The Royal Australian
College of General
Practitioners

Implementation guidelines for video consultations in general practice

A telehealth initiative

Version 2.0 – October 2011

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Purpose of these guidelines

These guidelines are intended to provide understandable and easy to interpret guidance on a range of implementation, technical and usage issues. They will be updated regularly as new information becomes available and as technologies evolve. Please check the Royal Australian College of General Practitioners (RACGP) website regularly for updates: www.racgp.org.au/standard/telehealth.

Key messages

- General practices need to use video consultations systems that are fit for clinical purposes and protect the privacy of the consultation as well as the security, confidentiality and privacy of patients' health information

- When choosing hardware solutions, it is recommended that practices seek further guidance on manufacturers' specifications and IT support

- Best practice principles governing internet communication privacy should be applied to telehealth in addition to compliance with the *Standards for general practices offering video consultations,* addendum to the *Standards for general practices* (4th edition) and RACGP *Computer security and information security standards*

- When considering peer-to-peer and/or freely available technologies (eg. Skype), it is important that general practitioners (GPs) are aware of the current limitations and security risks

- Adequate connectivity is required to support audio and video quality fit for clinical purposes

- The RACGP recommends that general practices adopt a default position of not recording video consultations

- Health data should not be stored outside of Australia

- Staff training and efficient coordination of video consultations are important

- Clinicians participating in video consultations must have suitable professional indemnity insurance as provided by a medical defence organisation, employer or commercial insurer

- Medicare rebates for online video consultations commenced on 1 July 2011.

For further information, see:

- the RACGP *Computer and information security standards* www.racgp.org.au/ehealth/ciss

- the RACGP *Standards for general practices* (4th edition) www.racgp.org.au/standards

- the RACGP *Standards for general practices offering video consultations:* addendum to the *Standards for general practices* (4th edition) www.racgp.org.au/standards/telehealth

Checklist for implementing video consultations

General practices need to use video conference systems that are fit for clinical purposes and protect the privacy of the consultation as well as the security, confidentiality and privacy of patient health information. These factors need to be considered when purchasing video conference equipment and setting up video consultation systems.

Issue	Addressed ✓
Overall establishment cost (eg. equipment, software, installation, training, policy development)	☐
IT support for installation and training	☐
Whether the practice needs to modify the current network wiring	☐
Ease of use and technical requirements	☐
Security of data transmission (eg. encryption)	☐
Security of data storage	☐
Ability to access preferred healthcare providers	☐
Quality of audio transmission	☐
Quality of video transmission	☐
System and software requirements (eg. Windows 7, Linux and Mac versions)	☐
The technical support (if any) provided by the internet video conferencing provider and related costs (if applicable)	☐
Ongoing support and maintenance costs	☐
Secure access to the call log and phone book	☐
Whether the data will be routed overseas (in potential breach of Australian privacy legislation requirements)	☐
Which other video conferencing systems can the practice 'talk' to – interoperability	☐
Speed of the connection and bandwidth requirements – sufficient to meet clinical requirements	☐
What else might be consuming the bandwidth if it is shared (eg. other computers on a practice network)	☐
Development of policies	☐
Provision for patient information and patient feedback	☐
Appointment of a video consultation coordinator for the practice	☐
Staff training	☐
Suitable consultation room for video consultations	☐

The objective of these guidelines is to assist general practitioners and their practice teams to be fully informed from an independent, cohesive source in order to make decisions with due diligence on a range of issues in relation to setting up video consultations in their practice.

These guidelines will be updated as feedback is received and new information becomes available through engagement with industry and other stakeholders. As the market matures, new providers, new opportunities and new commercial options will become available.

These guidelines should be read in conjunction with the *Standards for general practices offering video consultations:* addendum to the *Standards for general practices* (4th edition)*.* The RACGP has developed these standards to help GPs interpret safety and quality issues in the context of a video consultation between a patient and a specialist at a distant location.

For a checklist of what to consider when choosing a technological solution for video consultations, see page 4.

1. Introduction

Background

In 2010 the Australian Government announced the *Connecting Health Services with the Future: Modernising Medicare by Providing Rebates for Online Consultations* initiative. The initiative commenced on 1 July 2011 with the release of Medicare rebates and financial incentives to encourage the uptake of online video consultations.

