REVIEW ARTICLE

The answers are out there! Developing an inclusive approach to collaboration

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ABSTRACT

Professional isolation is a recurring issue in the delivery of rural and remote health care. However, collaboration is now more feasible with developments in technology and connectivity. At an international scale, collaboration offers clear opportunities for good ideas and great work to be shared across distances and boundaries that previously precluded this. This article reflects a presentation given to the Rethinking Remote conference in Inverness (Scotland) in May 2016. A number of factors with regard to infrastructure and engagement are considered, along with ways in which the opportunities of collaboration between individuals and large centres can be optimised. Social media and increased connectivity pave the way for easier access to great practice across international sites that share similar challenges.

Key words: collaboration, pathway, rural proofing, Scotland, social media.

Introduction

Rural professionals have long experienced the challenge of geographical isolation. Access to peer support, continuing professional development opportunities and interprofessional debate has for some time been considerably constrained by communication over long distances. Dewar described this in 1912, in his report on Scottish Highlands and Islands healthcare[1], and it remains a core area for action in the Royal College of General Practitioners Scotland report *Being rural: exploring sustainable solutions for remote rural healthcare*[2].

Technology is now enabling these barriers and challenges to be surmounted. Digital connectivity is reducing the effects of geographical distance, and is rapidly making the sharing of knowledge, conversation and practice feasible across large areas, indeed internationally. Face-to-face real-time communication is now almost universally available where connectivity exists. The ability collectively to engage geographically and professionally disparate groups is relatively straightforward using established means of communication from email to video-conferencing. Notably, the scale of geographical distance becomes nullified with better access to these means of communication: it becomes as easy to discuss things with a confrere in New Zealand as it does to those only a few miles away on the other side of a ferry journey.

So how do we maximise the benefits that this potential for networking and collaboration presents to rural clinicians? Are there considerations that we need to make now, to see effective collaboration across the globe?

The attractions of collaboration

The opportunities that digital technology provides in enabling collaboration across large areas offers game-changing benefits to rural practice across the world. The potential applications are many, from sharing and providing good quality clinical care to reducing professional isolation and enabling continual professional development to be delivered to groups selected on the basis of relevance, not geographical proximity.

Clinical problem-solving is a core skill of the diagnostician. Rural clinicians are particularly familiar with the challenge (and stimulation) of turning highly undifferentiated presentations into differential and working diagnoses. This often relies on more traditional forms of clinical examination, because more advanced diagnostics (including investigations such as imaging and certain blood tests) are usually more difficult to access, particularly in the acute setting.

One hallmark of rural practice is the low frequency of high intensity situations. These scenarios can, due to the nature of generalist practice, come from virtually any domain of medicine – the 2 year old with a seizure, the septic 80 year old, the critically injured 20 year old, the distressed 40 year old. Rural clinicians are usually adept at applying a common strand of generalism, working with the limited resources available and identifying peer groups within their own settings to source effective support.

However, the rising tide of clinical complexity – influenced by the ageing population, rising patient expectations and more health literacy (often from increased access to information and support groups also derived from better connectivity) – continues to challenge the sustainability of rural practice per se, as well as the professional resilience of rural clinicians.

Some collaborations already exist, through organisations such as WONCA, national colleges and regional networks. However, there remains plenty of scope to reduce work duplication and harness collective energy to collaborate effectively on the challenges of delivering good generalist clinical care in a consistent manner.

The Pareto principle

In preparing for my presentation to the Rethinking Remote conference held in Inverness in May, I came across a TED Talk by Clay Shirky[3]. He describes the power of constructing a 'co-operative infrastructure' that plays to the strengths of inclusive social media (including platforms such as Twitter and Facebook). He describes the importance of recognising that the most creative and high impact contributions in a collaboration often come from those who contribute less rather than those who contribute greater volume or effort – whether these key players are individuals or organisations.

I considered that we see this effect in a lot of attempts to solve the challenges of delivering rural health care on an equitable basis. For example, collaborations are often formed

to tackle issues such as recruitment and retention, and there is a natural tendency to invite well-known organisations or individuals to this platform. Shirky highlights, however, that frequently a biased weighting is given to those who contribute most. The Pareto principle, or principle of factor sparsity, describes this phenomenon whereby typically 20% of the outcome results from 80% of the input (such as time, resource, effort): paradoxically, the efforts of those who contribute most (80%) result in 20% of the outcome.

Furthermore, the motivations of individuals and institutions require consideration. Individuals can normally contribute ideas with intrinsic motivation, and remain focussed on the core aims of the collaboration. On the other hand, the core aim of institutions is self-survival – and so the nominal objectives of the collaboration can shift paradoxically to the self-preservation objectives of the institutions involved. Of course, sometimes there can be a mutual benefit, particularly when those objectives match. However, awareness of this relationship between contributors and collaborative objectives is particularly important to consider with the increasing use of collaboration to address challenges of delivering rural healthcare: creativity tends to be found in less-frequent contributors to a project, and creativity drives innovation.

