S1 Data Collection Protocols for *Combining Rapid Antigen Testing and Syndromic Data Improves Sensitivity and Specificity in Real-World COVID-19 Detection*

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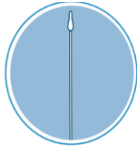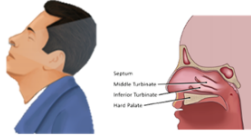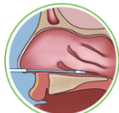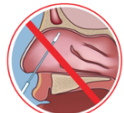
Figure 1: Data collection by the community support teams (CSTs) is implemented using a mobile phone application, screenshots presented here.

Nasal Sample Collection and Testing Protocol

Nasal sample collection (infographics showing Left Nasal sample collection) instruction for CST 1

☐ Take out the nasal mid-turbinate swab from the packet and keep the tube safely for the time being.

☐ Touch only the plastic shaft not the padded end.

☐ Ask the patient to sit straight and tilt the head back (approximately 70 degree).

☐ Insert the swab in the nasal spare parallel to the hard palate.

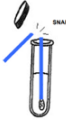☐ Resistance will be felt and that is the confirmation of reaching to the nasopharynx.

☐ Once the swab is against the hard surface rotate it several times.

Figure 2: Page 1 sample collection protocols developed by Tasnuva Chowdhury.

☐ Take out the swab from the left nose and insert the swab into the VTM labelled as "N"

☐ Make sure the liquid transport medium covers the tip of the swabs.

☐ Break the swab shafts at the marking on the shaft.

☐ Screw the caps back on the test tubes tightly.

☐ Once the nasal sample is collected by CST 1, CST 2 will check the box in the app (See example below).
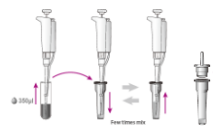
Specimen:

☐ Collected   ☐ Not collected
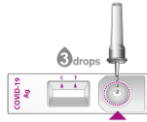
If collected mention type:

   ☐ Right nasal swab   ☐ Throat swab   ☐ Saliva   Combined left nasal swab and throat swab

Nasal swab sample analysis

☐ Using a micropipette, collect the 350µl of specimen from the VTM. Mix the specimen with an extraction buffer in anther tube.

☐ Press the nozzle cap tightly onto the tube.

Figure 3: Page 2 sample collection protocols developed by Tasnuva Chowdhury.
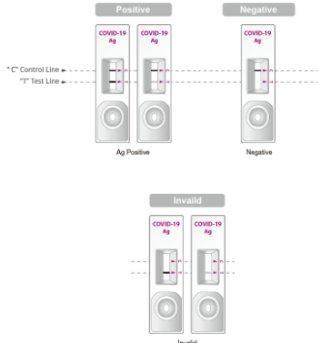
☐ Apply 3 drops of extracted specimen to the specimen well of the test device.

☐ Read the test result in 15-30 minutes.

Interpretation of Nasal sample analysis

☐ A colored band, control line (C), in the top section of the result window will appear in positive and negative test result.

    o   Presence of a second colored band, "T" test line, in conjunction with the "C" Control line is always considered as positive. Even if the "T" test line is faint.

    o   Presence of only "C" control line with out "T" test line will be considered as negative.

☐ Absence of the control line in the top section will always consider the result as invalid.

Image and Information Sources:

Figure 4: Page 3 sample collection protocols developed by Tasnuva Chowdhury.