

Telehealth: a national, sustainable approach

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BACKGROUND

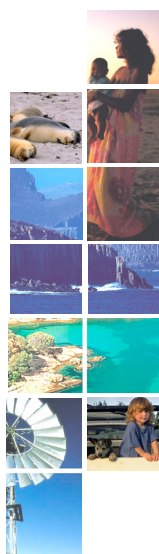
Queensland Health has established an international reputation as a world leader in the development of telehealth initiatives. Changing consumer expectations over the last decade have presented health systems with a dual challenge. They need to increase the efficiency and effectiveness of clinical services in the face of growing economic constraints, and also create client-focused services to meet the new ethic of consumer service. A major task in this new environment is to develop more humanistic health care organisations in which technology and caring bond together to provide clinical excellence and patient-centred care.

The provision of quality health care services within limited budgets presents challenges for governments and private institutions. To meet these challenges in Queensland, Queensland Health's mission of *"helping people to better health and well-being"* (Queensland Health 2000, p.1) is underpinned by principles which include the allocation of resources to meet demonstrated need, and the policy of equity. Equity of access to services requires that Queensland Health reduce inequality of access experienced by many due to their geographical location. Telehealth provides health care facilities with a tool to help meet these demands.

Until recently, telehealth services have focused on the development of pilot projects, building the knowledge base and skill level of organisations and evaluating the success of various applications. This is a necessary passage in any new organisational development, and has provided Queensland Health with a solid foundation on which to build. Strategically, it is now essential to pursue processes for integrating telehealth into organisational and clinical processes.

DEFINITION OF TELEHEALTH

Telehealth is a health care service delivery tool applicable to a range of health care specialties. Essentially, it delivers health care and the exchange of health care information across distances using communications technology. It can include the transfer of basic patient information across computer networks, the transfer of images such as x-rays, computer tomography (CT) scans, ultrasound images, pathology images, video images of endoscopic or other procedures, patient interviews and examinations, consultations with medical specialists and health care educational activities. Telehealth is characterised by a geographic separation between the client and the service provider, and the use of telecommunication technologies to establish communication and interaction between the client and the provider to enhance clinical functions (Rao 2001). The essence of telehealth is the transfer of expertise instead of the transfer of the patient.



QUEENSLAND HEALTH'S TELEHEALTH PROGRAM

A major multi-disciplinary project has commenced as part of Queensland Health's Quality Improvement and Enhancement Program (QIEP). This Program is maximising Queensland Health's investment in telehealth technologies by optimising the use of telehealth for direct client care. A key objective for the Program is to integrate telehealth technologies into existing services. Although telehealth has potential to correct many imbalances in health care delivery to rural and remote communities, Queensland Health has also noted that it would have implications for labour deployment, resource distribution and reimbursement of health care costs (Hornsby & Brommeyer 2000). Consequently, telehealth must be integrated into standard service delivery systems. To support this integration, a state-wide approach to telehealth is required, including sustainable funding for both infrastructure and ongoing service delivery. This is supported by the findings of the National Telehealth Plan for Australia and New Zealand (May 2001), which notes that funding and financing options are a major issue for the sustainability and expansion of national telehealth services.

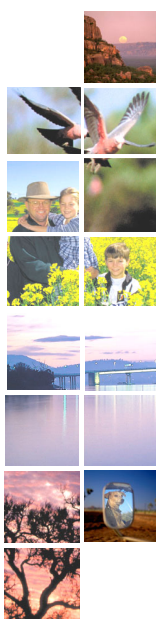
The Queensland Health Telehealth Program involves promoting the use of telehealth, mainly via videoconferencing, to improve access to both diagnostic and treatment health services. Telehealth technology allows services to be provided where people live, and makes it easier for patients and their families to obtain specialist services. Additionally, telehealth provides isolated clinicians with better access to direct clinical support and education. The Program is focusing on videoconferencing as a tool, since Queensland Health has more experience in using this medium, but is liaising with other Programs addressing use of store-and-forward technology, such as sending digitised images for examination and reporting.

KEY STRATEGIES FOR TELEHEALTH IN QUEENSLAND HEALTH

The National Telehealth Plan for Australia and New Zealand (2001) states that Telehealth should:

- be integrated into mainstream health service delivery
- not represent additional services
- not attract a new source of funding
- not be set up and managed as a separate program
- be seen as an alternate delivery mechanism for mainstream services.

