**How to securely handle client data (outside of InfoNet) while working remotely:**

The COVID-19 pandemic has many working remotely who are new to the practice, so the InfoNet team created this document to demonstrate how to transfer and work with client data securely.

Note: For starters, the best practice is to avoid sending more data or detail than absolutely necessary, thoughtfully remove un-needed data before sending, and if possible send no data, or only de-identified data. These are steps for working with client data when it must be transferred.

**Recommendation: Use Microsoft Excel .xslx files encrypted with a password whenever possible.**

We recommend Microsoft Excel’s password protect feature for encrypting client data files, because files remain encrypted during transfer and while stored, and most professionals have access to a recent copy of Microsoft Excel. Security for Excel versions prior to 2013 are considerably lower, so later versions are ideal.

Note: It is absolutely critical to use a strong password (see later section on strong passwords) when encrypting a file. A hacker who has the file can use computers to guess. For example, Karl downloaded and installed a cracking program and was able to open a file with the password “kg” in 7 minutes. A longer, stronger password such as “%1491%albert%benedict%rip” would take weeks or months to open.

**Setting a password in Microsoft Excel 2016 (Office 365) on Windows**

1. You must first create the file, it should be a Microsoft Excel file **(.xlsx**), not a .csv file or a Microsoft Excel 97-2003 (.xls) file.
2. Navigate to the **File** menu.
3. The screen should now look like below. Select **Protect Workbook.**

A screenshot of a cell phone

Description automatically generated

1. Next select **Encrypt with Password** as shown below. Other options are not security options, but organizational editing controls.

A screenshot of a cell phone

Description automatically generated

1. Select a secure password with at least 8 characters, (see next section on strong passwords) you will need to type it twice.
2. CRITICAL: You must **Save** the file after setting the password. It does not apply the encryption until you save.
3. Close the file and Excel, then re-open the file to verify it is requiring the password you set.

**Strong Passwords**

When selecting a password for a file, a secure password is even more critical than an online system. Why? Because if someone obtains the file, they can use a computer to continuously “guess” passwords until it is identified.

If your password is short and/or common, this could occur in a matter of minutes. However, if your password is “random” and long, e.g. over 12 characters, the same method would require weeks or months.

Note: A 12-character long password using the level of encryption provided by Excel is effectively industry standard for securing data. In practice, this must be balanced with human factors, the solution is selecting something long, a bit weird, but ultimately easy to remember, as illustrated in the following web comic:

A screenshot of a newspaper

Description automatically generated

**Guidelines for passwords:**

* Longer is ***much*** better, aim for about 12 characters.
* Memorable is better, as this prevents people writing down or repeating often. Better to pick something memorable instead of having exactly 12 characters.
* Still mix it up somewhat, i.e. one number or special character instead of a word.
* It’s advisable to use a password manager such as 1Password, LastPass, or KeePass to securely store a private set of secure passwords. These allow you to select random, long passwords that can be copied/pasted where needed, but also stored with a highly secure password.
* If possible, say the password over a voice phone call and ensure the recipient uses it over the phone. If voice is not an option, use a different method than the file, e.g. text message (especially iMessage).
* Secure e-mail services such as ProtonMail or Tutanota can be used for passwords.

**Do Not:**

* Send a password over e-mail, especially if you send the file via e-mail.
* Write down the password on paper near a computer.
* Store passwords in an unsecured excel or text file on your computer.

**For files besides Excel:** Individual Microsoft Word files can also be encrypted using the same method as Excel. For other files, we recommend using a program called 7zip (<https://www.7-zip.org/a/7z1900-x64.exe>), when compressing, use AES 256 encryption and a strong password (see above). Note: While 7zip is widely used to transfer data securely, once opened it is usually unencrypted on the local machine. Directions for using 7zip can be found here: (<https://www.northeastern.edu/securenu/sensitive-information-2/how-to-use-7-zip-to-encrypt-files-and-folders/> )