

A Hypothetical Software Engineering Behavioral Analysis on COVID-19 to Find a Viable Cure

Status: in
progress!
Latest
update
9.9.2020

Disclaimer:

- Software 'given' as-is from China.
- There are no directions or special instructions.
- Software is being reverse-engineered using the behavior it displays and any available public sources.
- Let's not get excited. I am being facetious when I say the software was 'given' from China.

COVID-19 can be interpreted as a piece of software.

→ This allows the possibility for it to be broken down into modules for further analysis. Once the breakdown process begins, COVID-19's behavior before it infects a person, can be abstracted away from the behavior the human body creates during a COVID-19 infection. This gives us two sets of behaviors to examine for a potential cure or treatment. At a minimum, it helps bring a bigger perspective into what it could be doing. Thus, I am reverse-engineering the 1st Set of Behaviors to understand the 2nd Set of Behaviors.

1st Set of Behaviors

→ COVID-19's first set of behaviors derive from COVID-19 before it causes an infection in a human. This is the behavior that can be analyzed to gain a sense of how COVID-19 behaves before a human host displays any symptoms of infection.

2nd Set of Behaviors

→ COVID-19's second set of behaviors are the human body's response to COVID-19 infection. This is the behavior that can be treated by medical doctors. This is the behavior that can be treated with Hydroxychloroquine and other treatments.

An Optional 3rd Set of Behaviors

→ You could argue there is a third set of behaviors. This would be how an individual responds to COVID-19 infection as the body itself responds to COVID-19 infection. How could you argue this? Easy. Where do we exist along with COVID-19, if COVID-19 exist at the molecular level? Are our physical bodies the 'molecular level' for other life forms? How can people say "expand your mind" when the mind does not have any physical borders to constrict its growth? Take this line of thinking further if you wish.

Disclaimer

- This is a hypothetical analysis on COVID-19's behavior that has been documented through various public sources.
- This analysis is not medical advice. This analysis does mention certain health issues, but I try to stay as general as possible so that I only contribute the minimum information required to understand a concept.
- I do try to provide a source on most of the information in this analysis.
- To understand this analysis, it is ideal to change your perception of COVID-19 from something that has the ability to infect people, to something that has the ability to identify people with certain characteristics. Thus, COVID-19 can identify someone having certain characteristics, and after identifying them, COVID-19 appears to enter their body. This can result in an infection, that is, the human body appears to respond negatively to COVID-19's presence inside of it.
- To identify who to infect, COVID-19 appears to be relying on a combination of certain hormones or vitamin and mineral levels or fat levels or certain health problems that some people may have. All of these elements change as people age. There could be more things that COVID-19 uses to identify people.
- How is COVID-19 still able to identify people to infect? For this ability, I think COVID-19 is relying on instincts that are encoded in its DNA based on many years of evolution. Further, COVID-19 does not appear to be aware nor does it appear to have the ability to learn. COVID-19 has not learned that we can beat it, and it has not changed its behavior to overcome the knowledge that we have to use against it. As such, COVID-19 appears to be relying on instincts to identify people to infect. The instincts appear to derive from bats, and these instincts do not appear to change over time. As such, COVID-19 appears to be relying on deeply ingrained patterns of behavior that will probably not change.

Disclaimer Cont.

- To understand this analysis, a little bit of information about evolutionary theory is helpful. Knowing some information about software engineering is also helpful. However, I have kept things in this analysis as easy as possible so that there is little confusion, and so that nothing seems too out of the ordinary even though COVID-19 may appear out of the ordinary.
- How did I know to reverse-engineer COVID-19 or that such a thing was possible? I do not know. That part just happened. I think that would be more of a personal quirk, but I do know that many things can be interpreted as systems to then break these systems down for thorough analysis. I just happened to do it to COVID-19, and COVID-19 just happened to be a worldwide pandemic and it just happens to have questionable timing and questionable origins with questionable circumstances surrounding it.
- COVID-19 is a complicated issue with more layers than just identifying people and infecting them. There are a few political layers to COVID-19 that appear to need a thorough examination as its potential as a biological agent that can identify people with certain characteristics might have strained some political relations that were maybe already fragile.
- Viewed differently and from a hypothetical software engineering perspective, COVID-19 appears to be rudimentary biological identification and tracking software with unfinished curative properties.
- This analysis is ongoing. It should be considered in progress. I reserve the right to update this analysis at my leisure, but when I consider this analysis somewhat complete, I will indicate that somewhere in the analysis.
- Why am I doing this analysis? For now, it is just something to pad the résumé with that is related to the fields of Software Engineering or Computer Science.

Preliminary Opinion

- Based on the behavior I have managed to reverse-engineer using publicly available sources, I think the Chinese are trying to find a cure (or treatment) for diabetes or other diseases, using a mechanism such as COVID-19. This would definitely be worthy of keeping secret at all costs.
- If this cure or treatment is also related to extending human life for just even a few more years, then it is safe to assume that they would take every possible measure to keep it a secret.
- It would also be cutting-edge, if they were able to perfect it.
- Bats appear to be very deeply linked to a high blood sugar environment to the point where it looks like bats require a high blood sugar environment to survive. This is counterintuitive to how humans respond to high blood sugar levels because humans tend to develop health problems such as diabetes when blood sugar levels get too high for extended periods of time.
- Humans also tend to gain weight with a diet resulting in high blood sugar levels because these foods tend to be classified as unhealthy.
- Bats appear to have an evolutionary mechanism that protects them from developing diabetes even though they have high blood sugar levels.
- I think I have an idea of what this mechanism could be. I am still in the process of deconstructing and reverse-engineering COVID-19 using whatever available public sources I can find.
- As such, a bit more work is required to be done on my end.

Preliminary Opinion Cont.

- Bats may also be deeply linked to detecting high fat levels in the body. Bats are low in fat and they must remain virtually fatless or they risk losing the ability to fly because of excess weight.
- COVID-19 may be able to detect high fat levels in the people it infects. Upon detecting the high fat levels, COVID-19 tries to engage in a weight loss algorithm or a weight loss mechanism that is initiated by a Bat Flight algorithm. This is done to make the host lose weight.
- Unfortunately, it is causing this inside obese or morbidly obese people and their human bodies cannot handle it.
- Essentially, on a hypothetical level, COVID-19 enters an obese or morbidly obese host, and then 'thinks' to itself, "I have too much fat. My ability to fly is at risk. I must lose the weight quickly or I risk dying out because I cannot fly to search for food. Food is essential to my survival as a species."
- As COVID-19 thinks this while inside a host, its belief will not change because it is acting on learned evolutionary behavior that has brought it great success in the past, for many years. This behavior is so sharpened to respond to stimuli, that it is a survival instinct.
- The human body responds negatively to this behavior, and people that are obese or morbidly obese get ill. Often times, the results are fatal. However, if there were a way to control this aspect of COVID-19's behavior, it could also serve as a treatment for obesity or morbid obesity just like a stabilized version of COVID-19 can serve as a treatment for diabetes.
- I will try to get a flowchart for this soon. I am still working on it.

Preliminary Opinion Cont.

→ The same general logic can be applied to cancer survivors or people with cancer. Evidently, these people are also susceptible to COVID-19. COVID-19 can then be viewed as having potential cancer detection abilities because if cancer survivors are at risk of dying from COVID-19, but not at risk of dying from cancer, then COVID-19 may be able to detect cancer at the molecular level to then flush it out using various evolutionary algorithms that prevent bats from getting cancer or getting cancer at low rates with typical non-fatal results. COVID-19 then may become a viable cancer detection and cancer fighting technology if it is stabilized.

Extreme High Risk Groups to COVID-19

→ **Obesity** – people that are obese or morbidly obese.

Source: Scientists are urging the government to strengthen public Health efforts to address the Obesity epidemic in the prevention against the CCPVirus as more studies find that people with obesity have higher risks of dying from COVID19. <https://twitter.com/EpochTimes/status/1300567795596496896>

Source: Obesity seems to be tied to getting very sick from a coronavirus infection, and doctors are trying to figure out why. <https://twitter.com/APHealthScience/status/1303375447821111307>

→ **Diabetes** – people that have diabetes (and maybe people that have a family with a history of diabetes even though they themselves might not be diabetic)

Source: *First study of COVID-19 patients with diabetes shows that 10% die within seven days of hospital admission* <https://medicalxpress.com/news/2020-05-covid-patients-diabetes-die-days.html>

Source: *Diabetes increases risk for poorer prognosis in COVID-19* <https://medicalxpress.com/news/2020-04-diabetes-poorer-prognosis-covid-.html>

Extreme High Risk Groups to COVID-19 Cont.

→ **Vitamin and Mineral Deficiency** – people that lack certain vitamins and minerals.

Source: Vitamin D deficiency raises COVID-19 infection risk by 77%, study finds

https://www.upi.com/Health_News/2020/09/03/Vitamin-D-deficiency-raises-COVID-19-infection-risk-by-77-study-finds/7001599139929/

Source: New Study: Vitamin D reduces risk of ICU admission 97% <https://covid.us.org/2020/09/03/new-study-vitamin-d-reduces-risk-of-icu-admission-97/>

→ Regarding the vitamin and mineral deficiency group, I do have a module planned out for this group of people. I am not surprised, based on my hypothetical model, that certain groups of people such as those with a Vitamin D deficiency, for example, are at increased risk of COVID-19 infection.

Vitamin D is known as the “sunshine vitamin”.

→ It is well known that bats avoid sunlight. It is in a bat's best interests to avoid sunlight, so that it can survive as a species. Avoiding sunlight is instinctual behavior to bats. Bats spend most of their time flying at night, or sleeping and living in a cave away from sunlight. Thus, we can hypothesize that they will probably have low Vitamin D levels most of the time.

→ Since COVID-19 is derived from bats (or contains bat DNA), we can hypothesize that people with low Vitamin D levels could be at increased risk to contracting COVID-19 because their low Vitamin D levels could help COVID-19 infect them easier by creating a familiar environment for it. That is, COVID-19 will detect the low Vitamin D levels, and 'remember' the same levels from a previous environment. Upon doing this, COVID-19 decides to infect the host and unleash its full potential.

Extreme High Risk Groups to COVID-19 Cont.

