

## Queensland Parliament – Health and Community Services Committee Submission to the Inquiry into Telehealth Services in Queensland

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## Introduction

In common with other jurisdictions, the demands placed on Queensland's public health care system are increasing. Substantial cuts across the system, assumed to be a cost-control measure, have been well publicised. Meanwhile, telehealth is often advocated as an economical way of providing health care services at a distance and media statements have periodically promised that telehealth would yield a new dawn of better healthcare for Queenslanders.<sup>2-5</sup>

Telehealth is not new to Queensland; it has existed in the state in some form for 19 years<sup>6</sup> and has been the subject of substantial public funding.<sup>2-8</sup> As long ago as 2003, Queensland was reported to be the "world leader in telehealth"<sup>9</sup> and it has been periodically reported as having one of the largest telehealth networks in Australia<sup>2,3,10</sup> and indeed in the world.<sup>7,8</sup> However, a recent media report suggested that "Millions of dollars worth of cutting edge telehealth infrastructure is laying idle in Queensland's regional hospitals".<sup>11</sup> In the same article, the health minister, Lawrence Springborg, was quoted as confirming that telehealth, other than in emergencies, was "not being used very well". Data presented in the public hearing of this inquiry also suggests that the network of videoconferencing systems is not used to its capacity, with average system usage reported at 8.9 hours/month, equating to 1.5% utilisation (i.e. 98.5% idle) based on a 24 hour day/30 day month; and 5.6% utilisation (i.e. 94.4% idle) based on an 8 hour day/20 day month.<sup>10</sup>

While telehealth "is and remains a strategic priority for the Queensland public health system",<sup>10</sup> perversely, it is understood that Statewide Telehealth Services, the subdivision of Clinical and Statewide Services responsible for the implementation of telehealth, was closed down as part of the state government cuts. Talented staff were retrenched, though a number were subsequently re-employed in similar roles within the department, presumably associated with the new era of telehealth announced by the health minister.<sup>3</sup>

In this context, it is important to examine the effectiveness and value for money of publically funded telehealth services. The key question for the inquiry is: "what effect has telehealth had on the health of Queenslanders and at what cost?". Or put more formally, "is Queensland's telehealth service clinically and cost effective?"

As a mature service, one anticipates that the new dawn of better healthcare should have arrived, evidenced by clear benefits favouring telehealth.

In this submission, we offer comments relating to evaluation of telehealth. The key points are highlighted in bold font and labeled with 'KP' throughout the document.

**KP1 Telehealth has been used in Queensland's public health system since 1995**

**KP2 Substantial funds have been invested in building a large videoconferencing network**

**KP3 Videoconferencing equipment, intended for telehealth services, is under used**

<sup>1</sup> Submitted in a personal capacity. The views and opinions contained in this submission are those of the authors and do not necessarily represent the views of the authors' institutions.

## Telehealth is a process

The Department of Health's (DoH) definition (reproduced below), makes it clear that telehealth is not a technology, nor is it technical infrastructure – indeed it is not a physical 'thing' at all, rather it is a *process* (or a set of processes)– that are used to deliver *health-related services* at a distance.

### Queensland Department of Health Definition of Telehealth<sup>1</sup>

*"Delivery of health-related services and information via telecommunication technologies, including:*

- *live, audio and/or video interactive links for clinical consultations and educational purposes*
- *store-and-forward telehealth, including digital images, video, audio and clinical (stored) on a client computer, the transmitted securely (forwarded) to a clinic at another location where they are studied by relevant specialists*
- *tele-radiology for remote reporting and clinical advice for diagnostic images*
- *telehealth services and equipment to monitor people in their home"*

A simple definition, capturing the process-related nature of telehealth, might be:

**KP4 Telehealth is the process of providing health-related services remotely using technology**

## Assessing Telehealth

Assessing telehealth is not straightforward. There are a number of questions, including but not limited to:

- What is the rationale for using telehealth in a particular context?
- What are appropriate performance measures of feasibility, safety, clinical efficacy and clinical effectiveness?
- How should the measures be analysed?
- What would be an acceptable difference between telehealth and usual care, should telehealth be 'no worse', or 'better' than care otherwise available?
- If telehealth has clinical benefits, how should the economic effects be assessed, and from which perspective – the patient, family, health service or society?

