Integrated Health Engineers
Wisdom from the past, Expertise for the future

MAKING MEDICALLY INFORMED BUSINESS DECISIONS DURING THE COVID-19 PANDEMIC

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Why is it named "Coronavirus"?
COVID-19: A Novel Coronavirus or We Don’t Know What We Don’t Know.

- Much to learn
- Liability Concerns
- Data Changes
- Recommendations Vague
- Void Filled by Unfounded Theory
- Standard of Care Undefined
WHAT WE’VE LEARNED SO FAR...
COVID-19, LIKE THE SEASONAL FLU IS NOW PART OF OUR BIOSPHERE.

CONTAINMENT CAN NO LONGER BE OUR GOAL (THE VIRUS OR LIABILITY)

OUR GOAL MUST BE TO PROTECT OURSELVES, OUR EMPLOYEES AND OUR CUSTOMERS AS WE REOPEN OR REMAIN OPEN.
THE BASICS FOR RETURNING TO "NORMAL" OPERATIONS

Do they REALLY work?

- Gloves
- Face Masks
- Handwashing
- Temperature Checks
Gloves are great if you use them properly. Gloves will get you infected if you don’t. Proper handling?
The smaller the pore size and the better the fit the more effective the mask. Face shields augment but do not replace.
Temperature Screening?

Outside of the healthcare environment, generally not worth the effort. Asymptomatic spreaders generally exhibit no fever. Those who know that they are ill and elect to go out anyway likely suppress.
LET’S TALK TESTING
Caveat: False Positive / Negative
Diagnostic or PCR Test

What it does: Doctors use this test to diagnose people who are currently sick with COVID-19. This is the one we've been hearing so much about.

How it works: This test uses a sample of mucus typically taken from a person's nose or throat. The test may also work on saliva — that's under investigation. It looks for the genetic material of the coronavirus. The test uses a technology called PCR (polymerase chain reaction), which greatly amplifies the viral genetic material if it is present. That material is detectable when a person is actively infected.

- Ultra Sensitive (technique dependent)
- Most Specific
- 2-3 Days Processing – 7+ Results??
- Expensive
- Reagent Shortages
- Caveats
  - Caveats are why recommendations are so vague. A million cases all at once without pre-existing lab infrastructure.
What it does: Antibody tests identify people who have previously been infected with the coronavirus. They do not show whether a person is currently infected. This is primarily a good way to track the spread of the coronavirus through a population.

How it works: This is a blood test. It looks for antibodies to the coronavirus. Your body produces antibodies in response to an infectious agent such as a virus. These antibodies generally arise after four days to more than a week after infection, so they are not used to diagnose current disease.
Antigen Test

**What it does:** This test identifies people who are currently infected with the coronavirus. It may be used as a quick test to detect active infections. Initially it will not be used to diagnose disease, but it may be used to screen people to identify those who need a more definitive test.

**How it works:** Antigen tests can identify virus in nose and throat secretions. It does this by looking for proteins from the virus (as opposed to the diagnostic test, which looks for genetic material). This is the same technology used in your doctor's office for rapid strep testing.
SEEMS to have the required sensitivity and specificity to act as a true POC screen.

MANY competitors with unproven/unknown sensitivity and specificity. BEWARE knock offs.
AIR FILTRATION
AIR FILTRATION? YES!

Maximum Efficiency Reporting Value: Captures particles to 1 micron.
COVID-19 VACCINE: HOW SOON?
Time until vaccine available and the population is vaccinated? Best guess: 18 to 24 months.
Can't send everyone home ........ can't afford for your entire workforce to get ill........ firm specific solutions.
RESILIENCY PLANNING
IT’S ALL ABOUT “BEST PRACTICES”

• An ‘Affirmative Defense’ & Risk Mitigation

• Review of All Relevant Policies & Procedures

• Specific Actions
5 STEPS TOWARDS RESILIENCY

1. Evaluate
2. Facilitate
3. Train
4. Reassess
5. Adjust
Site Evaluation

Have a detailed conversation with leadership about near-term and long-term goals.

Explore your facility with a fresh pair of eyes or as if you’ve never seen it before.

In-house Team?
Outside Organization?

Use all available evaluation tools
Implement & Facilitate

Create a Risk Matrix based on the Site Evaluation and discussions within the organization.

Create an Implementation Team to facilitate any policies & procedures needed to work within a best practices model.

Policies:
- Data Collection?
- Sanitation?
- Manpower and Force Multipliers?
- Testing?
- Quarantine?
- Contact Tracing?
Hippo™ HVC platform

A “Force Multiplier” in Technical Tasks and Remote Medicine
Staff Training

Develop a training strategy for your employees and stakeholders so that they can understand the organizational goals and the “why” and “how” of getting there.

Utilize a platform that has objective goals and clear, measurable outcomes to minimize ambiguities.

  Online? (Synchronous v. Asynchronous)
  In-person?
  Certifications, when possible?
Reassess

Periodic re-evaluation of goals, cost of mitigation v. measurable outcomes

Take a critical look at the overall effectiveness of your strategy.
Adjust

Don’t be afraid to adjust (periodically or often) your policies and procedures based on those measurable outcomes.
Welcome to the...