- **Calcium Deficiency** – people with calcium deficiencies might be at increased risk to COVID-19 infection similar to how some people that have low Vitamin D levels are at increased risk to COVID-19 infection.
- Both Vitamin D and calcium work together to build strong bones for humans. Vitamin D plays an important role in protecting your bones, both by helping your body absorb calcium and by supporting muscles needed to avoid falls.

Source: *Calcium and Vitamin D* <https://www.nof.org/patients/treatment/calciumvitamin-d/>

- Currently, there are scientific papers on low calcium levels increasing the risk to COVID-19 infection.
- A condition called hypocalcemia, in which there are lower than average levels of calcium in the body, has been found to be prevalent, and may even predict hospitalization in COVID-19 patients.

Source: *Hypocalcemia is highly prevalent and predicts hospitalization in patients with COVID-19*

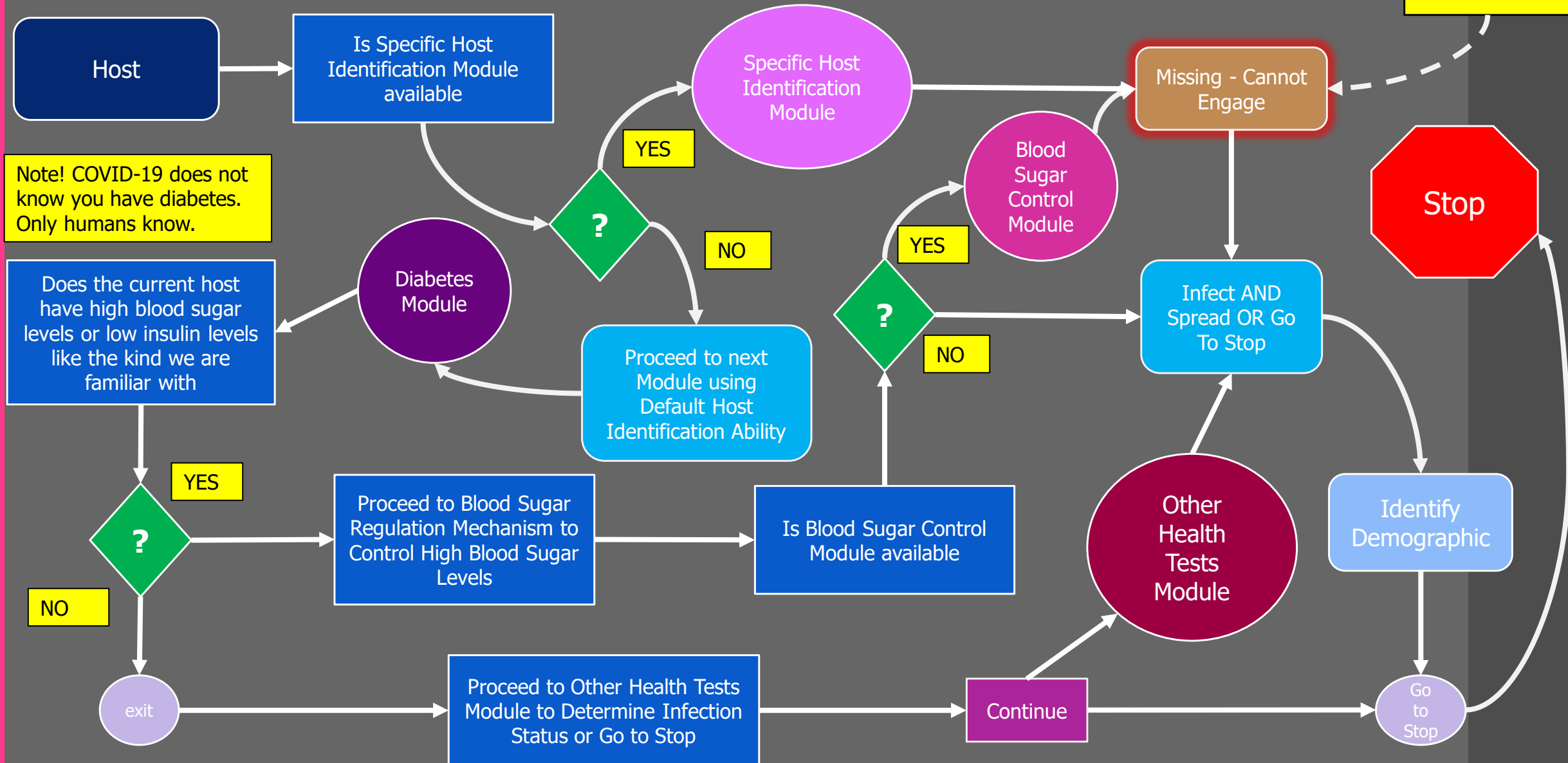
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7292572/>

- We can hypothesize that since calcium builds strong bones, bats would have low levels of calcium just like they have low levels of Vitamin D, since bats need to remain light in order to fly and strong bones might weigh them down.
- Vitamin D, the sunshine vitamin, also helps the body absorb calcium to build strong bones. This is not something that would be beneficial to a bat's survival. Hence, they might have low levels of calcium and Vitamin D.
- Since COVID-19 contains bat DNA, the bat DNA will be more likely to infect a host with low Vitamin D levels, but also low calcium levels as both of these factors, could make COVID-19 'think' it has found a familiar environment. In this case, it is an environment with flimsy or weak and brittle bones. Low Vitamin D and low calcium levels are typically found in elderly people.

COVID-19 General Behavior Flowchart

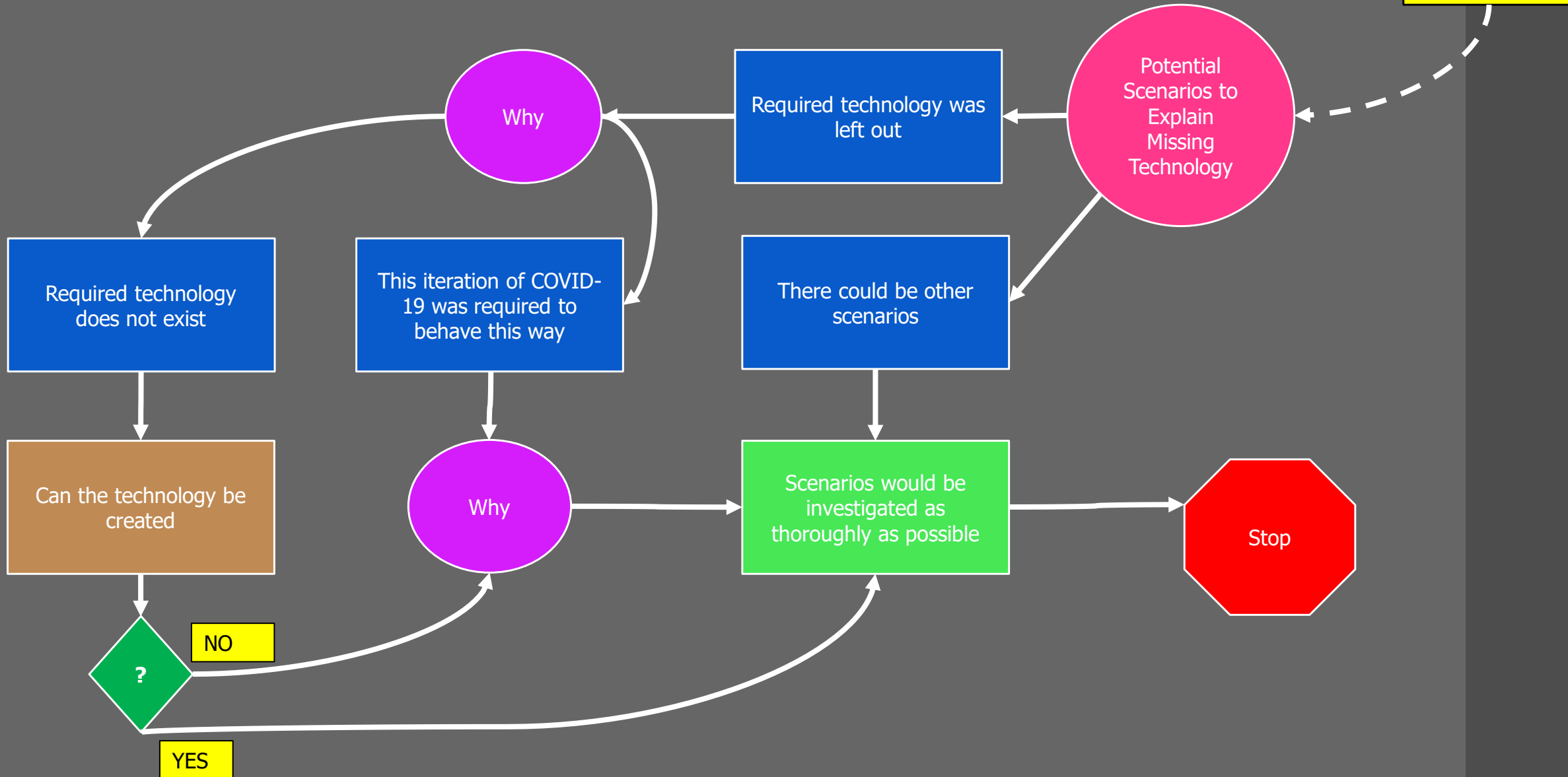
Unfinished Hypothetical Diabetes Treatment Found in COVID-19

Where is the technology to 'fix' this?



