

## Telemedicine Applications for Ophthalmology Consultations during a Pandemic Emergency

The current global health crisis necessitates the need for novel ways of interacting with patients and sharing healthcare information, in order to reduce risk of transmission. Telemedicine is critical to allow this, and this is especially pertinent in ophthalmic practice as there is concern the prolonged exposure and close proximity between doctor and patients on the slit lamp increases the risk of transmission and degree of viral load. In addition, ophthalmology is particularly suitable for telemedicine in areas such as medical retina and glaucoma as decisions can often be made based on data and images with less reliance on physical examination of the patient.

In the coming weeks, there will be an increased use of telemedicine to conduct both triage and appointments themselves. For urgent appointments in which a hospital review is required, risk of transmission can be lessened by using telemedicine and videoconferencing software to reduce face-to-face exposure except for the slit lamp examination itself. [1]

There are many different applications and software options for telemedicine. In the United States, HIPAA compliance rules are used to ensure that electronic protected health information (EPHI) is secure, not vulnerable to accidental or malicious breaches, and only accessible by authorized users [2]. The guidelines also require mechanisms in place so communications can be monitored and remotely deleted if necessary, and for an automatic log-off to occur if a system is unused for a period of time. HIPAA guidelines consider unsecure channels of communication such as SMS, WhatsApp, Skype and email are risky for communicating EPHI at distance, particularly as they remain on service providers' servers, and contain identifiable healthcare information.

However, there are a number of applications which self-report as HIPAA compliant [3]. These include the following:

### HIPAA Compliant Telemedicine providers

Name and website	Pricing
Attend Anywhere* <a href="https://www.attendanywhere.com/">https://www.attendanywhere.com/</a>	£264 to £312 per user per year
Doxy <a href="https://doxy.me/">https://doxy.me/</a>	Free (no HD) to \$35 professional, \$50 clinic
Google G Suite Hangouts Meet <a href="https://gsuite.google.com/intl/en_uk/pricing.html">https://gsuite.google.com/intl/en_uk/pricing.html</a>	£4.14 per user per month for Basic, £8.28 per user per month for Business and £20 per user per month for Enterprise.
Pando <a href="https://pandomeetings.com/">https://pandomeetings.com/</a>	Not provided
Skype for Business/Microsoft Teams <a href="https://products.office.com/en-gb/microsoft-teams/group-chat-software?rtc=1">https://products.office.com/en-gb/microsoft-teams/group-chat-software?rtc=1</a>	Free for Microsoft Teams, £3.80 per month for Business Essentials, £9.40 per month for Business Premium
Updox <a href="https://www.updox.com/">https://www.updox.com/</a>	Not provided
VSee <a href="https://vsee.com/">https://vsee.com/</a>	Basic from \$49, Enterprise "Contact Sales"
Zoom for Healthcare <a href="https://zoom.us/healthcare">https://zoom.us/healthcare</a>	Basic Free. Pro £11.99/month. Business 15.99/month

\* AttendAnywhere does not self-report as HIPAA-compliant, however fulfils the criteria for compliance.

There are also new HIPAA-compliant free-to-use videocall sites to enable COVID19 afflicted patients to communicate with healthcare providers [4], and there may be a number of other free telehealth options emerging over the coming weeks.

Ideally, these applications should be prioritised in order to ensure security of data and conformity with General Data Protection Regulation (GDPR) [5]. Clearly, these are unique circumstances. NHSX has offered new Information Governance guidance which includes a strong indication from Information Commissioner about flexibility at the current time [6]

*“The health and social care system is going to face significant pressures due to the COVID-19 outbreak. In the current circumstances it could be more harmful not to share health and care information than to share it. The Information Commissioner has assured NHSX that she cannot envisage a situation where she would take action against a health and care professional clearly trying to deliver care”*

Therefore, where the aforementioned apps are not available, **“it is fine to use video conferencing tools such as Skype, WhatsApp, Facetime as well as commercial products designed specifically for this purpose”** [5]. However, it is important to avoid video communication applications which are public-facing, such as TikTok, Twitch, Facebook Live.

As clinical care evolves during the coming weeks of the pandemic, the use of telemedicine will move from a predominantly triage role to one of clinical management. A key feature will be the ability to transfer interpretable images and videos for diagnosis. If these unprecedented times have one positive outcome, it will be a rapid digital transformation to allow remote diagnosis and delivery of healthcare.

## References

1. iPad Telemedicine during Covid (2020) Rcopth.ac.uk. Available at: <https://www.rcophth.ac.uk/wp-content/uploads/2020/03/Norfolk-and-Norwich-Near-iPad-Telemedicine-during-Covid.pdf> (Accessed: 20 March 2020).
2. HIPAA Guidelines on Telemedicine (2020). Available at: <https://www.hipaajournal.com/hipaa-guidelines-on-telemedicine/> (Accessed: 21 March 2020).
3. Notification of Enforcement Discretion for telehealth (2020). Available at: [https://www.hhs.gov/hipaa/for-professionals/special-topics/emergency-preparedness/notification-enforcement-discretion-telehealth/index.html?fbclid=IwAR1K7DQLYr6noNgWA6bMqK74orWPv\\_C\\_aghKz19au-BNoT0MdQyg-3E8DWI#](https://www.hhs.gov/hipaa/for-professionals/special-topics/emergency-preparedness/notification-enforcement-discretion-telehealth/index.html?fbclid=IwAR1K7DQLYr6noNgWA6bMqK74orWPv_C_aghKz19au-BNoT0MdQyg-3E8DWI#) (Accessed: 21 March 2020).
4. Rapid Response - Bluestream Health (2020). Available at: <https://www.bluestreamhealth.com/rapid-response/> (Accessed: 21 March 2020).
5. General Data Protection Regulation (GDPR) – Official Legal Text (2020). Available at: <https://gdpr-info.eu/> (Accessed: 21 March 2020).
6. Information Governance - NHSX (2020). Available at: <https://www.nhs.uk/key-information-and-tools/information-governance-guidance> (Accessed: 21 March 2020).

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