property and training medical staff to incentivise them to stay in this setting rather than move back to town.
- This is a stressful job, so emphasis should be placed on holistic, family orientated GPs which have measures in place for mental health.

Appendix 3: Canada Documents for Case Study

1. The Rural Road Map for Action: Directions

Introduction

- The College of Family Physicians of Canada (CFPC) and the Society of Rural Physicians of Canada (SRPC) came together in 2014 to create a task force to deal with the challenges facing the rural community.
- Statistically, although rural Canadian make up 18% of the population, they only have access to 8% of the doctors/health care professionals there.³
- The task force developed 4 directions to create a framework.

³ Canadian Institute for Health Information. Supply, Distribution and Migration of Physicians in Canada 2015 – Data Tables. Ottawa, ON: Canadian Institute for Health Information; 2016.

DIRECTION 1:

Reinforce the social accountability mandate of medical schools and residency programs to address health care needs of rural and Indigenous communities.

- Like Australia, there is a need for cultural safety education for the indigenous population as there is a fear over going to hospital.
- There is also a need to identify specific competencies relating to rural medicine, and to provide support for said competencies through training.

DIRECTION 2:

Implement policy interventions that align medical education with workforce planning.

- If training positions do not take into account anticipated rural community needs, then they will not be able to provide appropriate medical care.
- The report recommends that general physicians (GPs) develop broad skill sets and acquire additional skills in order to address rural community needs.
- There should also be increased mobility of services – the report says that “it is easier to do relief work overseas than to respond to emergency needs within our own country”.⁴

DIRECTION 3:

Establish practice models that provide rural and Indigenous communities with timely access to quality health care that is responsive to their needs.

- One of the challenges facing rural practitioners (and in retaining them) is being able to access high-quality healthcare outside the community.
- This direction aims to develop the right care and to address concerns from rural GPs.

DIRECTION 4:

Institute a national rural research agenda to support rural workforce planning aimed at improving access to patient-centred and quality-focused care in rural Canada.

- This direction deals with the accuracy of information gathering in the rural community.
- Initiatives should provide support for rural communities and increase means for ongoing research.

⁴ *The Rural Roadmap for Action: Directions*, The College of Family Physicians in Canada, 2017, at p. 5.

Conclusion

- Current gaps should be addressed in order to fulfil the task force's vision of a well skilled and broad ranged generalist serving each rural community of Canada.

2.TV Ontario [TVO] – Practicing Medicine in Northern Ontario – 5 Feb 2018

- This was a panel discussion chaired by Steve Paikin with responses from Chuck Schmitt, Recruitment Coordinator for the Dryden Regional Health Centre, Sarah Newbery, Rural Physician in Marathon and Catherine Cervin, Vice Dean of Academic for the Northern Ontario School of Medicine, or NOSM as it is more commonly known. NOSM was set up in Thunder Bay and Sudbury in order to address Northern Ontario's chronic need for doctors.
- According to the mayor of White River, Angelo Bazzoni, although there is funding for a clinic there, residents are "penalised for being in the north" because the local taxpayers pay some of the operating costs of the clinic.
- Although 90% of Northern graduates are practising in Northern Ontario, there is still some work to do in terms of joining up rural care and also ensuring spousal employment in the area (spouse who is not a doctor).

3.Building a Flourishing Physician Workforce – Summit North 2018

- This paper documents both the inputs to, and outcomes of, Summit North 2018, a day designed to bring together groups and organizations that need to work together to ensure that rural and remote communities in Northern Ontario will have a sustainable supply of well-trained physicians to meet their health care needs.
- Accountability > who is accountable when a decision is not equitable ·· Need a Northern lens ·· Need to travel • Start the conversation ·· Value stream mapping ·· Care givers group ·· Gather information • Rural and remote health accountability commissioner (like auditor general) • Build relationships and trust ·· Bring physicians under the same contract as AHPs • Staff the OMA and the politics
- Accurate and up-to-date image of community needs ·· Stats based (scorecard of demographics) ·· Community needs base > driven by local people • Set standards of expectations and benchmark for care providers ·· Same level for all • Engage all involved parties on needs, standards, benchmark ·· Policy, practitioners, communities, etc.
- Ensure access to community based enhanced skills development based on community need ·· Leverage Local Education Groups (LEGs) funding (where possible) to hire someone to do needs assessment for each community ·· Develop education plan based on N.A. including CME, online and face to face education, faculty development, and formal advanced skills training ·· Ensure adequate infrastructure and funding ·· Ensure data for program planning and indicators for monitoring ·· Formalize partnerships between NOSM, LHINs, communities and physicians ·· Identify community priorities and gaps from ground up and work through

partnership locally ·· Establish (delegate) high-level representation from organizations to work together ·· Develop shared decentralized approach to engagement and understanding of community needs to build vision/ action/ advocacy from their input ·· Integrate allied health, interprofessional learners (nursing, PA, OT/PT) to train at the same time

