Preparing for the Twinemic - Is it Flu or COVID-19?
Is it COVID-19 or the Flu?

**COVID-19:**
- Need to understand if you need to quarantine (and potentially contact trace)
- Need for tighter monitoring of potential symptoms

**Influenza:**
- Appropriate treatment or patient management
- Timely detection may reduce inappropriate use of Abx (AMR)
- Flu may still have severe consequences for certain patient populations

**Very similar clinical presentation**

**What is the impact of a combination test for both (patient & HCP)?**

**Reliable and timely detection** – all the results in one visit, workflow efficiencies
- Single sampling (comfort for patients; efficiency – time and material - for HCPs)
- Workflow efficiency (efficiency gains)

**Quick actions:** quarantine (COVID-19), treatment/care (Flu)

**Peace of mind** (patient) and **patient satisfaction/experience** (trust diagnosis and treatment/care decision)
Testing is critical
So is choosing the right testing modality

The surge in demand for testing due to the COVID-19 pandemic has shined a light on testing solutions and issues related to speed, reliability, access to testing, reporting and more. Two modalities have risen to the top for both serial screening of asymptomatic individuals and for diagnostic testing of patients presenting symptoms for diagnosis.

Molecular Test

Antigen Test
Understanding testing differences

Both rapid antigen and real-time PCR testing offer clinical value in supporting diagnosis and patient management. Understanding the real value of each test is critical to implementing the right testing solution for your needs.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Individual processing</th>
<th>Individual processing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sample type</strong></td>
<td>Test dependent: e.g. nasal, nasopharyngeal, saliva</td>
<td>Nasal swab, nasopharyngeal</td>
</tr>
<tr>
<td><strong>Accuracy</strong></td>
<td>High - results can vary by test*</td>
<td>Less capable than PCR of detecting low viral loads*</td>
</tr>
<tr>
<td><strong>Personnel needed for collection</strong></td>
<td>Moderate if administrator collected; None if self-collected</td>
<td>Moderate if administrator collected; None if self-collected</td>
</tr>
<tr>
<td><strong>Personnel needed for processing</strong></td>
<td>High to run test, record and report results</td>
<td>None</td>
</tr>
<tr>
<td><strong>Time to result</strong></td>
<td>24 to 48 hours** plus transport time</td>
<td>15 to 30 minutes</td>
</tr>
<tr>
<td><strong>Confirmatory test</strong></td>
<td>Not needed</td>
<td>Confirmatory test recommended in some cases***</td>
</tr>
</tbody>
</table>

* Ask to see real-world performance data for the specific test being used
** Turnaround time could be subject to change based upon demand and capacity. Facilities should be aware of this and monitor accordingly. Prices vary and will change as the market evolves.
***For more guidance on confirmatory testing see the [CDC Interim Guidance for Antigen Testing for SARS-CoV-2](https://www.cdc.gov/coronavirus/2019-ncov/lab/antigen-testing.html)
When to test symptomatic patients for COVID-19 & Influenza

Different tests are appropriate at different times and for different objectives. Which test is appropriate depends on a variety of criteria, including:

- What’s the testing objective
- What’s the patient’s condition and potential exposure
- What’s the patient care setting and access to a lab?
- How quickly do you need an answer?

Progression of viral infection

<table>
<thead>
<tr>
<th>Before potential symptom onset</th>
<th>After potential symptom onset</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detection unlikely</td>
<td>PCR – likely positive</td>
</tr>
<tr>
<td>PCR – likely negative</td>
<td>AG likely positive</td>
</tr>
<tr>
<td>AG – likely negative</td>
<td></td>
</tr>
</tbody>
</table>

References:
1. Sethuraman N, Jeremiah SS, Ryo A. Interpreting Diagnostic Tests for SARS-CoV-2. JAMA (v0.1)
2. Q., Liu, B., Deng, H. et al. Antibody responses to SARS-CoV-2 in patient (v0.1)
4. Goyal A et al. Viral load and contact heterogeneity predict SARS-CoV-2 transmission and super-spreadering events
Screening: ✔
Where rapid antigen testing shines

In a recent modeling study, simulations illustrated the differences and value of both PCR and antigen testing. The sensitivity and specificity of PCR allows it to detect virtually any viral load, making it well-suited to acute, clinical settings. In screening settings, rapid antigen testing excels at detecting active infection¹, helping to avoid unnecessary quarantine.

Key findings from the study included¹:

• Across settings, **higher screening rates** had the greatest effect on reducing disease burden measures (vs lower screening rates).

• **Rate and timing of testing plays a significant role in transmission reduction** and can overcome performance differences between test methodologies.

• Strategies with a longer test result wait time increased unnecessary quarantine costs. Across all settings and screening rates, **standalone PCR had the highest overall cost** (1.61-2.34 times greater vs other strategies).

• **Antigen-based testing plus isolation greatly reduces disease burden and costs** less than RT-PCR-based screening strategies.

• A screening strategy of antigen testing with repeat of negatives by antigen test 2 days later **averted the most infections and was cost savings compared to PCR-based testing.**

Reference:
Rapid antigen testing
Built for the demands of today

With its shorter turnaround time, ability to accurately detect active infection, ease-of-use, and results delivered at the point-of-care or at-home, antigen testing is well-suited for early diagnosis and intervention:

- **Rapid results** support immediate diagnosis and patient management. Same day convenience reduces patient and care wait times and loss to follow up.
- **No prescription required** for at-home antigen tests.
- **No medical professional required** for sample collection or for testing for at-home antigen tests.
- **Clinically validated** and trusted.
- **Cost-effective** to support frequent testing scenarios such as serial testing.
- **Expands access** to testing.

The value of rapid antigen testing
Rapid testing + Frequency = Confidence

The cost advantages, rapid results, and ease of use that comes with rapid antigen testing allows it to deliver on the real key to success in screening—frequency.

*Most antigen tests exceed 80% and approach 95% for high viral loads

Michael Mina,
MD PhD, Harvard T.H. Chan School of Public Health/Medical School
As a part of the Biden Administration’s newly released “Path Out of the Pandemic”, the administration previously announced that it has ordered the U.S. Department of Labor’s Occupational Safety and Health Administration (OSHA) to create new COVID-19 regulations that require (on-hold as of 12/7/2021):

- **Businesses with one hundred (100) or more employees to ensure that their workers are fully vaccinated against COVID-19, or**
- **Produce a negative COVID-19 test each week**

As a result, businesses may need to be prepared to choose a COVID-19 testing modality and implement an ongoing testing program for their unvaccinated employees.