Queensland Health has taken note of these recommendations and has established a Five Year Strategy for telehealth within the organisation. This includes three key areas that underpin the work of the Telehealth Program and Statewide Telehealth Services.



New developments, strategic alliances and evaluation

This key area ensures that Queensland Health stays abreast of new developments in the field of telehealth throughout the world. It involves maintaining a focus on new technology trials, building networks with health partners, collaboration with other agencies to decrease duplication, and a process of continuous evaluation to ensure that telehealth is meeting defined health care needs

Supporting users, assets and infrastructure

This key area involves technical and operational support for users, including local help desk services and bridge management from the Videoconferencing Broadcast and Support Centre (VCBSC). It also addresses user training, to ensure that it is ongoing, available and automated, and looks at sustainable asset management practices, by setting technical standards for equipment, and establishing procedures to purchase, deploy, maintain and replace equipment in a co-ordinated and standardised manner.

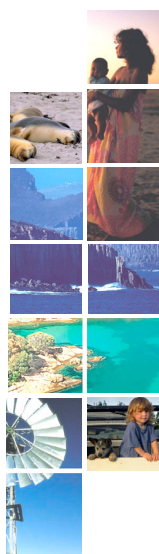
The Telehealth Program is collaborating closely with the infrastructure arm of Statewide Telehealth Services, to establish the effective provision of equipment to health facilities. Capital purchases are difficult for individual facilities, due to the nature of the budget cycle. When a facility makes cost savings through the use of telehealth, the amount saved in one year is rarely sufficient, at least in the case of small facilities, to fund the purchase of new or replacement equipment. However, the budget cycle is such that funds not expended in one financial year are not necessarily available for use in the next. Consequently, Queensland Health Information Services, of which Statewide Telehealth Services is a branch, are now taking ownership of all videoconferencing equipment within Queensland Health. They will charge each facility a yearly fee that would include support, repair and regular replacement costs. Thus each facility can spread the costs of replacement evenly over a number of years, making the wider provision of videoconferencing equipment a more achievable goal.

This will also have the additional benefit of standardising equipment throughout the State, as it will prevent the *ad hoc* purchasing that currently occurs. Statewide Telehealth Services has set up purchasing arrangements and contracts to supply standardised equipment, depending on usage requirements. This will enable the VCBSC to provide improved support services for users. The VCBSC will install global management software, centrally located, to manage assets and software across Queensland. This software can launch calls for clients, monitor usages, monitor systems remotely, diagnose and resolve faults, and upgrade local software.

These initiatives will address the issues of providing equipment and support to health care facilities in a sustainable manner.

Business improvement and integration

This is the area covered by the QIEP Telehealth Program, and includes the development of state-wide models of telehealth service provision, specifically the financing of clinical services from other locations, referrals and patient flows. Protocols and standards for the use of telehealth have also been established, to provide a means of ensuring that the quality of services provided via telehealth is appropriate. A further area is the development of training modules and processes for the ongoing



clinical application of telehealth, which are integrated into the existing telehealth training program. The final area is the co-ordinated implementation of specific telehealth initiatives across the State to support the specific needs of each of the three health zones, utilising the quality models established in the initial phase of the project

Recommendation

The quality of the technical and clinical component of telehealth activities must be addressed at an enterprise wide level, not by individual clinics or projects

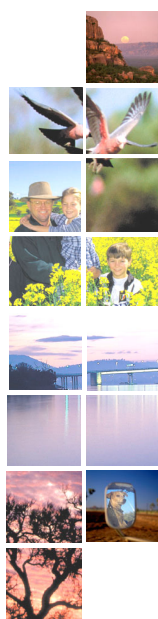
FUNDING TELEHEALTH IN QUEENSLAND

The Telehealth Program is addressing the need for sustainable funding for the variable costs and human resource costs of telehealth. As discussed earlier, a centralised infrastructure management program addresses infrastructure costs. In the past, there has been no corporate approach to telehealth funding; consequently *ad hoc* arrangements have evolved throughout Queensland Health. The National Telehealth Plan for Australia has identified the future financing arrangements for telehealth service delivery as one of its four priority areas. It recognises that telehealth should be integrated into mainstream service delivery, and that it should not represent additional services, attracting a new source of funding (although set-up and maintenance costs for infrastructure are clearly required). Telehealth should not be set up and managed as a separate program, rather it should be seen as an alternate delivery mechanism for mainstream services. Consequently, recurrent funding for services should be established on this basis (NIHMAC 2001). State-wide consultations indicate that confusion about funding issues is a major barrier to the uptake of telehealth for clinical purposes. Australian rural and remote communities will not have ready access to telehealth services until funding issues are addressed.