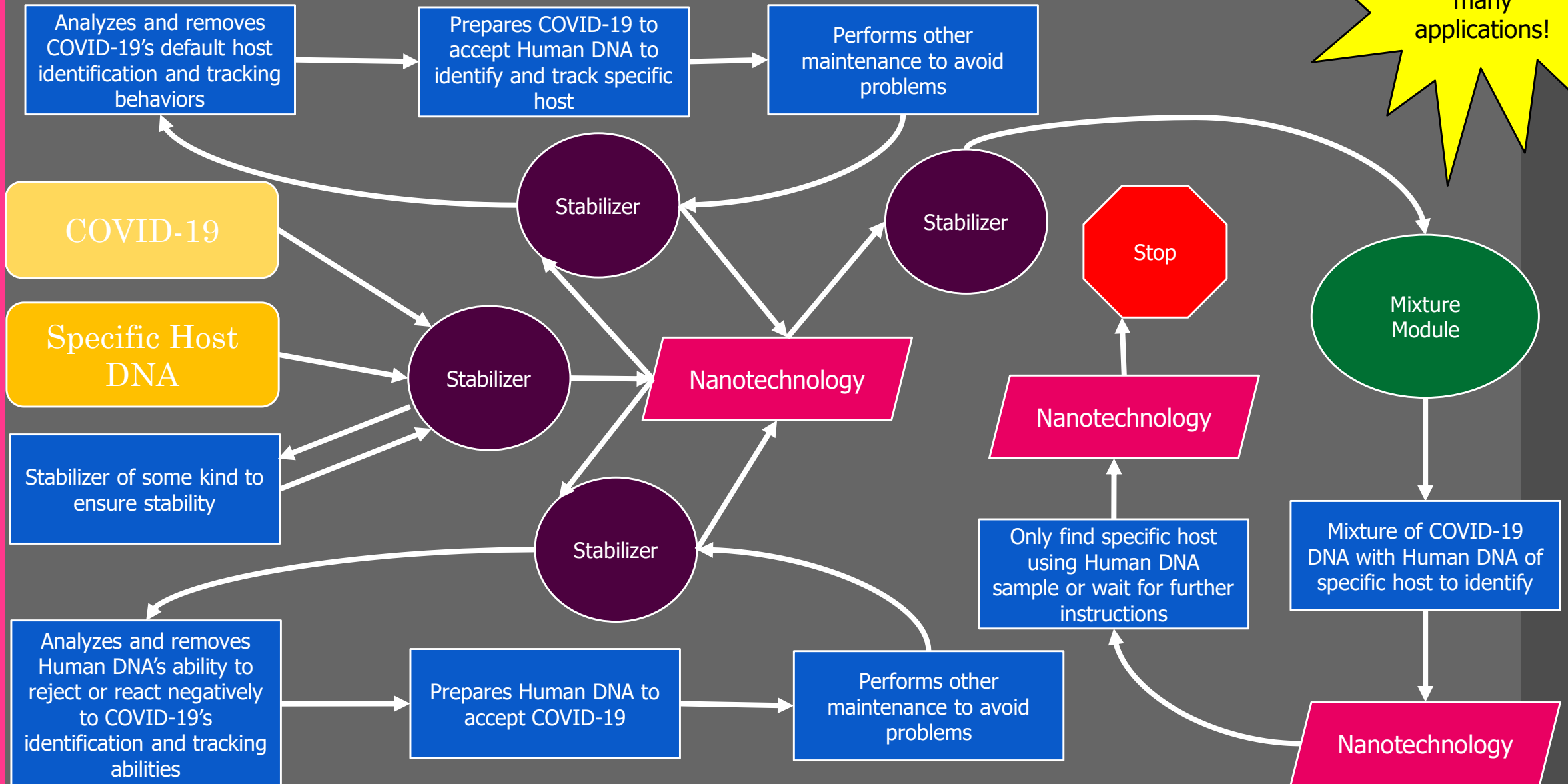
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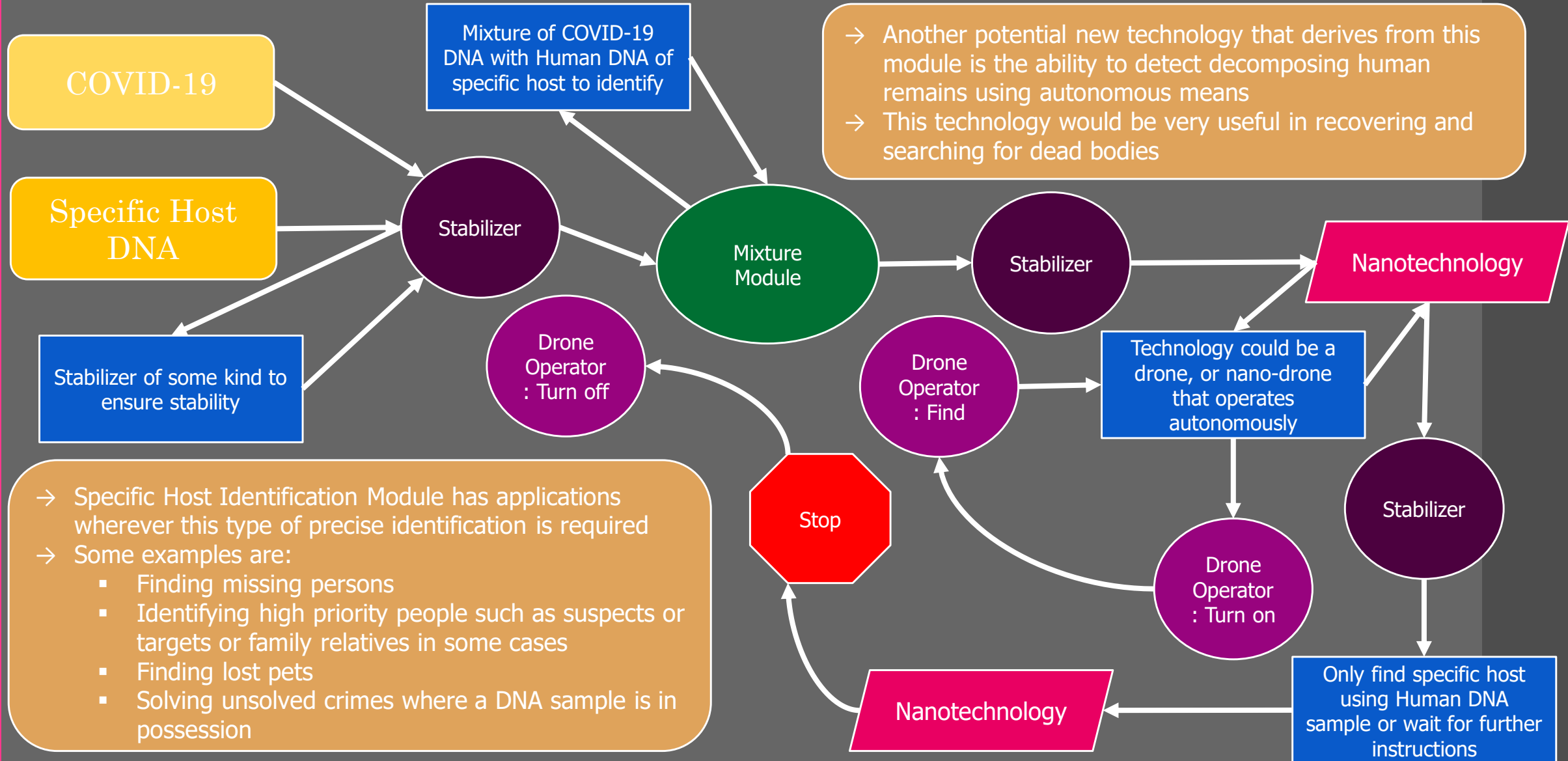


Hypothetical Specific Host Identification Module Missing from COVID-19

This module
alone has
many
applications!



Hypothetical Specific Host Identification Module Application: Autonomous Biological Identification and Tracking



Preliminary COVID-19 Hypothetical Diabetic Treatment

- Type 1 Diabetes – a chronic condition in which the body produces little or no insulin.
- Type 2 Diabetes - a chronic condition that changes the way the body metabolizes sugar (glucose).

Source: <https://www.healthline.com/health/and-after-effect-eating-blood-sugar#insulin>

Source: <https://www.mayoclinic.org/diseases-conditions/type-1-diabetes/symptoms-causes/syc-20353011>

Preliminary Hypothetical Medical Treatments

- Obesity
- Morbid Obesity
- Possibly Other Medical Treatments

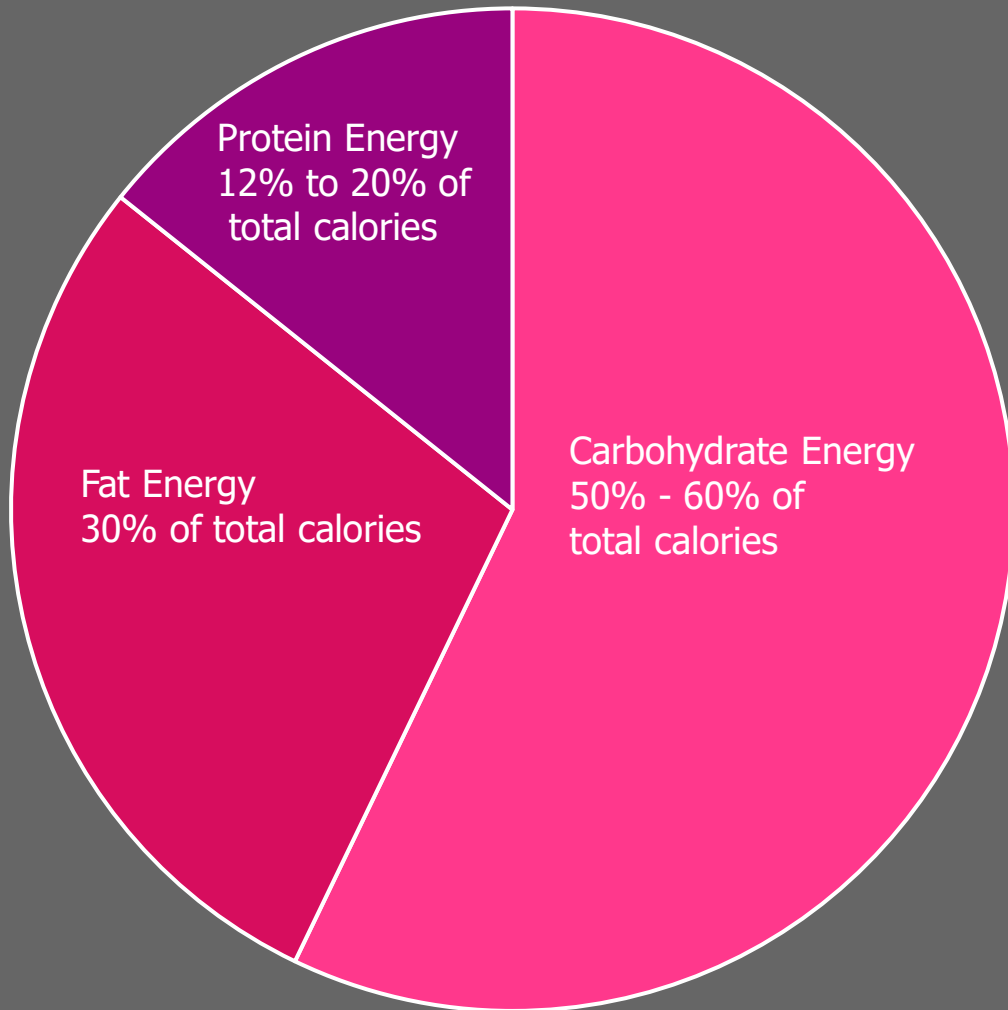
Preliminary Missing Module for Diabetes and Obesity Treatments

- Bat Flight Algorithm and everything it does to the bat's body to then successfully replicate it in a human body.
- For now, I assume the Bat Flight Algorithm is similar to an aerobic process in the human body, and not necessarily an anaerobic process in the human body. The lungs are typically involved in aerobic activities. Given my hypothetical model of COVID-19, I am not surprised it affects the lungs, but the human body responds negatively to it.
- Aerobic activities require more oxygen than anaerobic activities.