Expanding on these points, in order to assess any telehealth implementation, (i) the rationale for its use must be clear (i.e. "*what is the reason for using telehealth?*"); and (ii) appropriate performance measures must be identified (i.e. "*how do we measure whether aims are being met?*").

Proponents suggest that telehealth *may* help address a number of problems. Some of the frequently described reasons for using telehealth include:

- *To improve access:* where health care services may otherwise be difficult, inconvenient or prohibitively expensive to access. When successfully implemented, patients may be able to receive some services close to home and avoid the need for travel.<sup>12</sup>
- *To save time:* in acute situations, telehealth may be used to provide timely specialist assessment, advice and management of patient retrieval.<sup>13</sup>
- *To improve care of patients at home:* remote monitoring is proposed as an approach to assist in providing care, particularly to the elderly and those with chronic disease. The UK's Whole System Demonstrator Project is the largest and most well-known example.<sup>18</sup>
- *To control health care costs:* it has been suggested that telehealth may be an economical alternative to other methods of health care, thus being a useful cost-control measure. Evidence to support this argument is mixed,<sup>14</sup> though savings may be more achievable in high-cost acute care.<sup>15</sup>

While the terms of reference of this inquiry include a definition of telehealth (i.e. the "*what?*"), the rationale for using telehealth (i.e. the "*why?*") and associated performance measures are not explicitly stated. In making their assessment, this degree of uncertainty puts the committee in an awkward position - it will be difficult for the committee to assess the effect of telehealth on patient care, or the extent to which telehealth provides value for money.

**KP5 To assess telehealth, the rationale for its use, appropriate performance measures and methods of analysis must be explicitly stated**

**KP6 The rationale for using telehealth in Queensland, together with appropriate performance measures do not appear to be explicitly stated**

### ***Activity measures are not health measures***

Public reporting associated with telehealth in Queensland has historically focused on activity, specifically video conferencing (VC) resources including systems installed,<sup>3, 6-8, 10, 16</sup> video hours,<sup>6, 9, 10</sup> number of VC calls,<sup>6, 10</sup> and patients seen.<sup>2</sup> More recently, occasions of service/provisions of service using VC have been reported.<sup>10</sup>

These metrics are a good start to describing a telehealth implementation. They provide some insight into resource availability and use, analogous to counting the number of beds in a hospital, procedures conducted in an operating theatre, number of medical images taken in a particular facility, or the number of hours that an outpatient clinic room is busy per day. However, it will be obvious that these basic 'counts' tell little about the health of patients – i.e. knowing that 120 chest X-Rays were conducted for 100 patients tells us little about what it meant for the patients' health or the outcomes of any intervention, other than an X-Ray was ordered and that it was conducted. To understand the clinical and economic value of chest X-Rays, additional data are required. The same argument applies to telehealth.

Similarly, reported *annual changes* in counts<sup>10</sup> are difficult to interpret from the patient health perspective. An increase or decrease in volume of activity simply means that the resource is being used more, or being used less between two measurement periods. Curiosity leads one to ask: "*what is the relationship between these observed changes and the health of Queenslanders?*"

To assess the clinical and economic effects of telehealth, analysis of health outcomes data are required, for example:

- Measures of morbidity, mortality, health related quality of life
- Health resource usage - length of stay, avoided admission/readmission, appropriateness of retrieval / patient transport
- In acute situations, time to definitive care
- Local management (hence avoidance of admission at a higher level / more expensive facility)
- The costs and savings associated with the above

**KP7 Activity data alone do not allow an assessment of clinical and cost effectiveness of telehealth**

**KP8 Assessment of the clinical and economic effectiveness of telehealth requires an analysis of health outcome and cost data**