Video consultations are an alternative option to face-to-face consultations. While in many situations a face-to-face consultation will be the preferred option, there are scenarios where a video consultation that is clinically justifiable will enable more convenient and accessible healthcare delivery without compromising patient safety.

Video consultations provide opportunities for care to be provided using additional technologies. This requires informed decision-making so that general practices purchase and deploy solutions that are fit-for-purpose, represent best value for the investment, and provide adequate video and/or audio quality for video consultations.

It is important that video consulting is accessible and executed safely thus ensuring the health profession continues to engage in one of the building blocks of e-health in Australia.

2. Telehealth

What is telehealth?

2.1 Definition

Telehealth essentially means 'healthcare at a distance'. It is the electronic transmission of health information/images in the delivery of both clinical and nonclinical health related services, using a range of telecommunications technologies. The RACGP is using the term 'telehealth' for the purpose of this guide to refer to the use of video technology for video consultations where a consultation is conducted by video conference between a patient and a specialist in another location. The video consultation will involve real-time (synchronous), two-way visual and audio communication.

The following components are included in the broad definition of video consultation:

- the clinical consultation is not performed in the traditional face-to-face method but via a digital medium (eg. audio, video)
- information is transmitted electronically to a patient or a healthcare professional at a second location
- the healthcare professional employs clinical skills and judgment to provide healthcare and feedback to the patient.

Telehealth can be delivered via technologies that are either asynchronous (ie. store and forward such as email) or synchronous, (ie. real-time such as video consultation). Regardless of how telehealth is defined, the focus should be on the patient and healthcare delivery, not just the technology.

For further information on telehealth and its benefits, see www.racgp.org.au/standards/telehealth.

3. Change management

Video consultations are a new domain within general practice. Successful video consulting requires the clinical video consultation system to be accessible and simple to use.

3.1 Staff training

Adequate education of health professionals, adjustment to administrative procedures, scheduling, and other changes to work flows and patterns need to be considered and vendor solutions should include training for practice staff and clinicians. Practice training sessions on video consultations should include GPs, practice nurses and practice staff. The following issues should be considered:

- training all staff involved
- appointing a video consultation coordinator
- booking procedures
- relevant policies and procedures
- equipment location
- equipment set-up and demonstrations.

Practices should also have a documented plan for managing technical contingencies during a video consultation since these can potentially compromise the effectiveness of the consultation or the patient's safety. For example, a contingency plan could involve having easy-to-read troubleshooting guides for common technical difficulties, completing an interrupted consultation by telephone and ready access to technical support to fix core problems.

Please see the RACGP *Standards for general practices offering video consultations:* addendum to the RACGP *Standards for general practices* (4th edition), Criteria 3.2.1 and 3.2.2 for further information relating to staff training and qualifications and Criterion 5.2.1 Practice equipment.

As the utility and benefits become evident, the RACGP will provide guidance and develop further resources to support uptake of this e-health initiative.

For further information regarding issues to consider with staff training, including resources and templates, and information on video consultation etiquette, please refer to the RACGP *Standards for general practices offering video consultations:* addendum to the *Standards for general practices* (4th edition) and the RACGP website at www.racgp. org.au/standards/telehealth.

A flowchart suggesting the workflow for the dual-care video consultation process is provided on page 9.

The GP sees patient and determines a specialist referral is necessary.
A video consultation is proposed and confirmed if safe and appropriate

A booking checklist is completed and sent to the specialist with the referral.
General information about the video consultation process is given to the patient

The general practice video consultation coordinator liaises with
specialist to book video consultation

A test call is made prior to the video consultation to check interoperability

Patient arrives 15 minutes early at scheduled location, date and time

Video consultation takes place. The GP/other clinician, specialist,
and patient introduce themselves at commencement of consultation

The GP/other clinician and specialist both document the dual-care consultation

The specialist provides verbal summary to confirm diagnosis (where possible)
and ongoing management and responsibilities or specific follow-up action

Consultation concludes

The specialist sends GP a follow-up letter confirming any decisions
made and management plan to complete the clinical handover cycle

The practice seeks patient evaluation on the video consultation process

Figure 1: Dual-care consultation process

For further information on the above components, including resources and templates,
a booking checklist and patient feedback form, as well as information on video
consultation etiquette, please refer to the RACGP *Standards for general practices
offering video consultations:* addendum to the *Standards for general practices*
(4th edition) at www.racgp.org.au/standards/telehealth.