Technology required to implement and Control the Bat Flight Algorithm

- Some type of nanotechnology

General Information Sources of Energy: Humans



Humans have three sources of energy

- Carbohydrates (carbs): give the human body energy it can use immediately. Extra carbs are stored in the liver as glycogen. They are released when the body needs it. Too many carbs can result in fat accumulation. Body changes 100% of carbs into glucose.
- Proteins: the body needs protein for growth, maintenance, and energy. Protein is used mainly by the muscles.
- Fats: give the body energy as well, but only 10% is changed into glucose. Alone, it does not impact blood sugar levels much. Fat eaten with carbs can slow the rise in blood sugar. Fat also slows down digestion. It can keep blood sugar levels higher for longer periods of time.

Source:

<https://wa.kaiserpermanente.org/healthAndWellness?item=%2Fcommon%2FhealthAndWellness%2Fconditions%2Fdiabetes%2FfoodBalancing.html>

Sources of Energy: How Humans Turn Food Into Energy

How Humans Turn Food into Energy

- All parts of the body need energy to work. The energy comes from food. The same can be said about bats, since they are living organisms classified as mammals.
- The human body breaks down carbohydrates (sugars and starches) into another form of sugar, called glucose. The body absorbs glucose and releases it into the bloodstream.
- Glucose can then be used immediately for energy or stored in our bodies for later use.
- The body needs insulin to store glucose for energy. Without insulin, glucose stays in the bloodstream, thus, keeping blood sugar levels high. This will eventually result in diabetes if not corrected.

Insulin is a Hormone

- Beta cells in the pancreas make insulin. They are sensitive to the amount of glucose in the bloodstream. Beta cells check blood-glucose levels every few seconds to determine if they need to speed up or slow down the production of insulin that is then released into the body.
- When foods that are high in carbs are consumed, the glucose levels in the blood rise, and the beta cells trigger the pancreas to release more insulin into the bloodstream.
- Insulin travels into the bloodstream to the body's cells, and signals to the body's cells to open up so that glucose can be let inside. Then, the glucose is converted into energy for use right then or stored for later use.

Source:

<https://wa.kaiserpermanente.org/healthAndWellness?item=%2Fcommon%2FhealthAndWellness%2Fconditions%2Fdiabetes%2FfoodProcess.html>

Sources of Energy: How Humans Turn Food Into Energy

How Humans Turn Food into Energy Cont. (Insulin)

- As glucose moves from the bloodstream into the cell, blood sugar levels begin to drop. The body can sense this is happening, so it slows down the production of insulin and it also slows down the amount of insulin going into the bloodstream. Finally, the amount of glucose going into the cells also slows down.
- The rise and fall of insulin happens many times throughout the full 24-hr day. When the body is working correctly, it can keep blood sugar levels normal, give or take a few rises and drops in blood sugar according to individual diet and individual physical activity such as exercise.
- Insulin helps the body convert glucose into energy, and it helps the body store extra glucose for use later. Insulin also helps the body store fat and protein.

Diabetes Changes the Body's Insulin Usage

- Diabetes means the body has stopped making insulin, slowed down the amount of insulin it is making, or is no longer able to use its insulin efficiently.
- Glucose cannot enter the cells where it is required, so glucose levels in the bloodstream continue to rise, often resulting in high blood sugar levels.
- Type 1 diabetics need an insulin shot to control their blood sugar levels. Type 2 diabetics can usually control their blood sugar levels with diet, and exercise, but may require diabetes pills, insulin shots, or both as part of their diabetes care plan.

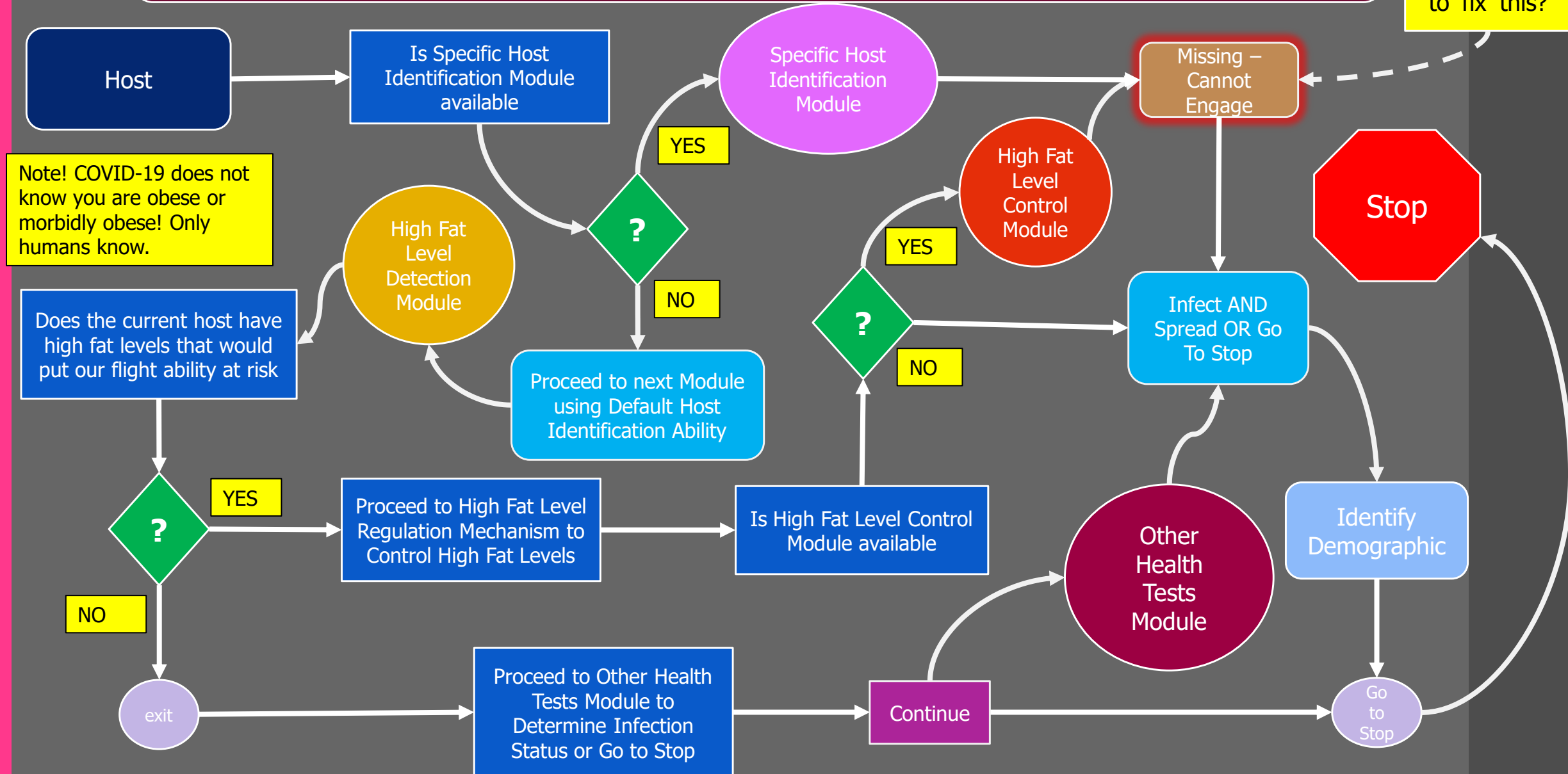
Source:

<https://wa.kaiserpermanente.org/healthAndWellness?item=%2Fcommon%2FhealthAndWellness%2Fconditions%2Fdiabetes%2FfoodProcess.html>

