Brief Technical Guide for Teleconsultation

Background

Teleconsultation in dermatology and other specialties is now allowed in India during the COVID-19 pandemic.[1] Further extension and approval of teleconsultation may come soon with a training module.[2] At this moment, we do not have proper training and resources to set-up a primary teleconsultation unit at an individual level. However, starting teleconsultation would benefit both the patients and the doctors.[3]

In this context, we have described how an individual doctor can set-up a teleconsultation unit without investing in hardware and proprietary software. In addition, patients do not need additional teleconsultation software to install and the doctors can bypass any intermediary. This may help the doctors to avoid saving patients data on the company's repository, avoid investing money on those services. However, this method may not be as robust as the typical telemedicine centers with dedicated hardware, software, and connectivity with facility to encrypt patients' data.[4,5]

Resources

For setting a basic personal teleconsultation unit, a doctor needs a few hardware and software. A personal computer (PC), a smartphone, and the internet connection are the essential requirements. For a better personal–professional life balance, a separate mobile number is better to use for teleconsultation. The PC should have WhatsApp application (https://www.whatsapp.com/download), word processing software (e.g., Microsoft Word), Acrobat Reader DC, and an internet browser (e.g., Firefox, Chrome). The smartphone should have WhatsApp and call recorder.

A headphone-cum-microphone and tripod for mounting the smartphone may ease the operation.

Carrying out a teleconsultation

A flow chart depicting a typical teleconsultation is shown in Figure 1.

At this moment, the Board of Governors (BOG) in supersession of Medical Council of India (MCI) suggests that when the patient calls the doctor for consultation, the consent is implied.[6] However, it is better to be future-proof to record informed consent from all the patients. This can be done by sending a text message containing the statement of informed consent to the patient and ask her/him to read, understand, and then record an audio narration of the text. An example of informed consent may be found at https://doi.org/10.6084/m9.figshare.12383606.v1. Furthermore, all the consultation video or audio should be preserved for any future reference. Video files are larger than audio files. Hence, when storage of video files is not possible, all the relevant images and audios should be stored. Audio calls can be recorded on the smartphone and audio of the video calls can be recorded by any secondary device (e.g., while consulting on a WhatsApp video call on the smartphone, record the audio with the help of the PC's audio recorder).

Some basic techniques

The techniques which are worth sharing in this context are the process to make the prescription and keeping the files stored in the cloud storage.

Prescription preparation and dispatch

1. Download the prescription template (https://doi.org/10.6084/m9.figshare.12288488.v1) or make a similar one

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according to the suggestion of BOG in supersession of MCI.[6] Open the word file in Microsoft Word

2. After entering text on the prescription template, save the file as Portable Document Format (PDF)

3. Open the PDF with the Acrobat Reader DC (can be downloaded from https://get.adobe.com/uk/reader)

4. Click on the "Sign document" icon [Figure 2a], and click on the "Add Signature" [Figure 2b] for the first time

5. Click on the draw icon [Figure 2c] and sketch your signature (an example is shown in [Figure 2d]) and tick mark "Save signature" [Figure 2e] and click "Apply" [Figure 2f]

6. Put the signature at the desired place [Figure 2g] and save the file [Figure 2h and i] with the number of the prescription [Figure 2j]

7. From next time onward, just click on the "Sign document" [Figure 2k] icon and the previous signature will be shown [Figure 2l], select it to insert at the desired place

8. Send the PDF to the patient via WhatsApp and ask if it is opened on the smartphone or not

9. If no, save a screenshot (a software for capturing screenshot can be downloaded from https://getgreenshot.org/downloads) of the prescription and send the image.

Save the documents

1. Create a new Google account at https://accounts.google.com/signup. This would help to balance personal and professional email and other services. Keep this account logged in on the smartphone. Keep the smartphone locked with password

2. Download and install Google Drive (https://www.google.com/drive/download) on your PC. Login to your Google account. There will be a dedicated Google Drive folder in your PC hard disk. All the files kept in this folder will be synced with the cloud storage

3. Open Google forms (https://docs.google.com/forms) and start creating a new form [Figure 3a] with essential data entry options (patients' id, name, sex, age, contact number, address, photo, date of visit, new or follow-up patient, provisional diagnosis, consent audio, consultation audio, prescription, images) as questions by adding new questions [Figure 3b]. For the data entry with file upload (e.g., prescription), select the response option as "File upload" [Figure 3c]. A quick guide for the creation of Google form is available elsewhere[7]

