

Remote and Rural Medicine: excellence from the edge

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Many Scottish doctors will have noticed the emergence of Remote and Rural Medicine (RARM) in recent years as a political force, and as a subspecialty of medicine with a parallel subspecialty in surgery. Some – particularly those confined to the ivory towers of teaching hospitals – will be understandably suspicious of it as an unnecessary and artificial entity, whilst others will view it as irrelevant. The purpose of this article is to explain one view of what RARM is, or could be, and to offer solutions to some of the problems it addresses.

The idea of RARM

RARM in Scotland started in the 1990's as an operational discussion concerned with the delivery of primary and secondary care in the more remote and rural areas. It was born of the increasing difficulty the NHS faced in recruiting and retaining healthcare professionals – particularly doctors – in these areas, and in providing increasingly complex and technocratic healthcare services in these areas. It soon recognised that solutions to these problems would require specific training for remote and rural service, specific support for such service including televisual and telephonic clinical advice and continuing professional development (CPD), and specific quality assessment and audit tools for remote and rural clinical activity.

But RARM should be much more than an operational discussion. I would also view RARM as an ideology concerned with compromise – or perhaps balance would be a more appropriate word. The compromises are between the quality of care (as assessed in urban practice) and accessibility of services to patients and relatives, between the cost of remote and rural healthcare and the resources available, and between the flexibility required in remote practices and the conservatism and dogmatism innate in our guideline-led medical culture. Such compromises will be acceptable only if they are explicit, controllable and accountable. As an ideology, RARM also inevitably challenges views based on urban practice: it supports generalism against specialism as the seat of intellectual “glamour”, and attacks both professional and regulatory self-interest. More than this, RARM is emerging as an academic discipline as methodologically rigorous as any other area of research. RARM projects have examined in detail the public's appreciation of some of the compromises described above, and it's acceptance of novel methods of healthcare delivery. It is adapting guidelines and care pathways developed in urban practice for use in rural areas. The compromises that this involves, when rigorously validated, may well inform and modify urban practice. RARM research could also exploit the stability, and in some areas the genetic cohesion, of local populations as an ideal site for long-term conventional medical and epidemiological research.

Many readers will recognise that some of the ideological issues described above also arise, perhaps not so acutely, in urban practice: even large cities may be considered “rural” when it comes to superspecialist low-volume practice. The conflict between patient-centred medicine and service centralisation (or “rationalisation”) knows no limits, and ultimately can affect us all. I regard RARM, therefore, as an exercise that will inform and assist urban practice as much as rural. The first UK conference on remote and rural health, held in Orkney in 2001, was entitled “Excellence at the Edge”: I would have called it “Excellence *from* the Edge”.

The essential, and now urgent, priority is to deal with the many problems that have arisen in providing healthcare in remote and rural areas. People living in such areas need, and rightly expect, effective and accessible health services and it is morally and politically unacceptable to ignore their needs, however inconvenient they may be in the 21st century. Improved road and air transport to population centres can solve many, but not all, the problems: the distances are huge, the weather often inclement, and even with modern equipment, safe immediate transfer is sometimes impossible. To meet this situation Scotland has developed a network of remote general practices, often serving populations of only a few hundred, and

small rural hospitals until recently run by one or two consultants. I shall confine my discussion henceforth to secondary care. Many will recall the single-handed surgeon-cum-obstetrician, working with a GP/anaesthetist/physician on a "1:1" rota and caring, heroically, for all comers. They were, apparently, very effective in the practice of their time, and were immensely respected in their communities though regarded as inferior by their peers in larger hospitals. They were devoted to their work, but their families were perhaps less so. Their days are numbered, but it has proven very difficult to explain this to local populations.

Problems for RARM

The immediate problem arises because the implementation of the European Working Time Directive (EWTD) has coincided with the introduction of widespread quality assessment in UK healthcare. The minimum number of consultants required to cover a 24-hour rota remains controversial, with different models requiring three, four or even five per speciality to comply with the EWTD. Many remote and rural hospitals serve populations of only 15-20,000, giving a population per physician or surgeon as low as 3,000. Most district general hospitals (DGHs), by contrast, provide around one physician per 15,000 population in general medical care. Similar considerations apply to the provision of medical equipment: local populations are often too small to justify, in economic terms, the purchase of expensive equipment and the unit cost of its use, at least according to unit cost targets derived from urban practice.