COVID-19 General Behavior Flowchart

Unfinished Hypothetical Obesity Treatment Found in COVID-19

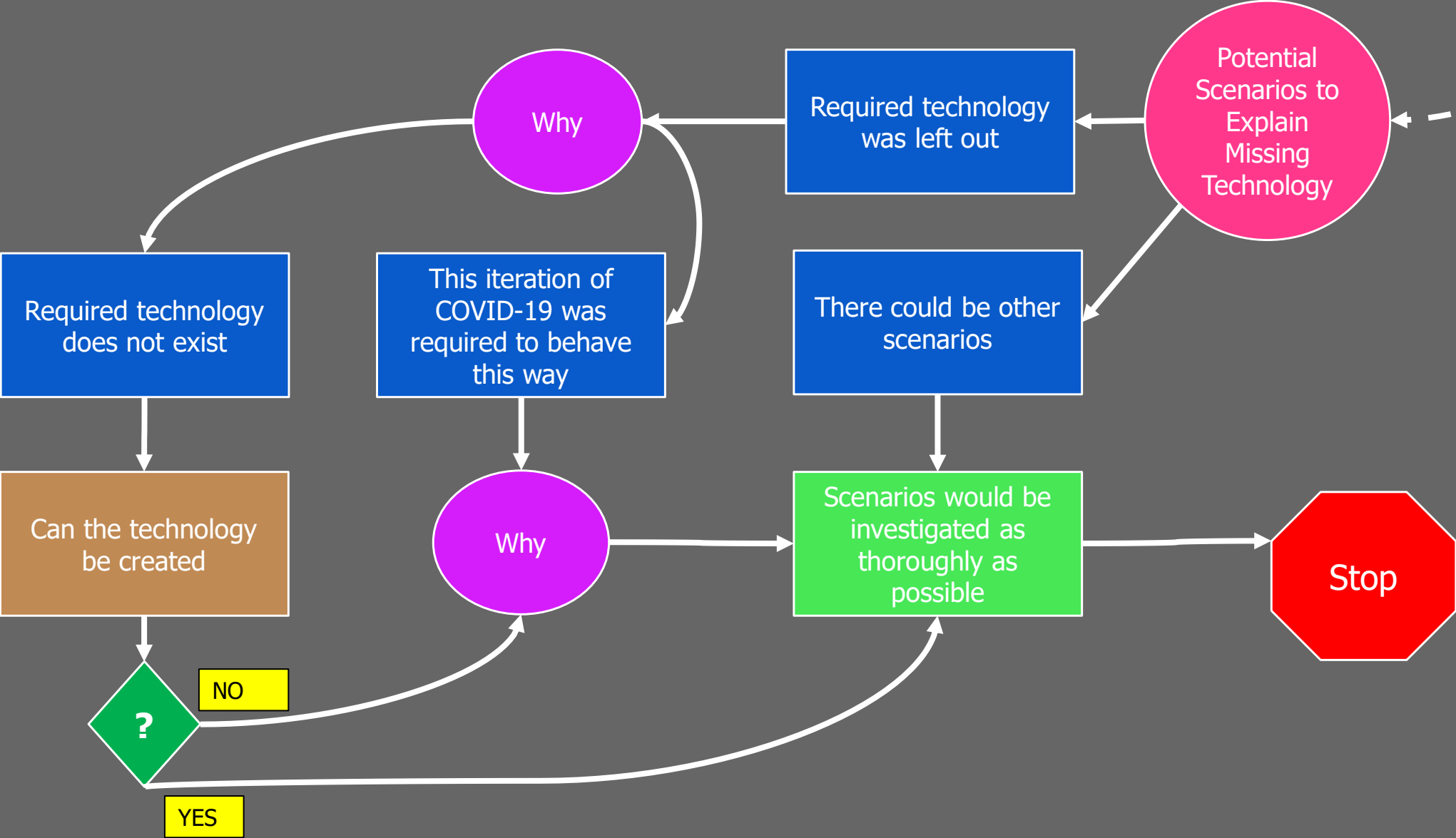
Where is the technology to 'fix' this?



COVID-19 General Behavior Flowchart

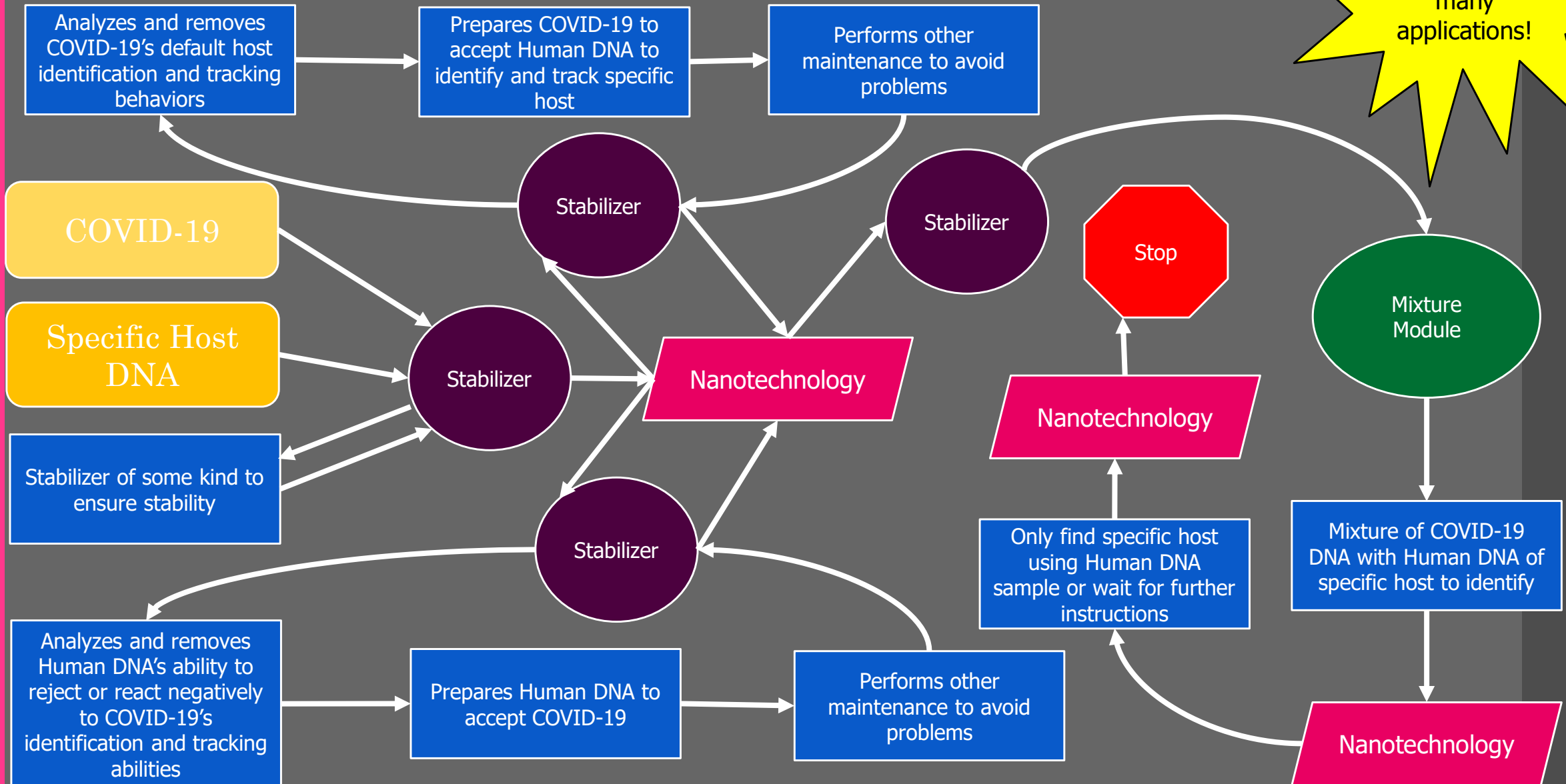
Unfinished Hypothetical Obesity Treatment Found in COVID-19

Where is the technology to 'fix' this?



Hypothetical Specific Host Identification Module Missing from COVID-19

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The keyword cloud of this study is a name that I use to organize all of the words that came to mind as I brainstormed about COVID-19's behavior. There may be other keywords that could belong inside the keyword cloud. The size of the keyword cloud may expand for more words or phrases.

keyword cloud

- | | | | |
|-------------------------------------|--------------------|--------------------------|---------------------------|
| → anti-aging | →calcium | →human genome | →restore young appearance |
| → anti-aging cocktails | → caves | → human growth hormone | →restore youthfulness |
| → bat genome | → echolocation | → humans are mammals | →software |
| → bat reproductive systems | →elderly | →immortality | →software differences |
| → bat research | → evolution | →live longer | →software similarities |
| → bats | →faint | →mammals | →sunlight |
| → bats are mammals | →fountain of youth | →mineral levels | →sunshine vitamins |
| → biohacking | →genes | →Minerals | →survive |
| → bloodwork test for healthy bats | →genetics | →nanotechnology | →thyroid hormone |
| → bloodwork test for healthy humans | →genomes | →nursing homes | →Vitamin D |
| | →growth hormone | →output | →vitamin levels |
| | →hair restoration | →pre-existing conditions | →vitamins |
| | →hormone levels | →reproduce | →zinc |
| | →hormones | →reproductive hormones | |

Virus trajectory

→ Only focusing on travel path to America, but Italy seems to be heavily involved in the path. I might look into Italy's potential role.

Virus goals

- Survive – it is assumed that COVID-19 is trying to survive.
- Find a Familiar Environment – it is assumed that COVID-19 is searching for a familiar environment.
- Reproduce – it is assumed that COVID-19 wants to reproduce to increase the size of its species. It still thinks it is a bat when it is actually COVID-19. I do not think this aspect of the bat DNA can be unlearned, but maybe with nanotechnology, the behavior can be controlled.

Virus modules identified

- People modules – modules shall serve to identify the people that COVID-19 infects.
- Behavior modules – module shall contain the logic that COVID-19 uses to match bat behavior in its DNA with locations in the human host that it thinks can perform these behaviors.
- Hormone Module – module shall contain the logic that COVID-19 uses to read the hormone levels of its host.
- Vitamin and Mineral Module – module shall contain the logic that COVID-19 uses to read the vitamin and mineral levels of its host.
- Other Health Problems Module – module shall serve to identify other health problems that increase the risk of COVID-19 infection.
- There may be other modules. – reserved in the event other modules are required.

Virus submodules identified

- Elderly people – module to identify elderly people.
- Non-elderly people – module to identify non-elderly people.
- Young people – module to identify young people.
- Teenagers – module to identify teenagers.
- Children – module to identify children.
- Young Children – module to identify young children.
- There may be other submodules.

COVID-19's Behavior

- COVID-19 does not appear to be aware.
- COVID-19 appears to be relying on preprogrammed behavior by nature.
- COVID-19 appears to be incapable of learning.
- COVID-19 has not learned to infect non-elderly, young people, teenagers, children, and young children like it infected some elderly people. For the moment, I do not think COVID-19 will evolve.
- COVID-19 has an aggressive preference for the elderly.
- COVID-19 has an even more aggressive preference for diabetics.
- COVID-19 has a slightly aggressive preference for cancer survivors. I'm not sure if this includes current cancer victims because a cancer survivor's body might differ from a current cancer victim's body on a molecular level. COVID-19 may be able to detect such a difference.
- COVID-19 appears to have a special evolutionary ability to determine a viable host for infection. I believe COVID-19 may be able to detect hormone levels of viable host. It may be able to detect the levels of other elements, such as vitamin and mineral levels, of potential hosts.
- By checking the hormone levels in the host, COVID-19 will reveal its preferred age group of infection.
- By checking the vitamin and mineral levels of the host, COVID-19 will reveal its preferred age group of infection.
- By checking for other medical conditions in the host, COVID-19 will reveal its preferred age group of infection as well as any other groups vulnerable to infection.
- COVID-19 checks these elements using evolutionary mechanisms for survival. It has bat DNA; Bat DNA appears to be the dominant DNA in COVID-19.
- Evolutionary mechanisms for survival are found in other species. Mice and sharks also use evolutionary mechanisms to ensure their survival.