4. After creating the form, click on the "Send" button [Figure 3d] and click on the link icon [Figure 3e]. Copy [Figure 3f] the link and paste it on the browser address bar and open the form. Save the bookmark (Click Ctrl + D) on "Bookmarks toolbar" [Figure 3g] of the internet browser for ease of access [Figure 3h]
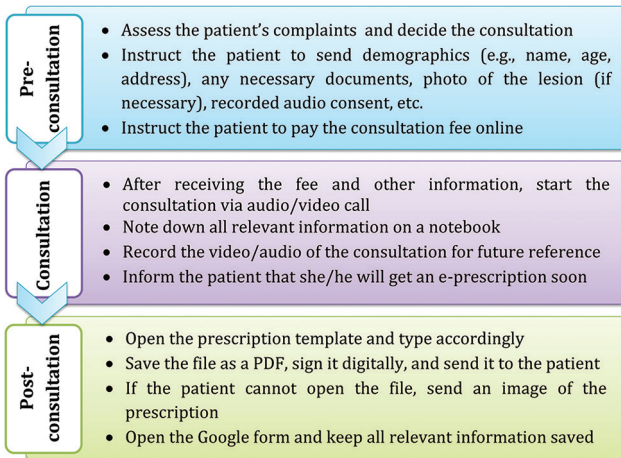

Figure 1: A typical teleconsultation without dedicated software application
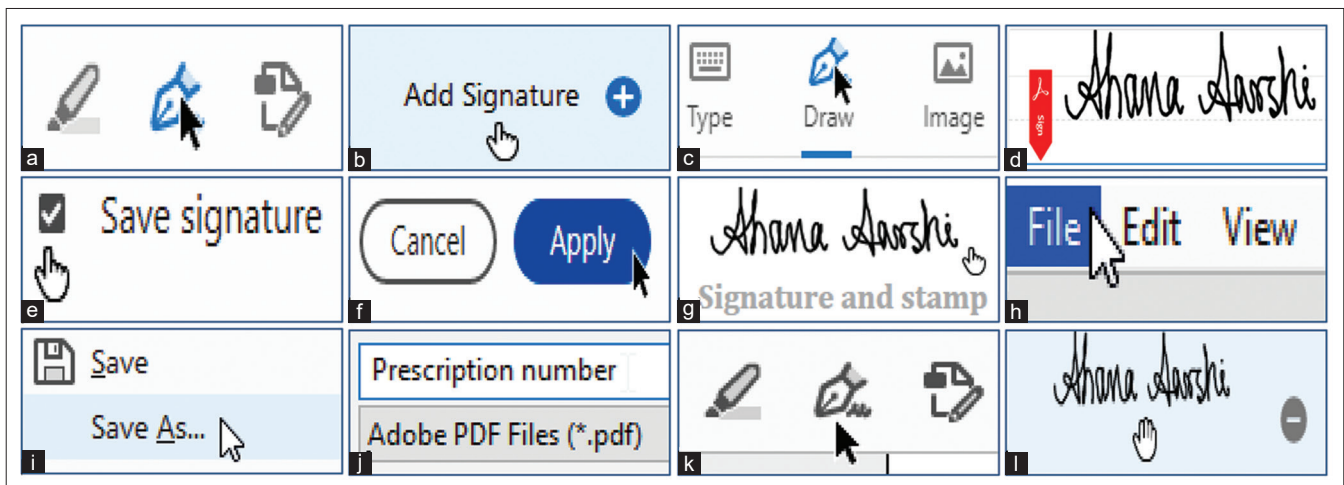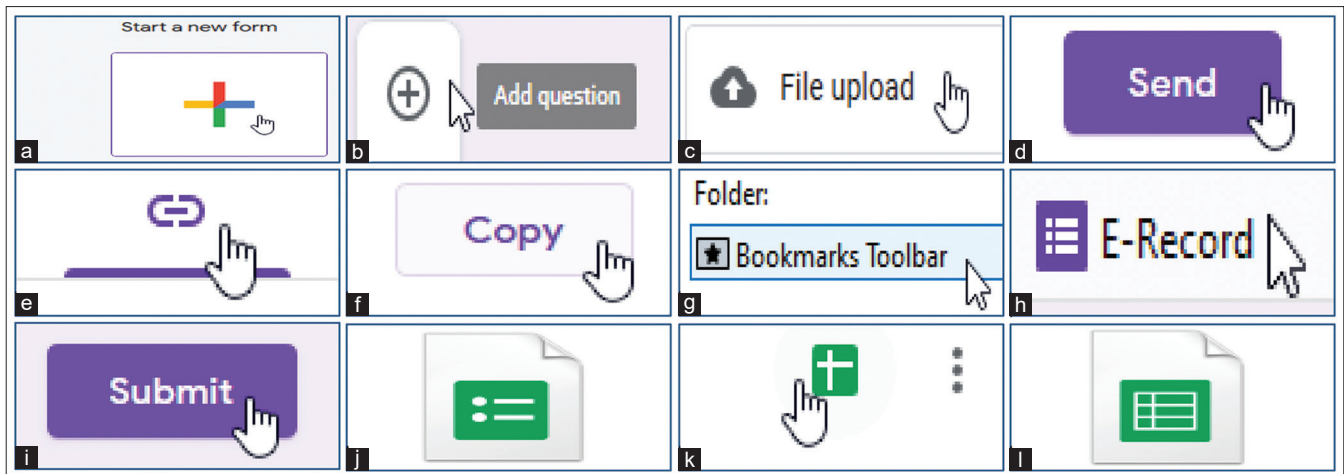