- Increase elective opportunities for rural and remote communities - Curriculum development to meet needs • Review the curriculum.
- There may be a need to concentrate or consolidate special services and recognize and incorporate extended roles of generalist providers (e.g. Family Practice Anaesthesia, Care of the Elderly) Build new models of care e.g.- Primary Health Care Key responsibility for MOHLTC, Indigenous peoples and professional associations: • Ensure model is population based for equity and sustainability • Be clear re: scope of model • Identify core teams • Clarify models of leadership governance • Consider infrastructure including support for learners • Adapt payment and funding to support goal including teaching • Building technologies • Build networks of caregivers within clusters Building a Flourishing Physician Workforce — Summit North 2018 23 • Work with the willing • Join up other systems – Emergency Health Services (EHS) Educational supply • Building strategies by discipline and professionals based on forecasts • Recognize limitations of data but also strengths • Remember lead times (it takes 10 years to train a surgeon, 6 – 7 to train a Family Physician) • Recognize mobility of residency
- Commit to a positive and constructive solution-oriented attitude towards recruitment • Be nice to each other • Be open to hearing bold ideas • Remember the client, both learners and the patients who we are here to serve • Engage broadly and early and frequently with the actual communities for who you are making plans Steering Committee, please consider/remember - Summarized • Remember to ensure that each community is treated uniquely • Continue to ensure active community participation with all other partnership pentagram members to develop a successful model in Northern Ontario for Northern Ontario • Include Public Health in all aspects of these initiative • Keep open to inter-jurisdictional collaboration and learning much to be gained from rural collaboration • Remember the importance of support for the rural physician ·· Educational, social, collegial, financial, personal growth & resources Building a Flourishing Physician Workforce — Summit North 2018 45 • Please don't forget to make provision of rural obstetrical area a priority • Remember the FN communities.
- Funded ·· Funding to support locums should not disadvantage full time local physicians • New grads commit to locum pool; ·· Rotate through communities • Each community upon locum arrival; engagement session • Create network with residents and mentors ·· Co-deployment • Create regional networks (with LHINs) • Pool of locums of physicians near end of career or beginning • QI Coordinator compiles feedback from each community and locum participants • Using this feedback, we can see where we are lacking with cultural sensitivity • Create governance structure for ownership and accountability • Champions to advocate, “buy-in” • Begin engagement sessions with leaders • Create an advisory committee • Clarify expectations > accountability • Create pool of locums • Stakeholders to establish

consensus of priority • Create common orientation packages 40 Building a Flourishing Physician Workforce — Summit North 2018 • Stop community competition • Funding options • Policies, administration formation • Continue communicating engagement • Provincial workforce planning • Broader consideration than physicians • Transition plan for decentralization mentorship program • Career development/ advice mentorship Equity: All decisions made, and all resources assigned by Equity.

- Introduce NAN Oshki Education Program to mental health social service students • Build relationships between primary care providers and referral centre specialists: formal regional network • E-referral systems, central intake and waitlist management • Expand visiting specialist programs • Enhance regional programs and consider regional lead for Cancer care Stroke Virtual critical care Psychiatry Obstetrics Peds ENT Renal • Environmental scan, population health • Administered jointly with NOSM, LHIN Building a Flourishing Physician Workforce — Summit North 2018 33 TECHNOLOGY: Create system-wide, coordinated distance technology in Northern Ontario to support local family physicians and health care teams in their clinical and academic work.
- needs ·· Social ·· Mental ·· Physical ·· Emotional ·· Spiritual • Access to databases • Development of common EMR database accessible by all health care providers provincially – continuous quality improvement initiatives • Cultural sensitivity training • Understand local demographics and cultures • Identify community stakeholders and engage • Develop purpose statement and clear direction • EMR: determine feasibility of an all-encompassing system • Analyse effectiveness and include in HHR planning • Funding of framework and accountabilities • Develop provincial integration plan: funding, stakeholders, timelines, targets • Continue to work collaboratively with all stakeholders to ensure outcomes are achieved.
- Ensuring healthy and resilient physicians and teams • Development of a regional locum pool for Northwest and Northeast LHINS ·· Create an advisory committee to oversee locum pool and community collaboration ·· Identify coordinator role and metrics for success and evaluation of locums in pool (metrics to include cultural sensitivity) ·· Address funding and return of service (ROS) options for locum pool ·· Funding model should encourage locums, but not discourage full time commitment to a community (should be some incentive to come out of locum pool at some point).