COVID-19's Behavior

- Male house mice, like many animals, produce volatile pheromones that influence the reproductive physiology and behavior of females.
Source: *Pheromones and social status: Macho mice smell better* <https://phys.org/news/2019-03-pheromones-social-status-macho-mice.html>
- Source: *The Scent That Makes Mice Run Scared* <https://www.sciencemag.org/news/2010/05/scent-makes-mice-run-scared>
- Sharks detect death scent of other sharks.
Source: *Live Sharks Repelled By Dead Ones* <https://www.cbsnews.com/news/live-sharks-repelled-by-dead-ones/>
- COVID-19 is showing us that it prefers to infect very elderly people or very elderly diabetic people or some diabetic people. COVID-19 does not know who is diabetic nor does it know what elderly people look like.
- COVID-19 appears to be using a special unidentified evolutionary mechanism to find suitable hosts. This is like the mechanism that sharks, and mice unknowingly use to their advantages.
- COVID-19 appears to be using evolutionary mechanisms to return to a familiar environment, and therefore it appears to be infecting certain age groups.
- What could this evolutionary mechanism be? It appears that it could be related to the natural protection of DNA from being artificially altered or forced to randomly or suddenly evolve.
- With COVID-19, it appears the Chinese were trying to alter, or they did alter DNA.
- Evidently, DNA, might have a protective mechanism against this type of sudden altering even in a scientific setting.
- This could explain COVID-19's erratic yet specific behavior of infecting the elderly population at higher rates than infecting young people and children.
- I think the one key hormone that is shielding children from COVID-19 infection is growth hormone coupled with a few other factors related to their age. All of these factors combined, might also be shielding some non-elderly people and some young people.
- Growth hormone levels between children and elderly are going to be starkly different. Growth hormone levels between children and adults will be different also, but not starkly different.

COVID-19's Behavior: Growth Hormone Connection

- Typical growth hormone levels for adult males are roughly between 0.4 to 10 nanograms per milliliter (ng/ml). This is less than women.
- Typical growth hormone levels for adult females are roughly between 1 to 14 nanograms per milliliter (ng/ml). This is more than men, but less than children. In the beginning stages of the pandemic, it was circulated online that more men than women were falling ill to COVID-19. The slightly higher growth hormone levels in women could explain why.
- Typical growth hormone levels for children are roughly between 10 to 50 nanograms per milliliter (ng/ml). This is higher than men and women.

Source: *Medline Plus Medical Encyclopedia Growth hormone test* <https://medlineplus.gov/ency/article/003706.htm>

A different source has the following typical growth hormone levels for men, women, and children:

- Men have less than 5 ng/ml. This is less than women and children.
- Women have less than 10 ng/ml. This is more than men, but less than children.
- Children have between 0 to 20 ng/ml. This is typically higher than women and men.
- Newborns have between 5 to 40 ng/ml. This is typically higher than children, women, and men.

Source: *Medscape Drugs & Diseases Laboratory Medicine Growth Hormone* <https://emedicine.medscape.com/article/2089136-overview>

- Growth hormone levels decline with age. The elderly population has significantly low levels of growth hormone.

Source: *Growth hormone and aging: A challenging controversy* <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2682398/>

Bats and Growth Hormone

→ I could not find anything that explicitly listed the growth hormone levels of bats. This is currently required. I will try to find a way to get this information.

→ We do know that certain bats have a mutation that changes how they respond to growth hormone.

Source: *Genome analysis reveals insights into physiology and longevity of the Brandt's bat *Myotis brandtii**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3753542/>

Source: *How Tiny Bats Can Help Us Extend Human Life* <https://www.businessinsider.com/vampire-bat-genome-longevity-2013-8>

→ From this mutation, we infer that bats have growth hormone in their bodies like humans have growth hormone in their bodies.

COVID-19's Behavior: Growth Hormone Connection

→ Growth hormone is responsible for cell growth. It stimulates the growth of essentially all tissues of the body, including bone.

Source: *Growth hormone* <https://www.britannica.com/science/growth-hormone>

→ Since growth hormone stimulates cell growth, and bats are required to fly to eat food or they risk dying out from starvation, and bats possess growth hormone, bats would need an evolutionary mechanism to allow them to use the benefits of growth hormone without increasing their size.

→ I think this mechanism is in the form of a mutation that bats have related to growth hormone and insulin-like growth-factor 1 receptors.

→ This mutation, along with a few other factors, may give bats their ability to have exceptional lifespans.

Source: *Genome analysis reveals insights into physiology and longevity of the Brandt's bat *Myotis brandtii**

<https://www.nature.com/articles/ncomms3212>

Source: *The World Goes Bats: Living Longer and Tolerating Viruses* [https://www.cell.com/cell-metabolism/pdf/S1550-4131\(20\)30314-4.pdf](https://www.cell.com/cell-metabolism/pdf/S1550-4131(20)30314-4.pdf)

→ Bats are well known for their long lifespans.

→ Further, growth hormone is known as an anti-aging hormone. However, this topic is currently wildly debated. Some scientists say that growth hormone has no anti-aging benefits, while proponents say that growth hormone does offer anti-aging benefits.

Source: *Human growth hormone (HGH): Does it slow aging?* <https://www.mayoclinic.org/healthy-lifestyle/healthy-aging/in-depth/growth-hormone/art-20045735>

Source: *Growth hormone and aging: A challenging controversy* <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2682398/>

→ However, bats with their unique mutation related to growth hormone receptors, appear to have been able to harness the longevity effects of growth hormone without harnessing the cell growth properties of growth hormone. I believe bats achieved this ability using evolutionary mechanisms.

COVID-19's Behavior: Growth Hormone Connection Cont.

- If the bat mutation is not the cause of this unique ability that bats have, then bats might have very low levels of growth hormone compared to humans, and these low levels in bats might be close in range to the growth hormone levels of the elderly population.
- The potential low growth hormone levels of bats might be what causes them to remain small but might also contribute to their relatively long lifespan.
- COVID-19, with its preference for the elderly, and its 'distaste' for children, might indicate that its DNA was extracted from very old and relatively unhealthy bats. It has found a familiar host environment in the elderly population because this is the type of environment that is familiar to it.

COVID-19's Behavior: Diabetes and COVID-19 - Why the focus on relatively unhealthy bats?

- I decided to focus on relatively unhealthy bats because the Coronavirus has been infecting specific groups of the population. These are the elderly, population or people that have other medical conditions.
- Elderly people and people that have other medical conditions, often through no fault of their own, might be unhealthy due to their current situational circumstances.
- The elderly are in a position or situation in life that prevents them from receiving proper medical care. This could contribute to creating an unhealthy host environment that COVID-19 could easily infect.
- The same can be said about people that have other medical conditions that make them vulnerable to COVID-19 infection.
- Based on COVID-19's aggressive preference for the elderly and its similarly aggressive preference for some people such as diabetics, it appears that COVID-19 is searching for and infecting host that are familiar to the environment it was extracted from. This environment appears to be elderly bats. The elderly bats could have had medical conditions that made them relatively unhealthy when compared to other bats such as their younger counterparts.
- Alternatively, many animals including bats are used to research potential cures for various ailments that afflict humans. One such ailment is diabetes.

Source: *BATS CAN HAVE THEIR CAKE AND EAT IT*, Journal of Experimental Biology <https://jeb.biologists.org/content/215/5/v.2>

COVID-19's Behavior: Diabetes and COVID-19 - Why the focus on relatively unhealthy bats? (cont.)

→ Diabetic people may experience various symptoms associated with diabetes. There are various types of diabetes. However, one thing is common with diabetics and diabetes: diabetes can result in your blood having excess sugar.

Source: *Diabetes*, Mayo Clinic <https://www.mayoclinic.org/diseases-conditions/diabetes/symptoms-causes/syc-20371444>

→ Excess sugar in the blood can also be called high blood sugar.

→ High blood sugar levels occur when the body cannot make insulin such as is the case for type 1 diabetes.

→ high blood sugar levels also occur when the body cannot respond to insulin properly, such as is the case for type 2 diabetes.

Source: *When Blood Sugar Is Too High*, TeensHealth <https://kidshealth.org/en/teens/high-blood-sugar.html>

→ Thus, it is safe to conclude that diabetes will result in people experiencing high blood sugar levels.

→ According to the *Journal of Experimental Biology*, some bats such as nectar-feeding bats, have a high sugar diet and this diet results in these animals having high blood sugar levels. Despite the high sugar levels experienced by these types of bats, they do not experience detrimental sugar-related health problems, and they are exceptionally long lived. That is, they have a long lifespan (for their size).

Source: <https://jeb.biologists.org/content/215/5/v.2>

→ We know bats are mammals and we know humans are mammals.

→ We know that humans with diabetes have high blood sugar levels.

→ We know that some bats also experience high blood sugar levels, but they do not experience the negative consequences associated with high blood sugar levels.

→ COVID-19 appears to have bat DNA. COVID-19 also can easily infect humans using a certain mechanism that makes it easily transmissible. This aspect of COVID-19's behavior is still being researched.

→ However, COVID-19 may prefer infecting diabetic hosts because its components related to bat DNA may be able to detect high blood sugar levels in humans. It might be doing this on a molecular level.

→ Upon detecting these levels, COVID-19 may recognize a familiar environment to the one where it was extracted from, so it decides to infect the host.

→ Since COVID-19 is unaware of whom it is infecting, its behavior is based on many years of evolutionary experience.

COVID-19's Behavior: Diabetes and COVID-19 - Why the focus on relatively unhealthy bats? (cont.)

→ That experience has preprogrammed COVID-19 to search for a high blood sugar level environment because this is one of the types of environments that could be conducive to its survival. COVID-19 behaves this way because in detecting a high blood level environment, the bat DNA in COVID-19 probably 'thinks' it has found a bat host when it has actually found a human host to infect. Unfortunately, the human hosts that COVID-19 infects tend to be humans with diabetes. This problem is compounded when the infected diabetic person is also elderly.

COVID-19's Behavior: Diabetes, Flight, and Bats

→ Flying is beneficial to bats. Flying allows bats to obtain food as they fly to various locations in search of things to eat.

→ Some researchers believe that bats can survive with high blood sugar levels because they can fly.