Figure 2: Process of signing a prescription (a) Click on the "Sign Document" icon, (b) Click on the "Add Signature," (c) Click on the "Draw" icon, (d) Draw the signature, (e) Tick mark on the "Save signature," (f) Click on the "Apply" button, (g) Place the signature at appropriate place, (h) Click on the "File," (i) select "Save As," and (j) save the file with a prescription number (k) For second time, just click on the "Sign Document" icon and (l) Select the already saved signature to insert.

Figure 3: Saving and retrieving essential documents (a) Click on the plus icon to start a new form, (b) Click on the plus icon to add a question, (c) Select the "File upload" option, (d) Click on the "Send" button, (e) Click on the link icon, (f) Copy the link and open the link on browser (g) Save the form bookmark on Bookmark Bar/Toolbar, (h) For opening the form, just click on the bookmark, (i) After entering data, click on the "Submit" button, (j) Open the form file from the Google drive, (k) After clicking on the "Responses" click on the spreadsheet icon, (l) Response spreadsheet in the Google drive.

5. After completion of a consultation, transfer relevant audio files from the smartphone to the PC. The files sent by the patient can be easily saved from the WhatsApp application of the PC. Open the Google form by clicking on the form bookmark [Figure 3h]. Enter the data and upload files (most importantly, name of the patient, consent audio, consultation audio, and prescription) on the form and finally "Submit" [Figure 3i] the form to save the entry.

Retrieve the documents

1. From the Google drive folder, open the form [Figure 3j]. It will be opened on the default internet browser
2. For the first time, click on the "Responses" and the green spreadsheet icon [Figure 3k]. It will open the spreadsheet on your browser. You can check the entered data and access the files. If you want to add any data further for follow-up patients, go to the right most cell of the patient's data row and type your entry or click "insert" to add image
3. Next time, there will be a response sheet [Figure 3l] in the Google drive. Click on the file and the spreadsheet will be opened on the browser.

Frequently asked question

BOG in supersession of MCI has released a collection of the frequently asked question for teleconsultation.[2] We have extracted the most common questions from the document and presented here according to the context of this article with three additional questions [Table 1]. Practitioners may refer to the full document for further answers.

Financial support and sponsorship

Nil.

Table 1: Common questions and answers on teleconsultation

Question	Answer
Can I use WhatsApp for teleconsultation?	Yes
Can a patient terminate teleconsultation?	Yes
Can I refuse any patient for teleconsultation at any time?	Yes
Am I bound to receive calls from patients?	No
Is photo of the prescription valid for purchasing medicine?	Yes
Is e-prescription (the one described in this article) valid?	Yes
How many days I need to keep the patients' data?	3 years[8]
Is Google form secure?	Yes[9]
How much data I can save on Google drive free?	15 GB

Conflicts of interest

There are no conflicts of interest.

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