So, why is this important?

Social media

The advent of social media has brought considerably widened access to asynchronous communication that can span geographical and professional barriers. The draw of immediacy, responsiveness and convenience in allowing comment and opinion to be expressed is one significant reason for such high participation in social media. Conversations result from this ebb and flow of opinion, and access to interaction with influential leaders is easily achieved in a manner that has not previously been possible.

For the more isolated practitioner, there are benefits to tapping into this free, organised and accessible resource. The wide pool of potential collaborators means that it is easier to find other centres of care that are similar in size, demographics and available resources. Simply put, you are more likely to find others who are like you in the global meeting place that is social media.

There are of course some caveats. With greater accessibility comes more 'chatter': noise and irrelevant information. Tools to navigate this take experience and time. This is often the reason that new users of social media hesitate to engage with social media platforms. However, the ability to search, filter and engage on a national and international level that really hasn't been possible before is a real benefit, and access is not bandwidth-heavy, so even those with relatively slow internet speeds can participate.

Case example: Search for a community hospital major trauma pathway

The following story illustrates the assistance that can be recruited from social media.

Arran is the seventh-largest island in Scotland. Occupying the same land-mass footprint as Greater Glasgow, and home to a population of 5000 (rising to 25 000 at peak tourist periods), medical care is provided by several GP surgeries and a community hospital in Lamlash, Arran's largest village by population.

A number of pathways have been developed for specific presentations at the hospital. These include acute coronary syndromes, major haemorrhage and sepsis.

In 2013, after a serious road accident, two critically injured patients were admitted to our community hospital for stabilisation whilst awaiting transfer to secondary care facilities on the mainland. They had both experienced major trauma, something which we are used to dealing with, albeit infrequently. However,

following a debrief of events (mainly highlighting many positive aspects of care), it was decided that it would be helpful to develop an *aide memoire* or a pathway for the initial management of patients with major trauma.

We used Twitter to ask if any other rural sites already had a pathway that we could consider modifying for our local use. Within eight hours of posting the tweet, a number of helpful replies had been posted, including by Dr Linda Dykes of Bangor Hospital in Wales. She offered not only their major trauma pathway, but a selection of others that they were happy to share. In return, we were willing to reciprocate by offering the pathways that we had developed.

Further collaboration resulted from a number of other sites, and our links with the Emergency Medical Retrieval Service (EMRS) were also re-activated via the initial Twitter message. Following subsequent work, we now have our own Arran major trauma pathway, tailored to dovetail into the EMRS trauma pathway and taking into account local receiving centres. We have since made this available nationally and it has featured in a recent rural GP video-conference network aimed at sharing good practice.

Case commentary

This case highlights the way in which asynchronous collaboration can be quickly achieved across geographically distant sites. Community hospitals, particularly those that include emergency units, are familiar with the challenges in managing a wide variety of presentations. The challenges of rural medicine include high-intensity presentations occurring with low frequency. The attractions of pathways and *aide memoires* are in guiding care, promoting a systematic approach and reducing omission of key components of assessment. These benefits are particularly relevant to rural and generalist settings.

Tapping into wide networks, such as those facilitated by social media, can offer the rural clinician access to considerable experience and the opportunity to share and reproduce good practice. The duplication of effort that would result in each centre

trying to design its own pathway from scratch is significant. We were grateful to our Bangor-based colleague for assisting so quickly; their pathway was modified within a few days into a locally relevant pathway for major trauma on Arran.

The importance of connectivity

A significant rate-limiting-step is, however, present. Connectivity holds the key to rural collaboration. Whilst digital technology and platforms such as social media offer so much, connectivity (whether by fixed or mobile connection) is vital in order to be connected to the platforms described earlier. It is in this area that we see the phenomenon of 'inverse connectivity provision'. In 1971 Julian Tudor Hart observed that inequalities of healthcare provision followed an 'inverse care law': that where market forces are allowed to dictate, 'the availability of good medical care tends to vary inversely with the need of the population served'[4].

Provision of connectivity is more challenging (technically, and financially too) in rural areas, and yet we know that demand quickly follows new availability of connectivity such as superfast broadband and 4G mobile communication. In some countries, including Rwanda and India, there is a phenomenon of 'leapfrog technology' where roll-out of connectivity provision bypasses the incremental technologies (typically fixed/cable provision), and instead focuses on widespread delivery of mobile connectivity.

Conclusions

Mobile digital technology is now at a level whereby significant innovation could be carried out collaboratively, across multiple sites in the world. It is an exciting time for collaborative research and project development.

Understanding how individuals and institutions are likely to contribute to this process helps to determine how to create and facilitate an effective, cooperative infrastructure that allows an 'unconstrained social system' that values and recognises all contributions. There is tremendous scope for

sharing resources that ordinarily take a community hospital (and other generalist rural settings) a significant amount of time to develop from scratch.

There are multiple outcomes from discussion of this topic and I hope that some will be effective in allowing rural generalist health care across the globe to benefit from international sources, which have so much to offer.

References

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