Source: *BATS CAN HAVE THEIR CAKE AND EAT IT*, Journal of Experimental Biology

<https://jeb.biologists.org/content/215/5/v.2>

→ Bats are the only mammals that can fly. Bats have unique abilities related to flight that allows them to generate different wing shapes and motions that other animals cannot.

Source: *Bats In Flight Reveal Unexpected Aerodynamics*, Science Daily

<https://www.sciencedaily.com/releases/2007/01/070118161402.htm>

→ Flying is the most energetically expensive way to get around, but bats appeared to have evolved to meet its challenges because a bat's body, when skinned, reveals that it is predominantly comprised of shoulder and chest muscles.

Source: *Newly discovered bats are related to those associated with the pandemic* [https://www.cnn.com/2020/04/22/world/leaf-](https://www.cnn.com/2020/04/22/world/leaf-nosed-)

[nosed-](https://www.cnn.com/2020/04/22/world/leaf-nosed-bats-discovery-scn/index.html)
[bats-discovery-scn/index.html](https://www.cnn.com/2020/04/22/world/leaf-nosed-bats-discovery-scn/index.html)

→ Flying is a very taxing ability with a large amount of benefits aimed specifically at helping bats tolerate high blood sugar levels without any detrimental problems.

→ Researchers have speculated that certain bats have evolved physiological tolerances to glucose that allows these animals to avoid the negative consequences of high sugar diets, and the shorter lifespan typically associated with it.

Source: *BATS CAN HAVE THEIR CAKE AND EAT IT*, Journal of Experimental Biology

<https://jeb.biologists.org/content/215/5/v.2>

COVID-19's Behavior: Diabetes, Flight, and Bats (Cont.)

→ The researchers appear to be correct in believing bats have certain advantages that help them not experience negative effects typically associated with high blood sugar level environments.

→ For example, bats typically have very little fat, and are mostly shoulder and chest muscles. Shoulder and chest muscles will require energy for maintenance at the cellular level to remain healthy and active.

Source: *What Is The Role Of Glucose In Cellular Respiration?* <https://diabetestalk.net/blood-sugar/what-do-animals-use-glucose-for>

→ Since bats have very little fat, and they must remain light in order to fly, they must have evolutionary mechanisms to lose weight quickly. Apart from having special adaptive abilities to high blood sugar levels, bats often eat very fast to burn up energy, and they also frequently defecate to lose excess weight. This could be the reason that overweight people or obese people could be at greater risk to COVID-19 infection because if COVID-19, using evolutionary mechanisms, is able to detect an excess amount of fat, it could behave very strongly inside the human host. This could cause problems for the human host.

→ We know that bats are mammals. Mammals use Their muscles must be ready for sudden flight all the time either to escape predators or to hunt for food.

→ Bats not only have to have the blood sugar levels to maintain their muscles; they must have their blood sugar levels with enough energy to perform the taxing ability of flying as well as flying for long distances.

→ Bats do not have a choice in these matters because they cannot risk dying out. Further, bats must be able to fly for long distances on some occasions.

→ Bats do not have the option of using fat for energy the way humans do. Humans have multiple sources for potential energy the body can use. One source is carbohydrates. This is the body's chief source of energy.

→ Humans also have the option of using fat for energy, when carbohydrate energy is not readily available. Bats do not have the option of using fat for energy when their main source of energy becomes unavailable. Thus, from an evolutionary standpoint, it would make sense that they compensate for their lack of multiple energy sources by having one large main energy source, that would be, high blood sugar levels.

COVID-19's Behavior: Diabetes, Flight, and Bats (Cont.)

- However, we know that high blood sugar levels are dangerous and can cause diabetes in humans. Bats would also need evolutionary mechanisms to prevent the development of diabetes due to elevated blood sugar levels.
- The ability to fly, coupled with a few other factors appear to be what could prevent bats from developing diabetes even though they have high blood sugar levels. The ability to fly just requires so much energy, coupled with the energy requirement to just maintain muscles, then evolutionary mechanisms could allow for bats to have high blood sugar levels because they ensure the bats survival as a species.
- We know that bats are mammals. Mammals use Their muscles must be ready for sudden flight all the time either to escape predators or to hunt for food.
- Bats not only have to have the blood sugar levels to maintain their muscles; they must have their blood sugar levels with enough energy to perform the taxing ability of flying as well as flying for long distances.
- Bats do not have a choice in these matters because they cannot risk dying out. Further, bats must be able to fly for long distances on some occasions.
- Bats do not have the option of using fat for energy the way humans do. Humans have multiple sources for potential energy the body can use. One source is carbohydrates. This is the body's chief source of energy.
- Humans also have the option of using fat for energy, when carbohydrate energy is not readily available. Bats do not have the option of using fat for energy when their main source of energy becomes unavailable. Thus, from an evolutionary standpoint, it would make sense that they compensate for their lack of multiple energy sources by having one large main energy source, that would be, high blood sugar levels.

COVID-19's Behavior: Diabetes, Flight, and Bats (Cont.)

→Argument by analogy.

Source: Argument by Analogy , Wikipedia https://en.wikipedia.org/wiki/Argument_from_analogy

→Bats are mammals.

→Humans are mammals.

→Bat wings are very similar to human hands with a few extra bones.

→Bats have special evolutionary mechanisms that help them tolerate, and possibly require high blood sugar levels for survival.

→Humans experience high blood sugar levels, and often develop diabetes as a result of this condition.

→Humans do not have special evolutionary mechanisms to allow them to tolerate high blood sugar levels.

→Since bats and humans are mammals, and they share some characteristics, perhaps bats can be used as a cure for diabetes.

→How does nanotechnology fit into this cure?

→The nanotechnology, depending on its capabilities, would have to simulate the effects of bat flight inside a human, to then control the blood sugar levels.

→Humans cannot fly. Bats can fly. So what you can do is analyze what happens to bats when they start flying.

→I would assume the Chinese analyzed bat metabolism, blood sugar levels, possibly hormone levels during bat flight.

→They would have to analyze everything that happens to a bat during flight, to then generate an algorithm of behavior.

→This algorithm could be programmed into the nanotechnology to deliver the cure.

→The cure to diabetes could then be the total combined effects of the bat flight, but not the ability to fly itself.

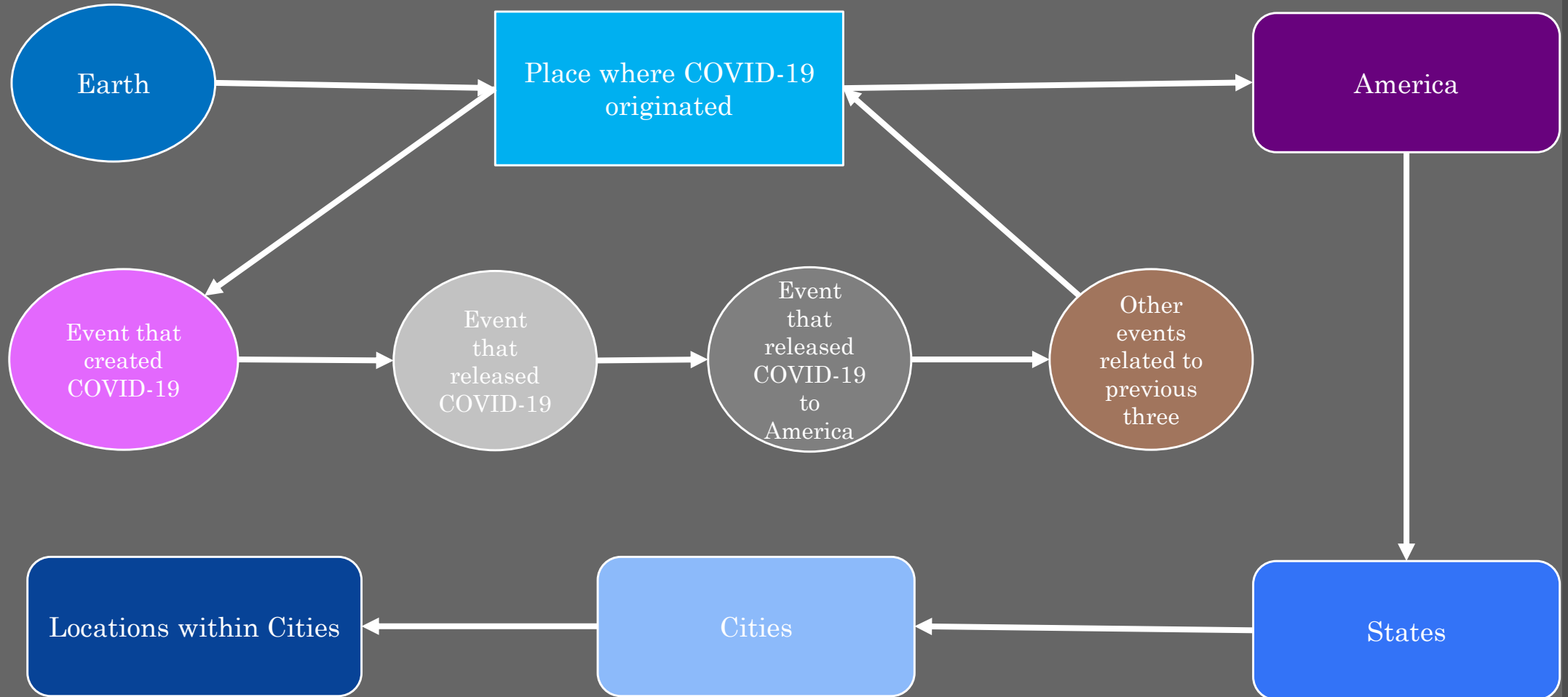
→In this sense, the nanotechnology could simulate the effects of bat flight inside a human and control the blood sugar levels without the use of insulin. Insulin could always be a backup.

→Is bat DNA required to simulate this effect. I am still thinking deeply about this.