4. End-to-end quality assurance

There are many technical, organisational and human factors involved in achieving a successful high quality online video consultation. Suitable video consultation technology is only one factor.

Quality assurance systems need to ensure that the necessary practice environment, equipment, technology and data connections are available to deliver the required quality experience.

From a human and organisational perspective this includes user training, clinical and operational checklists and guidelines, reporting and monitoring mechanisms, and appropriate standards-based national infrastructure.

The RACGP has produced several standards that will support high quality care:

- the RACGP *Computer and information security standards www.racgp.org.au/ ehealth/ciss*
- the RACGP *Standards for general practices* (4th edition) *www.racgp.org.au/standards*
- the RACGP *Standards for general practices offering video consultations:* addendum to the *Standards for general practices* (4th edition) *www.racgp.org.au/standards/ telehealth*

5. End-to-end security requirements

5.1 Overriding principles

Maintaining information security is vital and requires planning and technical knowledge. Best practice principles governing internet communication security should be applied to telehealth in addition to compliance with the RACGP *Standards for general practices* (4th edition) and *Computer and information security standards.*

Communication, documentation of processes and identifying appropriate training for all staff is essential to maintaining computer security. Computer and information security refers to:

- availability of information – available and accessible when needed
- integrity of information – not altered or destroyed in unauthorised ways
- confidentiality of information – access to information granted to authorised users with access recorded.

Areas to consider include:

- video conference calls transmission
- video conferencing interface
- video consulting management interface (scheduling, call launching)
- security of patient information
- the physical environment
- video conference equipment
- video conference provider directories
- security of service hosting
- data sovereignty – there is the potential that data may be stored overseas, and this should be verified to ensure data stays on computers and servers that are physically located in Australia.

For Medicare Benefits Schedule (MBS) guidance relating to security, see www.mbsonline.gov.au/internet/mbsonline/publishing.nsf/Content/connectinghealthservices-secpriv.

6. End-to-end privacy requirements

6.1 Overriding principles

Best practice principles governing internet communication privacy should be applied to telehealth in addition to compliance with the RACGP *Standards for general practices* (4th edition) and the *Computer and information security standards.*

In addition to internal policies that are concerned with access rights and other data handling processes, privacy laws require organisations that deal with personal information to make available to the public a policy about their data handling practices including collection, use and disclosure. Practices should obtain advice from medical defence organisations about this and other obligations under state, territory and national privacy laws, and codes of conduct and indemnity.

For areas to consider, see the above list under 5.1 end-to-end security requirements.

For further information, see *The National Privacy Principles* (www.privacy.gov.au).

For information on state and territory privacy laws, see www.privacy.gov.au/law/states and www.privacy.vic.gov.au/privacy/web2.nsf/files/map-of-privacy-and-related-legislation-in-australia.

Additional MBS guidance in relation to security and privacy, can be found at www.mbsonline.gov.au/internet/mbsonline/publishing.nsf/Content/connectinghealthservices-secpriv.

Guidelines on security and privacy have also been published in the *Telehealth Business Case, Advice and Options Final Report,* Department of Health and Ageing 2011, see www.mbsonline.gov.au/internet/mbsonline/publishing.nsf/Content/EC471B2E09EE7 370CA2578A4001092BE/$File/UniQuest%20Telehealth%20Business%20Case%20 Advice%20and%20Options.pdf.

7. Internet connectivity

The internet connection should provide an adequate quality patient/healthcare provider video consultation experience without affecting or being affected by the core clinical and administrative functions of the practice IT systems. The size of the practice and its internet usage will impact upon the speed and quality of the internet connection needed to provide adequate quality for video consultations. If the connection is shared with multiple internet-enabled devices such as computers, practice software, smartphones, tablets and EFTPOS devices, the amount of traffic on the network will always be a consideration until there is sufficient bandwidth. Practices should consider installing a dedicated broadband internet connection with appropriate capacity to run real-time video to avoid contention (the amount the service is shared with other users resulting in a poorer quality service) and issues with the local network.