The unproven suspicion is that the rural population will be insufficient to maintain interest, experience and – above all – confidence at these population ratios. The predicted clinical activity is insufficient to meet various specialist society recommendations for maintenance of practical procedures, and may be regarded as insufficient to allow revalidation or to demonstrate legal competence. Rigorous clinical audit might offer some support, but the small numbers involved – and the correspondingly wide confidence intervals around outcome data – are as likely apparently to refute quality as to confirm it. And yet, audit is of particular importance in rural, low volume practice not only to satisfy the current governmental and public demand for tangible evidence of "quality", but also to support rural practitioners in our increasingly litigious world. The plaintiff's advocate is unlikely to be moved by, or even to understand, the challenges and compromises I have already described; his first question is likely to be "how many such cases have you treated in the last year, doctor?"

However, the problem of quality assurance is not simply a question of numbers. The very definition of the standards on which audit is based are often inappropriate. Guidelines say "every patient with stroke should have a CT scan", because this is (supposedly) easy to apply in a DGH and it seems hardly worth the bother to examine whether this is really true. But for the patient on an island in a storm, transport for the scan will certainly be uncomfortable, and possibly fatal. So, is the CT scan really essential? And if a CT scan is not necessary for every remote patient, is it really necessary for every urban patient. Hence, "excellence *from the edge*"!

Unfortunately, working time directives and quality assurance are not the only problems. Doctors working in remote areas face professional isolation for which they are decreasingly prepared by modern urban teaching and clinical practice. DGH consultants work in teams of three or more per subspecialty, with junior doctors and Allied Health Professionals: modern medicine encourages teams rather than individual responsibility for patients. DGH doctors consult with, and learn from, their peers as much by chance encounters ("corridor consultations") as by multi-disciplinary team meetings. DGH consultants may expect to teach students and to do research in an academic environment, and to undertake College and specialist society work. They need to be able to take study leave with cover readily available from a colleague. Their whole training has placed value and status on such facilities. This is poor preparation indeed for remote and rural work, and the deficit is hardly overcome by offers of tele-support, tele-conferencing, tele-CPD etc. When doctors arrive in their remote setting, they may find a tightly-knit community which is difficult to enter, and yet which scrutinises their work – and their private lives – in a way which no city doctor can imagine. If

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they manage to get away for a conference, their former colleagues may regard them with a level of condescension which may become very obvious if they try to leave their job and return to DGH practice. Small wonder that recruitment and retention is a major problem, despite the obvious and tangible benefits of rural life.

Solutions for RARM

So what potential solutions to these problems can be offered? It is clear that any solution must be sustainable, and cannot therefore be designed around particular individuals or icons from history. It is essential that the solutions chosen are seen to be generally equitable with urban practice in terms, for instance, of rota, workload etc. No single model will meet all needs, and it is possible to discern several different models of potential remote and rural secondary healthcare in different areas. Some have already been applied, whilst others are entirely novel.

The traditional “mini-DGH” model

This model continues to regard remote hospitals as “mini-DGHs” with familiar teams of physicians, surgeons, anaesthetists, perhaps obstetricians and even orthopaedists. Some existing remote hospitals have always run like this, with one to three consultants per speciality working as true generalists in medicine and surgery, and providing 24-hour cover. Outpatient clinics, and sometimes operating, are supported by visiting specialists from the local DGH by day. Such specialists are proving increasingly reluctant to visit, because of difficulties with finding cover for their patients whilst they are away, and with the backlog of work they face when they return to their own hospital. To survive, such hospitals will need to expand to provide four to five consultants per rota (i.e. 15-20 per hospital) to provide a EWTD-compliant rota. The experience and activity of the consultants could be maintained by transporting patients from urban centres to be treated in the remote hospital, but it is not known whether this would be acceptable to patients. Visiting consultants would need to be better supported for their home duties, by better communication with their own hospital, and by better transport so that they do not waste hours driving long distances. Such a rural “mini-DGH” could, however, provide an excellent site for basic general medical and surgical training, GP training and medical student teaching.