The Telehealth Program aim of impacting positively on improving access to health services, using telehealth to facilitate quality of care, will result in increased use of telehealth for clinical consultations. To facilitate this, a state-wide approach to the funding of telehealth is required, so that all parties concerned can be treated equitably. The expected increase in telehealth consultations made it essential to provide some business rules for the allocation of telehealth costs, so that facilities wishing to adopt this service provision tool can plan and budget for telehealth.

There must be consistency between funding for services delivered through telehealth and those delivered through traditional methods, and arrangements should encourage the appropriate balance between the two methods. Since telehealth technology is a means of transferring information, and is not a health service in itself, it can potentially substitute for a wide range of existing services. Unless appropriate funding methods are developed, not only will the technology fail to reach its full potential to enhance services, but inappropriate funding arrangements could encourage expansion in areas where there is no demonstrable benefit. Additionally, telehealth funding arrangements must be consistent with models of health service funding which are likely to be relevant in the next decade (ANZTC 2000).

Issues surrounding telehealth funding remained a major organisational barrier across Queensland for the provision of telehealth services. As mentioned above, the management of all information technology and telecommunications infrastructure and



support arrangements (which includes telehealth) is now being delivered by Information Services. However, the telecommunication costs (including line costs and human resource costs) of providing telehealth services still needed to be addressed. Most existing telehealth services have been funded under local agreements between the providing and receiving facilities. Given the variety of arrangements in existence throughout Queensland Health, new adopters of telehealth technologies experienced significant difficulty determining who should bear the costs they are likely to incur. This acted as a deterrent to adoption of telehealth, and had to be rectified.

Extensive consultation took place throughout Queensland Health, and also with consumers and external agencies. Focus groups with broad membership were held in every health service district. Advice and input was received from the Telehealth Advisory Board, the telehealth funding models meeting, and the Telehealth Working Groups, which meet regularly in the Northern, Southern and Central Zones.

Recommendation

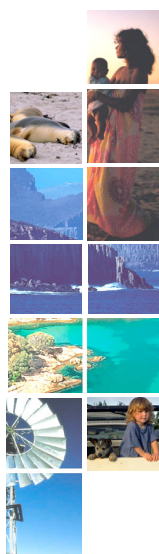
The variable costs associated with telehealth activities must be funded in a standardised way across an entire health service

Criteria for funding models

Criteria have been established to ensure that a funding model will meet identified needs. Funding models should:

- encourage funding to follow activity and resource use
- be compatible with existing or future funding arrangements
- be compatible across different applications of telehealth
- minimise incentives for inappropriate expansion
- allow expansion to applications which improve access or outcomes
- allow for appropriate research and development
- encourage routine monitoring and evaluation of services
- are feasible, practical and efficient (National Telehealth Committee 1997).

The cost and volume contract has been established as the most appropriate model for funding telehealth in Queensland, as it best meets the above criteria within the capacity of Queensland Health's existing systems. This would involve Districts making a case for the establishment of a telehealth service, which would be assessed against other service development requests. Once the service had been established, it would be funded on a recurrent basis with a block grant determined on the basis of anticipated activity. The funding provided would therefore cover an agreed level of service provision at an agreed cost. If unanticipated variation occurred, there would be adjustments in the budget based on review or negotiation. Care must be taken as incentives for inappropriate expansion will only be minimised if the agreement is well specified, and guarantees ongoing review, as expansion of services does not guarantee additional funding (National Telehealth Committee 1997).



However, the introduction of the cost and volume model requires the development of good information systems, and increases the burden of administration and data collection. Such information systems are currently under review in Queensland Health, but are not yet at the stage of being able to deliver the required information consistently.