A business-grade broadband connection with a reliable, high quality network, reliable and consistent speeds, and access to IT support is recommended to ensure adequate agreed service levels and fault response/fix times and a lower level of contention than consumer services.

7.1 The National Broadband Network

The Australian telecommunications industry is being positioned to deliver more reliable, higher definition and cost-effective broadband connectivity via a number of different methods including fibre optics, wireless and satellite. The National Broadband Network (NBN) will have the capacity to deliver faster broadband for many different applications including online video consultations with faster speed than what is currently available. For more information on the NBN, refer to www.nbn.gov.au.

7.2 Upload and download data speed

For video consultations the upload speed is just as critical as the download speed. A symmetrical service, where upload and download parameters are identical, is preferred.

Video consultation technologies can be delivered using standard definition or high definition. Many hardware manufacturers maintain that a minimum bandwidth to achieve high definition can be achieved at increasingly low bandwidths. Depending on the technology and the resolution required, a minimum data speed of approximately 384 kbit/s in each direction is generally required for standard definition connections, although more ideal is 512 kbit/s.

The Department of Health and Ageing's *Guidance on security privacy and technical specifications for clinicians* currently recommends:

1. For diagnostic or complex clinical management (diagnostic quality video consultations).

   Hardware-based videoconferencing solutions are best designed for this outcome.

   Many alternative solutions exist and the following technical standards below can be referred to when comparing and selecting alternatives:

   • minimum call speed/bandwidth 384 kbit/s

   • horizontal resolution – 460 lines (PAL)

   • focus – autofocus

   • optical zoom ratio – minimum 10x

   • standards-based far-end control of pan/tilt/zoom (PTZ)

- for video consultations, to avoid poor performance, round-trip latency must be lower than 300 ms (this is dependent on your internet connection and you should consider the upload and download speeds)
- for video consultations, to avoid poor performance, packet loss should be less than 0.1%
- for clinical consultations, to avoid poor intelligibility, audio should be encoded at a minimum of 16 kbit/s.

2. For nondiagnostic and noncomplex clinical management (general quality video consultations).

   Hardware based videoconferencing solutions are best designed for this outcome; however software solutions also exist at a lower price point which will also achieve suitable results.

   There is a range of alternative solutions and the following technical standards can be referred to in selecting alternatives:

   - minimum call speed/bandwidth 256 kbit/s
   - minimum resolution: video graphics array (VGA) (640x480)
   - frame rate: 30 frames per second (FPS) (at VGA resolution).

3. For both diagnostic quality and non-diagnostic (general quality video consultations), refer to the diagnostic quality list above.[1]

   Ultimately the goal is to deliver safe and effective healthcare, so it is up to healthcare providers to carefully evaluate and determine their own individual requirements.

   We recommend that every general practice visit www.speedtest.net and establish an assessment of baseline capacity of their internet connection.

   For MBS guidance regarding internet speed, see www.mbsonline.gov.au/internet/mbsonline/publishing.nsf/Content/connectinghealthservices-guidance.

7.3 Network and video quality

The connectivity option will have a significant effect on the quality of video and audio transmitted and received. An inadequate internet connection may reduce the user experience in the following ways:

- audio dropouts
- lip sync problems
- pixilation
- frozen frames
- video but no audio
- audio but no video
- total session disruption.

These problems may be caused by slow transmission (known as latency), packet loss (video and audio data being lost) and jitter (variations in the delay in sending information back and forth. Faster, higher bandwidths tend to have less jitter).

8. Video consultation technology solutions

The MBS states that clinicians should be confident that the technical solution they choose is able to satisfy the MBS item descriptor and that software and hardware used to deliver a video conference meets the applicable laws for security and privacy.