### ***Cost savings***

As mentioned earlier, while telehealth is often advocated as a way of reducing costs, little has been published on the savings that have been achieved through the use of telehealth in Queensland, though in 2008 the then director of Statewide Telehealth Services, Dr Craig Kennedy, commented that "*actual savings range between \$100 to \$10,000 per patient*".<sup>7</sup> A report in the media also suggested that telehealth had saved \$800,000 in one year in Queensland's central west.<sup>17</sup> These figures are difficult to reconcile as true savings, given the cost of providing telehealth and the reported level of utilisation reported at the public hearing and discussed in the introduction to this submission. Moreover, there are direct cost-savings to patients through reduced travel costs, indirect cost-savings to the economy through reduced time off work by patients, direct cost-savings to Queensland health through 1) fewer claims for patient travel subsidies, and 2) shifting of some costs to community telemedicine services that have Medicare item numbers, and finally, cost-savings to Queensland Health from avoiding unnecessary admissions. The

cost-savings from avoiding admissions is termed *released value*, which, through telehealth, capacity in hospitals is increased allowing more patients overall to be treated. These cost-savings to patients and hospitals should be routinely identified and quantified.

**KP9 The cost-savings to patients and hospitals should be routinely identified and quantified**

### ***“Further Trials”***

The DoH has historically viewed telehealth as an “*access to technology*” problem; the belief was that if one has access to technology, then one has telehealth. Limitations were considered technical ones – “... *the only limit was the state’s telecommunications capabilities ...*”<sup>7</sup> and “... *every clinical area has, or potentially has, telehealth capabilities but we need a high level band width in order to get a good-quality video for a consultation*”.<sup>7</sup>

This is a disturbingly misguided view that has arisen from a fundamental misunderstanding of telehealth. It has led to the implementation (and periodic refresh) of a network of expensive technology. Of course, technology is important. It is necessary but not sufficient for telehealth – this is evidenced clearly in Queensland: clinicians have had unparalleled access to high quality video technology for many years, yet the network has been underused for clinical service delivery. Many clinicians remain to be convinced of the benefits of telehealth.

Telehealth in Queensland is almost 20 years old. The DoH had 550 systems in 2008<sup>16</sup> and has over 2,000 systems installed today.<sup>10</sup> It does not need significant further technical investment or trials of technology; it needs further investment in *clinical service* development – i.e. a change of focus to the *process* of telehealth; and it needs a focus on formal evaluation of the health and economic outcomes of the use of telehealth for Queenslanders.

Without such refocusing, there is a risk that public funds will continue to be invested into technology rather than process, that the growth of clinical telehealth services will remain stunted and that media releases will continue to periodically report substantial investment in technology together with unhelpful activity statistics.

**KP10 Technology is necessary but not sufficient for telehealth**

**KP11 Clinician access to technology is not a limitation in most Queensland Health facilities; yet this access has not led to significant uptake across the health system**

### ***Learning from research and successful telehealth experiences in Queensland***

There are successful, long running telehealth services in Queensland. The Centre for Online Health (COH) at the University of Queensland has developed and operated a paediatric telehealth service since 1999. This service, based in the Royal Children’s Hospital provides general, specialist and subspecialist services to children and families across the state. The future of the paediatric telehealth service as it currently stands is uncertain with the opening of the Lady Cilento Hospital in November. More recently, at the Princess Alexandra Hospital, the COH began developing and operating adult and geriatric telehealth services.

The COH services focus on the process of telehealth and to a much lesser extent the technology. Inherent in the centre’s work is telehealth research, evaluation and the communication of results. Its staff publish regularly in the international peer-reviewed literature. In an acknowledgement of its expertise, the COH recently won a five year grant through the NHMRC to establish the Centre of Research Excellence in Telehealth.

The COH and its extended family of collaborators have substantial experience in telehealth service development, delivery, and clinical and health services research. This expertise is on the DoH’s doorstep and should be taken advantage of.

**KP12 Considerable telehealth expertise exists in Queensland; improved collaboration between the Department of Health and universities would be beneficial**

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