The main problem with this model is that the expansion involved to meet EWTD requirements would require a major part of the Scottish consultant production at a time when 30% of posts in the UK remain unfilled. Given the current manifest lack of appeal of remote and rural hospital practice, it seems unlikely that recruitment and retention would be feasible. It has been suggested that specialist registrars trained, and duly certified, in *general* medicine or *general* surgery (under Modernising Medical Careers) might provide the necessary generalist consultants: Certificate of Completion of General Training holders might work in the remote hospitals, gaining valuable experience, whilst working towards their Certificate of Completion of Specialist Training in the nearest teaching hospital. I suspect that the travel problems, and peripheral time commitment, would make this neither feasible nor popular. In short, I think it would be brave indeed to embark now on this model.

The “rotate in” model

This proposes that the “mini-DGH” model is supported not by transporting patients out to the peripheral hospital, but by rotating peripheral consultants in to the main DGH to maintain clinical activity, continuing professional development, teaching and perhaps research. It solves the problem of professional isolation and activity, and contributes to patient turnover without transporting patients, albeit with some loss of continuity of care. It would require, however, the consultants involved to leave their homes and families, and their patients, for substantial periods of work in the DGH if their own experience is to be significantly enhanced. This seems unlikely to be popular.

The “rotate out” model

This proposes the converse: namely that the remote hospital is staffed by DGH consultants rotating out to serve alone, one at a time, in each speciality, for perhaps a week. The visiting consultant would provide all services – outpatient, inpatient, day and night, that week – and also a local service in their own subspecialty that week. They would provide the training environment for junior staff, and good junior staff would be essential to make a week’s continuous on-call acceptable. It is not clear whether such a system would be EWTD-compliant, even if less than 48 hours when averaged with normal weeks at the base hospital. Such a system would require even better support in the base hospital, links so that all accumulating paperwork could be completed from the peripheral hospital, and generous numbers of consultants at the base hospital with a good crossover culture. Continuity of care for patients in the peripheral hospital would be no longer than one week. The consultants involved would have to be true generalists in medicine or surgery, since there would be no easy “corridor consultations” with colleagues. This system would prove acceptable to consultants, I suspect, only if “weeks out” were no more than say four per year, requiring a minimum of 13 per speciality on the system at the base hospital.

The “Orkney” model

Secondary care in medicine (but not surgery) on Orkney has, for many years, been provided by general practitioners supported by visiting specialists from Aberdeen, and by transport of selected patients to Aberdeen Royal Infirmary. Nowhere else in the UK, to my knowledge, are general practitioners looking after the full panoply of general medicine – myocardial infarction, stroke, infections, organ failure and all. The system in recent years began to flounder for many of the reasons already discussed. Some of the GPs involved began to feel unhappy with the breadth of practice required in addition to their full GP and obstetric roles, unconfident in their ability to maintain and develop their competencies, and uncertain about the legal defensibility of their practice. NHS Orkney also needed to gain a stronger grip on clinical governance and to develop a more uniform approach to care. This was difficult with 13 GPs each admitting their own patients.

The system has therefore been greatly formalised and strengthened over the last few years through a Remote and Rural Areas Initiative (RARARI) funded project. A consultant in RARM, based at Raigmore Hospital, Inverness was appointed to support the GPs in their practice. He developed, together with the GPs, a series of “ruralised” clinical guidelines, associated computerised care pathways and embedded audit protocols. In addition, he visited regularly to provide direct educational and quality assurance support, and the education is further supported by regular visits from other Raigmore consultants in all medical sub-specialties. The resulting environment has been accredited by the Royal College of General Practitioners for SHO training in Rural and Remote Healthcare.

The “Orkney” model has been subjected to formal external assessment, and its impact on secondary medical care practice and costs has been fully measured, by investigators at the Highlands & Islands Health Research Institute in Inverness. It appears that some GPs welcome and enjoy the expansion in their role, and the opportunity for continuous care for patients in or close to Kirkwall. Others find the interruption to their “main” role disruptive, and some of those working far from the hospital dislike handing over their patients to a peer rather than to a consultant. This system works because it has a historical context: it is uncertain whether it could be easily introduced elsewhere. It is also unclear how it will fare under the General Medical Services contract. The system continues to develop and is currently entering a new phase, following the completion of the RARARI Project in October 2004.