For further information regarding technical specifications from MBS online, see www.mbsonline.gov.au/internet/mbsonline/publishing.nsf/Content/connectinghealthservices-techandclinical

www.mbsonline.gov.au/internet/mbsonline/publishing.nsf/Content/connectinghealthservices-guidance

When considering the full range of technology solutions no one specification is a determining factor in success. Users need to consider end-to-end integration (the whole system). This includes hardware, software, internet speeds, dedicated video equipment and the internal IT environment of the practice.

8.1 Types of video consultation technologies – an entry-level guide

The table on the following page is intended as an overview of available options. More detailed information may be found in the *Telehealth Business Case, Advice and Options Final Report,* Department of Health and Ageing 2011 at: www.mbsonline.gov.au/internet/mbsonline/publishing.nsf/Content/EC471B2E09EE7370CA2578A4001092BE/$File/UniQuest%20Telehealth%20Business%20Case%20Advice%20and%20Options.pdf

Type	Description	Potential benefits	Possible drawbacks
Web based conferencing	• Accessed through web browser – generally requires installation	• Easy and reliable to get started, works first time in most technical environments including mobile tablets without the need for an 'app' • Accessible anywhere there is a web browser	• Reduced quality, smaller images • Reduced functionality in some products • May have limited interoperability • Competing for bandwidth may impact on quality • Low quality video
Computer based video conferencing	• Video conferencing software client installed on computer • Commercial grade solutions work with a central server • Some solutions connect directly from one computer to another	• Commercial grade solutions offer high definition quality at a low cost and are easy to get started • Can be deployed to multiple computers • Works with latest versions of hardware and software • Integrates with other e-health systems • Potential for integration into practice management platforms to enable 'click to connect to appointment'	• Interoperable between other video conferencing systems may be an issue • Requires a software download and sometimes firewall permissions • Uses the computer peripherals and resources, which all need to be selected correctly • Software may require extremely high PC specifications (high end) and is also affected by other existing running applications • In general, lower reliability eg. technical support required when updating systems
Tablet video conferencing	• Video conferencing software client or 'app' installed on a tablet device	• As above, plus no need to select peripheral devices so works reliably first time • Mobility	• Small screen size • Most tablets only contain SD camera and will transmit SD quality only • Lower processing power • Battery dependant • WiFi/3G connectivity only • 3G may result in poor quality communication due to signal strength and dependence on location
Desktop video conference appliance	• Self-contained video conference solution that sits on the table or desk	• Can use separate data connection from main practice for quality and reliability • Can act as a second monitor for PC • Robust dedicated unit often part of a quality controlled, managed network • Easily moved from room to room • User-friendly; relatively easy to use • Ready to use at all times	• Lack of flexibility • Can present integration challenges • Not suitable for use by groups or families as inbuilt camera not usually wide angle • Camera has no pan/tilt/zoom (PTZ) function
Video conference room appliance	• Self-contained video conference solutions fixed or on trolleys • May be in dedicated room or multimedia room	• Moveable from room-to-room • Pan-tilt-zoom (PTZ) cameras can be controlled by remote site • Self contained solution • Can be purpose built for specific clinical scenarios	• Cost • Fixed to one video conference technology • Can be inconvenient, bulky and inflexible • Requires management
Immersive video conference solution	• Immersive telepresence suite, multi codec or single solely dedicated to conferencing	• Purpose built rooms • Immersive principles of: full high definition, lifesize images, correct camera gaze angle for eye contact, position and proximity perspective	• Cost

8.2 Hardware video quality

It is recommended that practices seek further guidance on manufacturers' specifications and IT support, however minimum requirements include:

• frame rate 30 FPS

• round-trip latency should ideally be less than 300 ms (it is noted that his may not always be achievable in remote settings). For very remote locations, where satellite is used, latency will be 250 ms.

8.3 Audio quality

The quality of the audio signal is of similar importance to the quality of the video. Different solutions have markedly different audio quality and it is worth paying close attention to this when selecting a solution.

It is recommended that practices seek further guidance on manufacturers' specifications and IT support, however minimum requirements include:

• for clinical consultations, to avoid poor intelligibility, audio should be encoded at a minimum of 16 kbit/s

• speakers/microphones with echo-cancelling properties should be considered.

