

Evidence check

13 April 2020

Rapid evidence checks are based on a simplified review method and may not be entirely exhaustive, but aim to provide a balanced assessment of what is already known about a specific problem or issue. This brief has not been peer-reviewed and should not be a substitute for individual clinical judgement, nor is it an endorsed position of NSW Health.

Tools to support communication between patients and families

Rapid review question

What emerging tools are being used to support communication between patients and their loved ones during the COVID-19 pandemic?

In brief

- Strict visitor restrictions are in place across hospitals.
- While data are scarce, there is significant activity on Twitter, suggesting hospitals around the world are using bespoke solutions to connect patients and their families during the COVID-19 pandemic.
- Hospitals are using virtual visiting solutions, apps and smart devices. This includes hospitals from Australia, the UK, USA and Canada.
- The NHS in the UK and the Department of Health and Human Services in the USA have issued advice that Skype, WhatsApp and Facetime can be used to support individual care. Providers are required to notify patients that these third-party applications could introduce privacy risks and recommend enabling all privacy and encryption settings. These applications all use end-to-end encryption. However, the human component of these applications affects compliance levels and software exists that can record the calls.
- The ways in which communication tools are being deployed and implemented are rapidly evolving: from devices being used in plastic covers, tripods for mounting smart devices and bespoke virtual visiting solution for families of critical care patients.
- Wollongong Hospital is working with a company called Taleka and the University of Wollongong to install software in the intensive care unit so that patients have access to iPads.
- A number of studies have documented the bacterial contamination and recommendations for infection control.

Limitations

- This is a topic that is quickly evolving and changing; therefore not all examples will be included in the review.
- The quality of evidence is low. Most of the information is from Twitter with limited details.
- The scope of the review did not include (1) communication between health professionals and patients including virtual health consultations, telemonitoring or telehealth; (2) risks and issues

with identified tools and third-party applications; and (3) provisions, regulations and laws regarding data privacy and security.

Background

Patients with COVID-19 are dying in hospital, often isolated from their families due to strict visitor restrictions.

Methods (Appendix 1)

PubMed, Google and Twitter searches on 3 April 2020 and 9 April 2020.

Results (Tables 1 and 2)

Virtual visiting solutions, smart devices (for video conferencing apps such as Skype, WhatsApp, Facetime), patient and family liaisons and baby monitors (two-way) are being used to support communication between patients and their families during the COVID-19 pandemic (Table 1).

Hospitals are requesting donations of iPads or are crowdfunding to purchase iPads to connect COVID-19 patients to their families virtually.

The NHS has realised COVID-19 Information Governance advice for health and care professionals. This confirms video conferencing apps such as Skype, WhatsApp and Facetime can be used to support individual care (1)

Data protection authorities worldwide are issuing guidance that variously revises and reinforces existing legal requirements. This does not specifically relate to tools being used for communication between patients and their families, rather the collection and use of personal and health information and data during COVID-19 (Table 2).

A number of studies have documented the bacterial contamination of mobile handheld devices at point of care (2-4) It is imperative that infection prevention and control programs be actively engaged in providing guidance and education in how to mitigate the risk of bacterial contamination of devices (4) Recommendations from studies for infection control:

- routine use of either UV irradiation or germicidal wipes significantly decreases this bacterial burden (5)
- sani-Cloth CHG 2% and Clorox wipes were most effective against (meticillin-resistant Staphylococcus aureus and vancomycin-resistant enterococcus (6)
- twice daily disinfection can substantially reduce bacterial colonisation of in-hospital tablet computers used in a high-resource and high hygiene setting (7)
- use of waterproof/resistant, nonporous, hard or soft case for devices; disinfection of the device before and after patient/family interface with an approved disinfectant as per facility policy for noncritical items; set alarm on the device to remind user to disinfect regularly in addition to the before and after patient/family interface disinfection (for example, daily, hourly); and hand hygiene as per facility policy for patient interaction and after disinfecting the device (4)