4. Physician Resources Action Plan for Northern Ontario

- This Physician Resources Action Plan is based on the many ideas generated at Summit North – a conference of key stakeholders representing Northern Ontario, held January 2018 in Thunder Bay, whose primary focus was developing short- and long-term solutions to help build a flourishing physician workforce, primarily family physicians in rural and remote communities.
- Recruitment Create education for communities regarding health human resources Engagement and orientation session for each new locum arriving in a community

Create ways for communities to collaborate rather than compete, (e.g. “join up” recruiters and opportunities for physicians to find “good fit” with communities)
 Ensure continuing development including coaching and mentoring for recruitment
 Leverage the experience of students and residents in communities.

- Communities in Northern Ontario become more engaged and active in recruiting, retaining and strengthening the integration of physicians and their families into their communities Retention Development of a regional locum pool for North East and North West LHINs Intentional approach to physician wellness Create system-wide, coordinated distance technology in Northern Ontario to support local family physicians and health care teams in their clinical and academic work.
- Compensation Supporting contracts for physicians and their teams Ensure funding models support post-residency work in groups for new grads Models of Care Integrate allied health, inter-professional learners (including Nursing, Physician Assistants, Therapists) to train at the same time Establish Networks across practices Consider specialist lead for networks of care Establish Networks for referral and patient transfer Single electronic medical record (EMR) for the entire region to hold all hospital and other health care data (one patient, one record, one EMR). Ensure that technology supports and enhances care but is not central to care Develop leadership capacity and create accountability tools Policies that require timely acceptance of transfers and appropriate consultations from rural communities to secondary and tertiary care across Northern Ontario could better support family physicians to access the care their patients need.
- Expand the role and number of Physician Assistants in Northern Ontario through targeted training in rural primary care (new or evolution of existing) PA program built along NOSM MD model) and sustainable funding model Education & Training Ensure process to review admission criteria that supports rural/remote students and provides opportunities for rural/remote community exposure in undergraduate years Ensure that all postgrad family medicine residents have rural rotations with adequate infrastructure support Increase elective opportunities, and remove barriers to electives for all learners Ensure access to community-based enhanced skills development based on community need Strengthen & formalize partnerships in Northern Ontario between communities, LHINs, universities and physicians to support delivery of medical education in rural communities.
- Stream high school students interested in northern, rural and remote community health care careers and refine admission criteria that supports their admission to medical school
- NOSM to meet with students in the remote/Francophone and First Nations stream and the rural stream to better understand why they selected their learning stream and what the School can do to attract more students to these streams; and follow-up with graduates to better understand their community selection process in terms of preferred practice locations
- Consult the students that dropped out and address the reasons why
- NOSM to build strategic support for all learners (UG and PG) in rural and remote/Francophone and First Nations streams to ensure cohesion, support and continuity of path from high school to practice destination