8.4 Interoperability

Technical compatibility will be an important factor in the delivery of video consultations. Enabling interoperability between products from different vendors has become more important than ever as health information is exchanged via new technologies. Practices should pre-test the interoperability of general practice to specialist video conference systems because without it consultations cannot proceed. Practices are advised to keep a log showing the telehealth system used by participating specialists and confirmation of interoperability testing.

For current video conferencing protocol standards recommended by the Australian Government Department of Health and Ageing, see Appendix I.

8.5 Support

Providers of video conferencing hardware and software should offer and provide support promptly. The exact nature and speed of support should be detailed in the sale or service contract.

8.6 Issues to consider when selecting technologies

When considering peer-to-peer and/or freely available technologies (eg. Skype), it is important that the practice is aware of the current limitations and security risks. Certain technologies which have been developed for social networking or home use may have limitations, capacity restraints and security risks if used in the clinical setting.

These limitations may include:

- not meeting the necessary levels of security and privacy. While some do potentially provide encryption of the transmission itself, the data around the session is not secure
- an unencrypted log remains on the each computer detailing the call
- not containing a secure address book – open and available to all
- all participants require an account and need to be in each other's address book
- participants' presence being known to other participants while they remain in each other's address books
- lack of interoperability between different versions and other solutions
- not providing end-to-end quality assurance or offering any technical support
- the potential exists for unwanted, automatically dialled or rerecorded calls (SPIT – spam over internet telephony)
- unpredictable and variable user experiences
- using proprietary and closely guarded protocol details
- no certainty that there are no 'backdoor' mechanisms available to gain access to the data (ie. legal hacking).

9. Practice environment and equipment

9.1 Equipment

When choosing equipment, consideration should be given to manufacturers' specifications for:

- computer software
- dedicated video conference appliance
- a bundled video conference system to include codec, monitor, A/V peripherals, stand, camera and microphone
- physical space limitations.

9.2 Monitors

It is recommended that practices seek further guidance on manufacturers' specifications and IT support, however considerations include:

- the choice of computer screen should be made pragmatically, depending on the circumstances
- at the clinician desktop, large screen displays enable the clinician to see a large image of the patient/clinician and view/edit clinical information.

9.3 Audio devices for computer video consultation solutions

It is recommended that practices seek further guidance on manufacturers' specifications and IT support, however minimum requirements include:

- a high fidelity speaker phone
- audio devices that have echo-cancelling properties.

It is also important to consider the audio environment of the room and the ability to mute the sound at each end which will substantially improve the audio quality.

9.4 Video devices for computer video consultation solutions

It is recommended that practices seek further guidance on manufacturers' specifications and IT support, however minimum requirements include:

- a high definition camera is recommended (720 ppi or more)
- auto focus is highly recommended.

10. Setting up the video consultation software and equipment

10.1 Using the equipment

Depending on the video consultation software and equipment chosen the vendor will provide information regarding use of the software which should cover:

- registering and installing the software
- searching for and adding contacts
- configuring privacy settings
- scheduling 'consultations'
- troubleshooting.

10.2 Connecting the camera

If using an external camera, installation software may have been provided – refer to vendor instructions. Considerations include:

- pre-test the camera to ensure it is functioning correctly
- ensure the camera gaze angle is correct so that eye-to-eye contact is achieved
- if using a camera with zoom, decide whether the GP or specialist (or both) will take responsibility for moving the camera.

11. Practice facilities

11.1 Room set-up

Environmental requirements are the same as those for a normal consulting room
(ie. a room that is private and large enough for two to four people to sit comfortably).

11.2 Facilities for video consultations on site

General practices offering video consultation services may need to adapt their practice
facilities to provide an appropriate physical environment for telehealth consultations.

The RACGP *Standards for general practices offering video consultations* recommend
that practices consider:

- a quiet, fit-for-purpose consulting room where the raised sound volume routinely
  associated with telehealth care consultations will not be overheard by others or
  disturb others
- arrangements to protect the privacy and dignity of patients who may be required to
  remove clothing for a physical examination (eg. a screen in the room or a separate
  private area where patients can remove clothing and be suitably covered with a gown
  or drape ahead of the video consultation)
- plain décor that will not distract from visual images on the screen
- lighting so that high intensity light behind the patient being filmed is avoided
- ready access to medical equipment that may be needed during a video consultation
- ready access to resources for managing adverse events during a video consultation
- protocols to minimise interruptions (eg. 'do not disturb' signs that indicates when a
  video consultation is in progress).