Table 1: Communication being used during COVID-19

Communication tools	Examples
<p>Virtual visiting solutions</p>	<ul style="list-style-type: none"> • Life Lines (@LifeLines_ICU) is a virtual visiting solution for families of critical care patients. This is being rolled across intensive care units in the UK. aTouchAway™ is the technology platform developed by Aetonix. The Life Lines Project launched at Guy’s and St Thomas’ and King’s College Hospital and is supported by King’s Health Partners Academic Health Sciences Centre and King’s College London. The Life Lines Project will two tablets to every ICU across the UK. Data plans, device and software support, and App licences on the devices have been funded for 12 months via Life Lines. Each tablet is 4G enabled with an unlimited data plan and WiFi compatibility • Neonatal intensive care units are restricting visiting hours and only allowing one parent (often mothers only) to visit. Cork University Maternity Hospital and INFANT Centre UCC collaborated to provide virtual visiting for babies in the neonatal intensive care units via a bespoke platform called vCreate • Oneview has launched a cloud-based managed tablet solution enabling the following functionality at the bedside including virtual interpreting, virtual visitors and distraction and calming content.
<p>Smart devices (for video conferencing apps or programs such as Skype, WhatsApp, Facetime)</p>	<ul style="list-style-type: none"> • Devices (e.g. iPad and Android) are being used support communication between patients with COVID-19 and their families (more so, when the patient is severely unwell or dying). This is occurring in the USA, England, Canada and Wales • Devices are also being used to support communication between patients and their families in different wards (where the hospital now has visitor restrictions) • Hospitals in the USA are also using the smart devices to provide on-demand access to interpreters • Spectrum Health Hospital in the USA has outfitted the intensive care unit with 80 pads. The smart devices are secured using fabricated and customised mounting to a tripod using a design by Byrne manufactures. This allows the iPad to be plugged in 24/7 • Illawarra Shoalhaven LHD has indicated they are looking at making iPads available to support Skype and Facetime communication between patients and their loved ones. Specifically,

Communication tools	Examples
	<p>Wollongong Hospital is working with a company called Taleka and the University of Wollongong to install software in the ICU so that patients have access to iPads and have the ability to video conference with family members</p> <ul style="list-style-type: none"> • Smart devices are being covered in plastic.
Patient and Family Liaisons	<ul style="list-style-type: none"> • In some NHS Trusts regular updates and sharing of messages between patients and loved ones is being facilitated by patient and family liaisons.
Apps and Voice over Internet	<ul style="list-style-type: none"> • The Patient Communicator app has been developed by Society of Critical Care Medicine is being used to improve communication between patients, families, and caregivers • A range of apps/voice over internet programs are being used to facilitate communication between patients and their families (using smart devices). This includes Skype, WhatsApp, and Facetime: <ul style="list-style-type: none"> - FaceTime has end-to-end encryption. A unique identifier is created by Apple for each user to make sure that the calls are properly routed and connected. The app itself is secure, but ensuring a secure Internet connection adds to security. - WhatsApp has end-to-end encryption and messages are secured with a lock. Every message sent has its own unique lock and key. WhatsApp doesn't store messages on their servers. - Skype has end-to-end encryption and a password is required to access a personal account.
Baby monitors (two-way)	<ul style="list-style-type: none"> • Hospitals are using baby monitors to view and communicate with patients through closed doors. Benefits of this include preserving PPE and reducing anxiety and isolation for patients. This is occurring in the USA, Ireland and Canada.