Key business principles

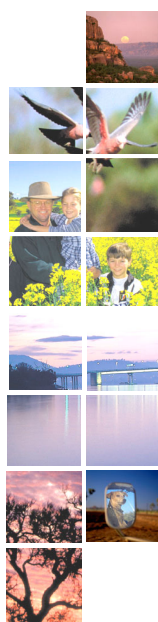
Since the introduction of the cost and volume model is not yet feasible, interim measures in the form of key business principles and rules have been developed by the Telehealth Program. These follow the principles of the cost and volume model as closely as possible. Districts must decide which services they need to provide to their clients within their budget and the parameters of their service agreements, and the best method of providing these services. To make these decisions, Districts need to know the costs that will be involved, and who is responsible for them. To facilitate this, the following principles apply:

- The planning and implementation of Telehealth services will aim to provide the best quality and most convenient service to patients;
- Telehealth is not a service delivery model, but must be used as a tool to support and enhance delivery of care;
- The sustainability of telehealth in Queensland Health requires that a state-wide approach to all funding be taken;
- It is intended that telehealth be incorporated in to the casemix and ambulatory care funding models and classifications, and that the business rules serve as an interim arrangement to be reviewed when classification is complete;
- Business rules must be simple and easy to understand, so that Districts can control their expenditure on telehealth to the maximum extent feasible, managing the profile and volume of service needs;
- The business rules apply to both inter and intra district telehealth activities.

Business rules for funding and cost allocation

The following business rules are now in operation within Queensland Health:

- Districts will retain any savings made in Patient Travel Subsidy Scheme expenditure to reinvest in service delivery during the current budget cycle.
- There will be no transfer of funds between facilities where telehealth is used to support existing services, up to existing volumes.
- If a District is being asked to provide a new service, or markedly increase the level of an existing service, a service agreement detailing cost allocation and expected volume of work must be negotiated.



- The District that would have funded travel costs for the patient or for staff in the traditional face-to-face consultation will fund the telecommunications costs of a telehealth consultation.
- Statewide Telehealth Services will provide a cost benefit template, which will be used in all business cases and service agreements.

FUTURE DIRECTIONS

Currently, Commonwealth funding under the Medicare Agreements is provided for the delivery of hospital services to public patients, including for the delivery of hospital-based ambulatory care. The funding is provided to Queensland as a block grant, indexed to the population growth and inflation, with additional funding from a pool of incentive monies linked to the level of the public/private patient mix in public hospitals.

Ambulatory patient medical services and medical services to private patients outside the public hospital system is subsidised by the Commonwealth on a fee-for-service basis through Medicare.

There is also a significant amount of privately funded service provision which occurs in both public and private hospitals. The hospital component for private patients in public hospitals is charged on a bed-day basis, and this is covered by insurance or by the patient. The medical component is funded through Medicare, with the gap being covered by private health insurance or the patient.

Any complete funding model for telehealth needs to take into account the complexity of these existing funding arrangements.

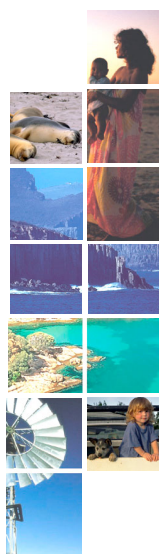
Casemix classification

Research by the Telehealth Program indicates that telehealth activities need to be classified in casemix terms. This could be done by either developing specific casemix classes for telehealth activity, or by developing cost weights for services delivered by telehealth. Telehealth is generally a component of an episode of care, and is often a substitute for traditional delivery, so could be combined into the casemix classification in the same way as the traditional face-to-face consultation.

To record a telehealth episode of care under the current system, there must be a classification system along the lines of casemix. However, a full cycle costing system would be inappropriate. Given that the Queensland Health Information Services will own and manage the capital side of videoconferencing (assets, infrastructure etc) this should not be included in the costing. In addition, since much videoconferencing activity is not clinically related, clinical costing should not include costs associated with non-clinical activity. To develop the classification, a broad cross-section of management and clinicians would be required.

The classification system should have the following attributes:

- be clinically aligned and resource homogeneous



- have categories which divide up occasions of service correctly from a clinical perspective, and are cost similar
- is developed around the people involved (eg specialist, medical officer, allied health), the duration and type of referral, and whether it includes other services such as radiology
- allocate clinician time/labour, line costs and other attributable variable costs only.