11.3 Facilities for video consultations off site

General practices offering video consultations from sites located away from the
practice should satisfy themselves that the facilities provide a safe and effective
environment for video consultations in line with the elements described above.

12. Standards for general practices offering video consultations

The RACGP recognises that telehealth provides considerable opportunities to improve health outcomes and access for patients to 'attend' a consultation without some of the personal inconvenience and personal or travel costs ordinarily involved in a typical face-to-face consultation.

To support the implementation of the Medicare items, the Department of Health and Ageing engaged the RACGP to develop and disseminate standards that would help GPs interpret safety and quality issues in the context of a video consultation between a patient and a specialist at a distant location.

The addendum to the RACGP *Standards for general practices* (4th edition*) (the Standards*) highlights a range of safety and quality issues of particular significance to general practices offering video consultations. It should be emphasised that all criteria and related indicators in the *Standards* apply to general practices offering video consultation services – the addendum highlights areas of particular relevance. The potential for new initiatives in the telehealth care arena is vast. The addendum, however, relates specifically to video consultations with a specialist at a distant location.

Decisions about whether or not the practice will offer video consultation services should be made by the GPs in the general practice team and careful consideration should be given to issues such as:

- patient safety
- clinical needs of patients
- clinical effectiveness
- patient preferences
- location of the practice
- location of telehealth facilities
- availability of Australian registered participating specialists
- access to appropriate training
- professional indemnity insurance as provided by a medical defence organisation, employer or commercial insurer.

New resources, referred to in the addendum to the *Standards* have been developed to assist GPs and practices with managing video consultations. These include a booking checklist for video consultations, a template of frequently asked questions for patients and a factsheet on video consultation etiquette.

The addendum to the RACGP *Standards for general practices* (4th edition) is available on the College website at www.racgp.org.au/standards/telehealth.

13. Medicolegal guidelines

General practitioners (or other support clinicians) participating in a video consultation should ensure that they have professional indemnity insurance as provided by a medical defence organisation, employer, or commercial insurer.

14. Policies

When choosing to offer video consultations, practices will need to further develop existing practice policies and procedures related to:

- management of patient health information and the security of health information
- documentation of the video consultation
- provision of clinical handover.

14.1 Policy on video recording

The RACGP recommends that general practices adopt a default position of not recording video consultations and not authorising patients to make their own recordings of video consultations.

In accordance with the recognised principle of only collecting health information that is necessary, a decision to record images during a video consultation would generally be made by a clinician on the basis of collecting only that information which is clinically necessary for managing a patient. In the same way that a face-to-face consultation is not normally recorded, it is not anticipated that a video consultation would be recorded.

Where a video recording is made, the practice needs to meet community expectations and legal requirements to protect patient privacy. Clinicians need to be mindful of their own privacy in relation to the risk of video recordings being redistributed in the public domain without their consent. Since these scenarios can be problematic for all parties and can have unintended consequences for all parties, it is suggested that recording be reserved for exceptional circumstances where it is absolutely clinically necessary.

Glossary

Asynchronous: A term used to describe store and forward transmission of medical images or information because the transmission typically occurs in one direction in time.

Bandwidth: The amount of data that can be passed along a communications channel in a given period of time.

Business grade broadband: A reliable, high quality network with reliable and consistent speeds and access to IT support which meets the requirements of video consultations.

Contention ratio: The ratio of the potential maximum demand to the actual bandwidth. The higher the contention ratio, the greater the number of users that may be trying to use the actual bandwidth at any one time and, therefore, the lower the effective bandwidth offered, especially at peak times.

Codec: A device or computer program capable of encoding and/or decoding a digital data stream or signal.

Connectivity: The ability to make and maintain a connection between two or more points in a telecommunications system.

Designated support clinician: A member of the general practice team who provides clinical support on behalf of a patient's usual GP at the patient-end of a video consultation with a specialist in another location (eg. another GP, a practice nurse or a registered Aboriginal health worker).