- NOSM to re-create and provide tangible support for RMIG (Rural Medicine Interest Group) Review of successful initiatives in other jurisdictions to build the ‘rural generalist path’
 - o Set specific targets for intake.
- Create ways for communities to collaborate rather than compete, (e.g. “join up” recruiters) and ensure continuing professional development for recruiters
 - o Support recruitment that begins with making rural communities visible and attractive to medical students and residents as well as licensed physicians, and welcoming and supporting medical students and residents when they arrive in a community
 - o Increase access to free marketing supports (i.e. increase social media presence, e-blasts to locum lists)
 - o Explore the feasibility of Recruiters Association for North East Ontario
 - o Explore with NAN, WAHA, Meno Ya Win, NOMA, NOFOM, RMEFNO the feasibility of shared recruitment initiatives
 - o Align sub-region HHR planning with collaborative local recruitment initiatives
 - o Develop branding for specific regions/the North that focuses on regional recruitment and promoting rural generalism
- Integrate regional approach into the locum registry to reduce competition for locums.
- Following Lennox’s successful 3-year Rural Generalist program in Australia, define and explore options for creating Rural Generalist education and training within the current 2-year Family Medicine program and Post-Grad programs such as: (i) seeking out medical students in first year who want to be rural generalists and facilitating their career path with tailored learning experiences and possibly extra scholarships; (ii) welcoming any graduate who wants to do rural practice into the rural residency stream; (iii) reviewing and where appropriate revising the 2-year Family Medicine curriculum so that graduates are better prepared for comprehensive rural medical practice; (iv) tailored rural CME options for those who commit to rural practice (e.g. 12 months of skills-based CME over a 5-year period that is planned by the physician and based on what the community needs and what their own interests are and includes locum support)
 - o Partnering with other postgrad FM departments that have rural streams or have residents interested in rural/northern practice to provide opportunities for residents to learn in Northern communities
- Evaluate current rural and remote placements for students and residents to assess and improve effectiveness.

5. Interprofessional Rural Program of British Columbia IRPbc

The Interprofessional Rural Program of British Columbia IRPbc was established in 2003 as an important first step for the Province of British Columbia, Canada, in creating a collaborative interprofessional education initiative that engages numerous communities, health authorities and post-secondary institutions in working toward a common goal. Designed to foster interprofessional education and promote rural recruitment of health professionals, the program places teams of students from a number of health professional programs into rural and remote British Columbia communities. In addition to meeting their discipline specific learning objectives, the student teams are provided with the opportunity to experience the challenges of rural life and practice and advance their interprofessional competence. To date, 62 students have participated in the program from nursing, social

work, medicine, physical therapy, occupational therapy, pharmaceutical sciences, speech language pathology, audiology, laboratory technology, and counselling psychology. While not without numerous struggles and challenges, IRPbc has been successful in meeting the program mandate. It has also had a number of positive outcomes not anticipated at the time the program was established.

Appendix 4 Characteristics of participating countries

	Canada	Australia	New Zealand	South Africa	Thailand	Finland	Iceland	Norway	Scotland
Population (est) (2019)	37,411,047	25,203,198	4,783,063	58,558,270	69,625,582	5,532,156	339,031	5,378,857	5,427,000
Area (km ²)	9,093,510	7,682,300	263,310	1,213,090	510,890	303,890	100,250	365,268	80,240
Population Density (people per km ²)	4/km ²	3/km ²	18/km ²	48/km ²	136/km ²	16/km ²	3/km ²	17/km ²	65/km ²
GDP / head (IMF 2018) in GBP (to nearest £) *	38,694	40,816	31,269	10,654	15,181	36,190	43,580	57,782	35,621 (UK)
% GDP on health	10.53	9.25	9.22	8.11	3.71	9.49	8.29	10.50	9.08 (UK)
Health free at point of access for all	yes	no	no	Dual system	yes	no	no	no	yes
Contractual status of GPs	mixed	Mostly fee for service	Mostly fee for service	Mixed	salaried	salaried	salaried	Individual contract	Mostly independent, some salaried
Contractual status of nurses	mixed	Mostly fee for service	Mostly fee for service	Mixed	salaried	salaried	salaried	Individual contract	Employed by GP practice/salaried by NHS trust
Front line service	Nurses in the most remote areas, doctors elsewhere	Nurses in the most remote areas, doctors elsewhere	mixed	Nurses in the most remote areas, doctors elsewhere	Volunteers, Nurses	GPs	GPs	GPs	GPs
Nurse Practitioners in Primary Care	yes	Some, limited prescribing	Yes, full prescribing rights	yes	Model is different	no	no	no	some
Community involvement	In remote areas	Some community owned practices in rural areas	Some community owned practices in rural areas	yes	yes	Through local councils	Through local councils	Through local councils	Very limited
MDTs in primary care	In remote areas	In remote areas	In some areas	yes	yes	In self-referral model	no	no	In some rural areas

* Figures in Wikipedia in International Dollars <https://en.wikipedia.org/wiki/List_of_countries_by_GDP_%28PPP%29_per_capita>, last accessed 16/10/2019, converted to GBP using <www.xe.com>.



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