Recommendation

That the classification of telehealth activities according to casemix must be driven at a national level, as has occurred for casemix research performed to date.

Private providers

Traditional services supplied by private providers in the community and in hospitals are funded through the Medicare Benefits Scheme on an open-ended fee-for-service basis. The provision of telehealth in the public sector is likely to create a similar demand for telehealth in the private sector. There is also an increasing requirement for all health care providers to work collaboratively, particularly in delivering services to rural and remote areas efficiently. Consequently, there is a need to address funding of private sector telehealth.

The simplest option would be to include telehealth on the Medicare Benefits Schedule (MBS), and this has already occurred to a very limited extent. However, if telehealth is to be encouraged in the private sector, there needs to be payment for a far wider variety of services than are currently available under the MBS. Research by the Telehealth Program shows that one of the areas most suitable for telehealth is the review consultation provided by a specialist. There is currently no MBS item number available for this. Telehealth services have already been included in the Medicare reimbursement schedules in the United States, so there is a precedent for this.

Recommendation

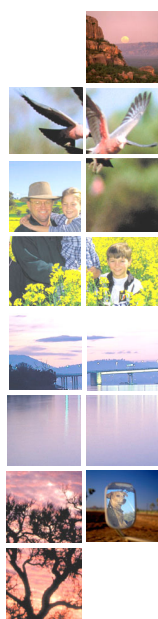
Inclusion of a wider range of telehealth services on the Medicare Benefits Schedule must occur to improve the equity of service delivery to rural and remote locations.

However, if items are listed on the MBS, then the issue of cross-border practice will require urgent clarification. The public are already confused by existing inability of providers to supply services across state borders, and this confusion will be exacerbated as telehealth becomes more widely used. Inclusion of telehealth items in the MBS needs to be accompanied by clear position statements from registration boards and other relevant professional bodies.

Recommendation

That registration boards and relevant professional bodies need to develop a national position on cross-border clinical practice in the context of telehealth.

There are some concerns that inclusion on the MBS could cause some inappropriate expansion in telehealth where it is not fully warranted, there would be potential for duplication of services, and that it would also be difficult to monitor. Consequently, the option of providing specific grants to such bodies as the Divisions of General



Practice or networks of providers for the provision of a telehealth service should be considered. This would not be easy to implement, but would provide great scope for integration of hospital and privately provided services (ANTC 1998). Such a system would also work on the same basis of cost and volume agreements, so would be consistent with the other funding areas discussed earlier.

Recommendation

The option of funding telehealth supplied by private sector providers on a cost and volume agreement basis be investigated at the national level

RECOMMENDATIONS AND SUMMARY

There is considerable potential for telehealth to increase the equity of access of health consumers to services, particularly for those living in rural, regional and remote areas. Telehealth offers a viable alternative to face-to-face consultations and established programs show that videoconferencing for telehealth works and that consumers are prepared to accept it, particularly if it means they can avoid time-consuming travel. Telehealth makes services more accessible to a wider range of people, and with good infrastructure, education, training and community involvement, it has a great capacity to reduce the isolation of rural and remote communities. The establishment of a state-wide, co-ordinated approach to telehealth will facilitate its integration into mainstream health systems and will strategically add value to broader health system strategies and plans.

For telehealth to become sustainable, funding arrangements must be developed in the context of existing funding arrangements for all health services. Appropriate expansion of telehealth must be resourced, but there is a risk that funding arrangements could create perverse incentives. By ensuring consistency between funding for telehealth services and for those delivered by traditional methods, incentives for inappropriate expansion are reduced. Funding arrangements should encourage a balance between telehealth and traditional service delivery, and using cost and volume agreements between telehealth providers and the appropriate regional, State and Commonwealth authorities is most likely to achieve this. Unless funding issues are addressed at a national level the potential benefits of telehealth to the rural community will not be realised.

Experience to date in Queensland has resulted in the following recommendations:

1. The quality of the technical and clinical component of telehealth activities must be addressed at an enterprise wide level, not by individual clinics or projects
2. The variable costs associated with the activities must be funded in a standardised way across an entire health service
3. That the classification of telehealth activities according to casemix must be driven at a national level, as has occurred for casemix research performed to date.
4. Inclusion of a wider range of telehealth services on the Medicare Benefits Schedule must occur to improve the equity of service delivery to rural and remote locations