The “Triage” model

This, the most radical, model is based on the view that there is an important distinction between what *needs* to be undertaken in the remote hospital, and what could be undertaken

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in the distant DGH. It addresses the provision of emergency care, around which the care of less urgent and routine conditions can be organised. It envisages the creation of a totally new kind of “supergeneralist”, a specialty in its own right. Such practitioners would have the precise rôle of assessing and stabilising all emergency patients, and deciding whether to manage them locally or transfer them to the DGH. Their practice, and therefore their training, would have elements of anaesthetics (including airway and shock management), surgery, medicine, obstetrics and orthopaedics: but their responsibilities would extend no further than the first few hours of emergencies in each of these specialities. Each remote hospital would have five such consultants, working a 1:5 rota at night for assessment, stabilisation and “duage”: keep or transfer. By day they would care for stable medical patients, patients operated on locally by visiting specialists, and patients transferred back from the DGH after more serious illnesses. They would be supported by visiting specialists from the DGH, who might well stay overnight for immediate post-operative care and the more intense medical problems. Training for such consultants would involve carefully selected elements of training programmes in anaesthetics, medicine, surgery, A&E, emergency medicine, obstetrics and orthopaedics – but a relatively small part of each curriculum. It would require a carefully designed training programme, accreditation scheme and CCST. This would be a very demanding “specialty”, which I believe would earn at least as much respect and status as the current superspecialist – such as the “Wirsungologist” (a specialist in disorders of the accessory pancreatic duct!) I once met in America.

To choose between these various models will require a careful and fundamental rethinking of the general role of remote hospitals, and of the specific role of each individual hospital in its own area. The discussion will centre on what *needs* to be accomplished at the hospital, and this will depend primarily on the feasibility and reliability of transfer to the local DGH. This will determine the staffing required, the competences of the staff, and thus their need for training and support. Training and support in RARM can never be generic: in each case it will be necessary to consider what the individual has to be trained for, and what precisely he or she will be expected to do. Remote and rural training programmes have so far been created “*ad hominem*” in medicine and surgery for specific posts, more or less as envisaged under the “mini-DGH” model. Currently such posts carry CCSTs in general medicine or general surgery only, but it is anticipated that accreditations in remote and rural medicine and remote and rural surgery will be approved. The creation of the proposed “supergeneralist” under the “triage” model would clearly require much greater planning, and much greater flexibility and co-operative working.

Ancillary Support

It is clear that clinical support for RARM will require ready access to efficient telephonic, televisual and data transfer, support from specialists in the DGH who themselves understand the communication problems of RARM, and who have dedicated time for the purpose. Educational support will require carefully tailored CPD programmes, and cannot be provided simply by the consultants “sitting in” on conventional CPD activities by teleconferencing. Much CPD will be multidisciplinary: RARM is truly generalist and therefore every discipline has much to learn from the others. Remote and rural practitioners will find themselves taking part in large numbers of managed clinical networks on an occasional basis, as the diseases they encounter require: this will also involve flexibility from the DGH’s involved.

Resources for RARM

A large number of individuals and bodies have been involved in the remote and rural movement, and some continue to be involved. The RARARI was set up in 1998 as one outcome of the Scottish Executive’s Acute Services Review. Its term of office came to an end, after several very successful projects, sadly without any direct successor. The Centre for Rural Health continues an academic perspective as part of the University of Aberdeen, whilst the long established “Viking Surgeons” group continues to discuss surgical issues. The Scottish Royal Colleges are setting up an intercollegiate working group on matters of direct

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collegiate concern: training and CPD. A Faculty of Remote and Rural Health was proposed some years ago, with ambitious plans to involve all relevant health care and social care professionals: it fell by the wayside apparently because of the magnitude and complexity of the proposed structure. The Scottish Executive is now considering the problems of service provision in remote areas, under its National Framework for Service Change: its "Rural Access" subgroup included only one consultant working in a remote area.

Conclusion

I would argue, in conclusion, that "remote and rural medicine" is relevant – as far as the current readership is concerned – to all physicians, and more generally to all doctors. I suspect that the potential conflict between specialisation and volume will spread to urban practice, and that the conflict between technocracy and accessibility likewise has no limits. I believe that these conflicts are unnecessary, but potentially very interesting to solve. I would argue that the Scottish Executive needs careful and detailed advice from the professionals most immediately involved, and in particular from the doctors involved. I would suggest that the idea of a Faculty of Remote and Rural Medicine be reconsidered, at least at first on a more modest scale, and that its remit encompass not only training, CPD and quality assurance but also detailed service provision.