Digital certificate: A mechanism used to verify that a user sending a message or data is who he or she claims to be.

Distant site: The distant site is defined as the telehealth site where the provider/ specialist is seeing the patient at a distance or consulting with a patient's provider. The site may also be referred to as the consulting site.

Download speed: The speed of which data or programs are transferred from a server or host computer to one's own computer or device.

Dual-care: The separate and concurrent duty of care which belongs to any support clinician providing patient-end clinical support and a specialist during a video consultation where the specialist is at a distant location.

Encryption: The process of converting plain text characters into cipher text (ie. meaningless data) as a means of protecting the contents of the data and guaranteeing its authenticity.

End-to-end integration: The successful connection/compatibility of two parties from one point to another.

End-to-end quality assurance: The maintenance of a high quality service from one point to another.

Frame rate: The frequency (rate) at which an imaging device produces unique consecutive images called frames.

Hardware: A computer and the associated physical equipment directly involved in the performance of data-processing or communications functions.

Glossary

Interoperability: The ability to exchange and use information between two systems.

Kbit/s: The rate at which data is transferred per second.

Kilobyte (kb): A measurement of digital information.

Latency: A measure of time delay experienced in a system, the precise definition of which depends on the system and the time being measured.

Packet loss: Occurs when one or more packets of data travelling across a computer network fail to reach their destination.

Patient-end: The end of a video consultation between a patient and a specialist where the patient is present.

Pixilation: An effect caused by displaying a bitmap or a section of a bitmap at such a large size that individual pixels, small single-colored square display elements that comprise the bitmap, are visible to the eye.

Real-time video: A picture with more than 24 frames per second which therefore looks continuous.

Router: A device that provides connectivity between networks, eg. between your internal network and the internet. A router forwards data from one network to the other and vice-versa.

Software: The programs, programming languages and data that direct the operations of a computer system. Word processing programs and internet browsers are examples of software.

Standard: A statement established by consensus or authority, that provides a benchmark for measuring quality, that is aimed at achieving optimal results (NIFTE Research Consortium, 2003).

Synchronous: This term is sometimes used to describe interactive video connections because the transmission of information in both directions is occurring at exactly the same period.

Telehealth: 'Healing at a distance' which involves the electronic transmission of health information and/or images in the delivery of clinical services using a range of telecommunication technologies.

Upload speed: The speed of which data or programs are transferred to a central computer/device.

Video consultation: A consultation conducted by video conference between a patient and a specialist in a distant location.

Video consultation coordinator: The member of the general practice team with primary responsibility for coordinating patient bookings, clinicians' availability and properly functioning equipment.

Video consultation etiquette: The professional behaviour that supports quality visual and audio performance during a video consultation.

Appendix I
Current video conferencing protocol standards

According to current Australian Government Department of Health and Ageing guidelines, the equipment or software should comply with the following minimum standards[1]:

- H.323 video conferencing and/or
- session initiated protocol (SIP) video conferencing

The following technical protocols are used by the equipment to provide interoperability:

- H.225 – call signalling; registration, admission and status (RAS)
- H.245 – control signalling
- RTP/RTCP – transmission of audio and video traffic
- H.460 – firewall traversal
- H.239 – dual stream video conferencing capability

Video codecs

- H.261, H.263, H.263+, H.263 Interlaced, and H.264

Audio codecs

- G.711, G.722, G.722.1, G.728, G.729 including Annex A and B, G.723.1, G.722.1 (Annex C), AAC-LD, and AAC-LC

Encryption

- advanced encryption standard (AES)
- secure real-time transport protocol (SRTP) for SIP encryption

References

1. Department of Health and Ageing. Guidance on security, privacy and technical specifications for clinicians. Draft for cwonsultation Canberra: National Health Chief Information Officer Forum, Telehealth Cross Jurisdictional Telehealth Reference Group; 2011 [updated 15th September; cited 2011 15th September]; 31st August: Available from: www.mbsonline.gov.au/internet/mbsonline/publishing. nsf/Content/connectinghealthservices-technicalstandards.