Table 2: Data protection guidance

Countries	Guidance
<u>22 European countries</u>	<p>Core principles emerging from 20 European countries have issued specific guidance regarding COVID-19 and data protection:</p> <ul style="list-style-type: none"> • COVID-19 sensitive personal data, such as medical symptoms and diagnosis, travel history, and contacts with those who have been diagnosed can be processed on the basis of safeguarding public health • The fact that an employee has tested positive for COVID-19 can be disclosed, but identifying information about the individual, in particular the individual’s name, should not be disclosed • European data protection authorities have scrutinised if not discouraged or prohibited mass surveillance techniques by data controllers, such as use of questionnaires or temperature checks, other than those performed by health authorities • Security measures must still be implemented to protect COVID-19 personal data.
<u>China</u>	<ul style="list-style-type: none"> • China has reiterated that only public health authorities with authorisation under the Cybersecurity Law and other health regulations are authorised to collect or use personal information in relation to COVID-19 without consent.
<u>Australia</u>	<p>The Office of the Australian Information Commissioner (OAIC) has published COVID-19 privacy guidance for organisations covered by the Privacy Act 1988, including Australian Government agencies and private sector employers:</p> <ul style="list-style-type: none"> • Personal information should be used or disclosed on a ‘need-to-know’ basis • Only the minimum amount of personal information reasonably necessary to prevent or manage COVID-19 should be collected, used or disclosed • Consider taking steps now to notify staff of how your organisation will handle their information in responding to any potential or actual case of COVID-19 in the workplace • Ensure reasonable steps are in place to keep personal information secure, including where employees are working remotely.

<p><u>United States</u></p>	<ul style="list-style-type: none">• The Department of Homeland Security’s Cyber and Infrastructure Security Agency, the Federal Trade Commission and the Secret Service have all issued guidance on avoiding phishing and scam emails relating to COVID-19• The Department of Health and Human Services has waived sanctions and penalties against covered hospitals for certain provisions under the HIPAA Privacy Rule, including the requirement to obtain a patient’s consent before speaking with friends or family members about care, the requirement to distribute a notice of privacy practices, the patient’s right to request privacy restrictions, and the patient’s right to request confidential communications• Under the new rules, Apple FaceTime, Facebook Messenger video chat, Google Hangouts video, Zoom and Skype can now be used, with the expectation providers notify patients that these third-party applications potentially introduce privacy risks. The Department of Health and Human Services recommends enabling all possible privacy and encryption settings.
-----------------------------	---

References

1. Service NH. Covid-19 Information Governance advice for health and care professionals 2020 [Available from: <https://www.nhsx.nhs.uk/key-information-and-tools/information-governance-guidance/health-care-professionals>].
2. Brady RRW, Verran J, Damani NN, Gibb AP. Review of mobile communication devices as potential reservoirs of nosocomial pathogens. *Journal of Hospital Infection*. 2009;71(4):295-300.
3. Dykes PC, Stade D, Dalal A, Clements M, Collins S, Chang F, et al. Strategies for Managing Mobile Devices for Use by Hospitalized Inpatients. *AMIA Annu Symp Proc*. 2015;2015:522-31.
4. Manning M, Davis J, Sparnon E, Ballard R. iPads, droids, and bugs: Infection prevention for mobile handheld devices at the point of care. *American journal of infection control*. 2013;41.
5. Allen EM, McTague MF, Bay CP, Esposito JG, von Keudell A, Weaver MJ. The effectiveness of germicidal wipes and ultraviolet irradiation in reducing bacterial loads on electronic tablet devices used to obtain patient information in orthopaedic clinics Evaluation of tablet cleaning methods. *J Hosp Infect*. 2020.
6. Howell V, Thoppil A, Mariyaselvam M, Jones R, Young H, Sharma S, et al. Disinfecting the iPad: evaluating effective methods. *J Hosp Infect*. 2014;87(2):77-83.
7. Frey PM, Marti GR, Droz S, de Roche von Arx M, Suter-Riniker F, Aujesky D, et al. Bacterial colonization of handheld devices in a tertiary care setting: a hygiene intervention study. *Antimicrob Resist Infect Control*. 2019;8:97.

Appendix one

PubMed Search Terms: (("ipad*" OR "smart device" OR "handheld device" OR "tablet") AND ("hospital" OR "emergency department" OR "ICU" OR "intensive care")) AND (((("disinfect*") OR ("infection control")) OR ("clean"))

Twitter Search Terms: '#COVID19' with rules 'virtual visits', 'iPads', 'smart devices' on 3 April 2020 and 9 April 2020.

Google Search Terms: COVID19 AND ('virtual visits', 'iPads' and 'smart devices') on 3 April and 9 April 2020. COVID19 AND data governance on 9 April 2020.