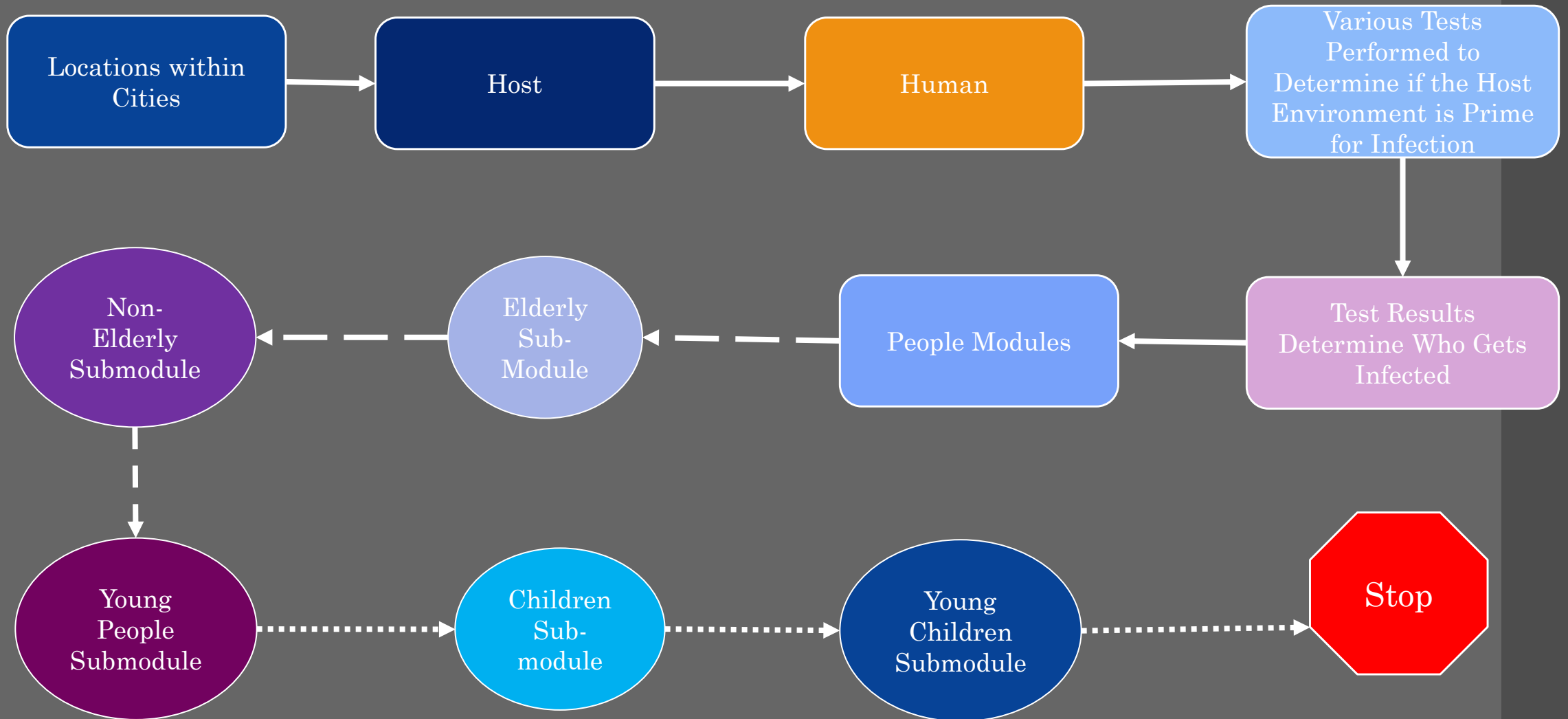
→Minor research into nanotechnology is required.

→This would require very sophisticated technology.

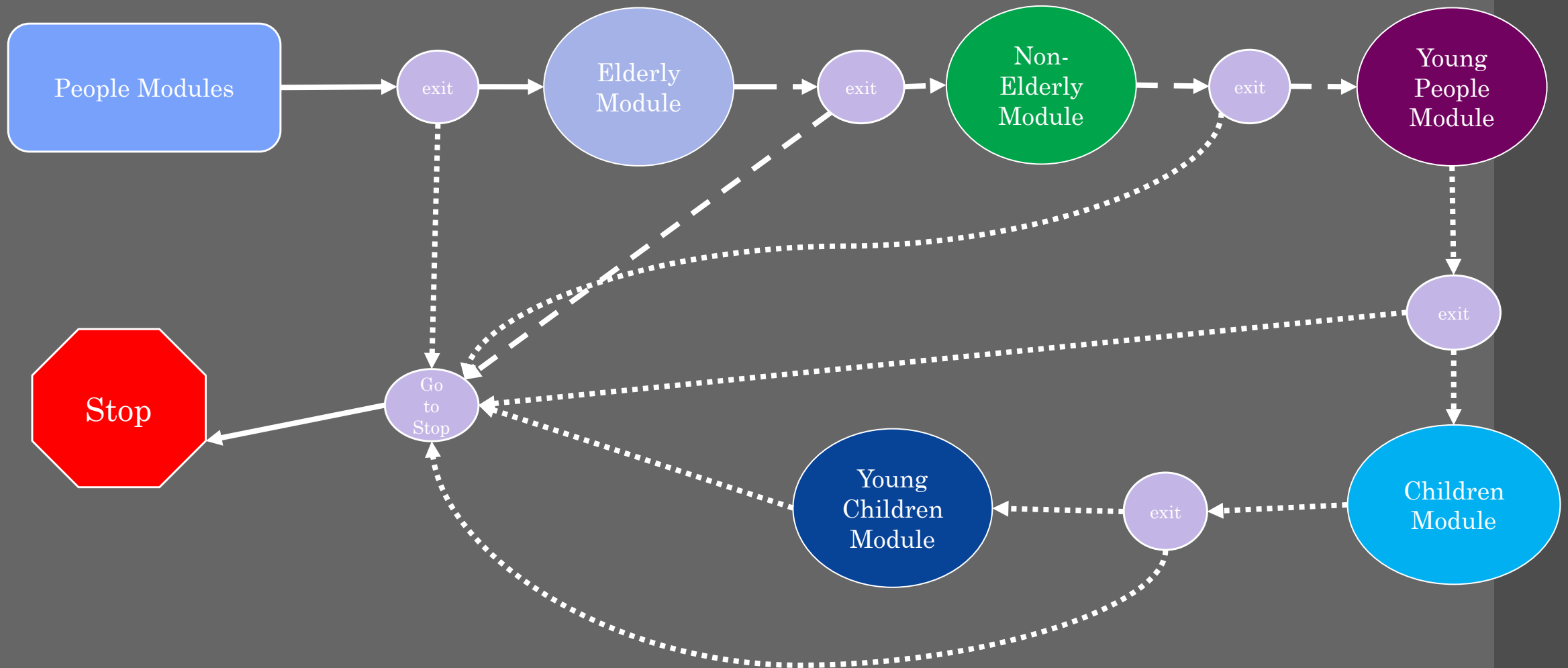
COVID-19 General Behavior Flowchart #1



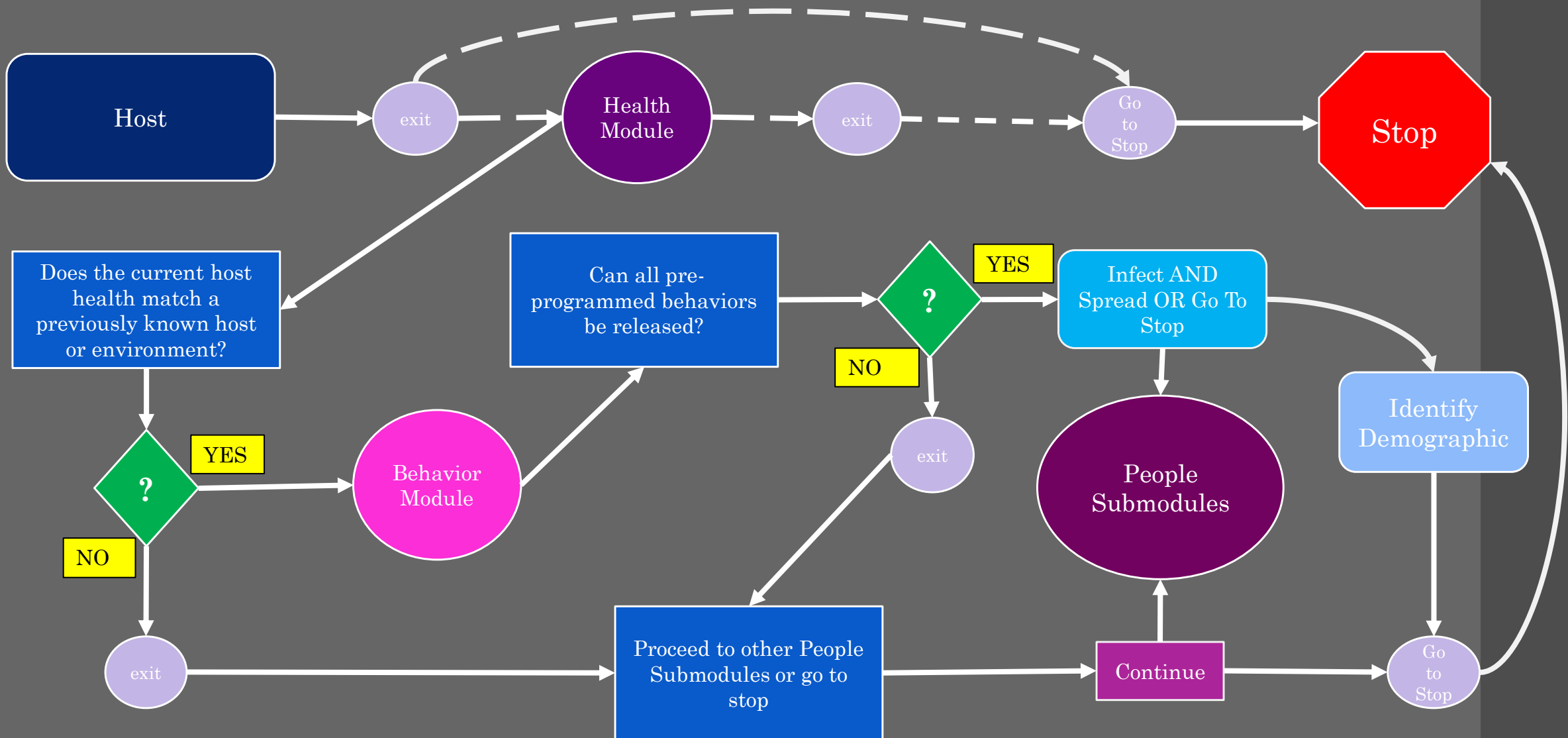
COVID-19 General Behavior Flowchart #2



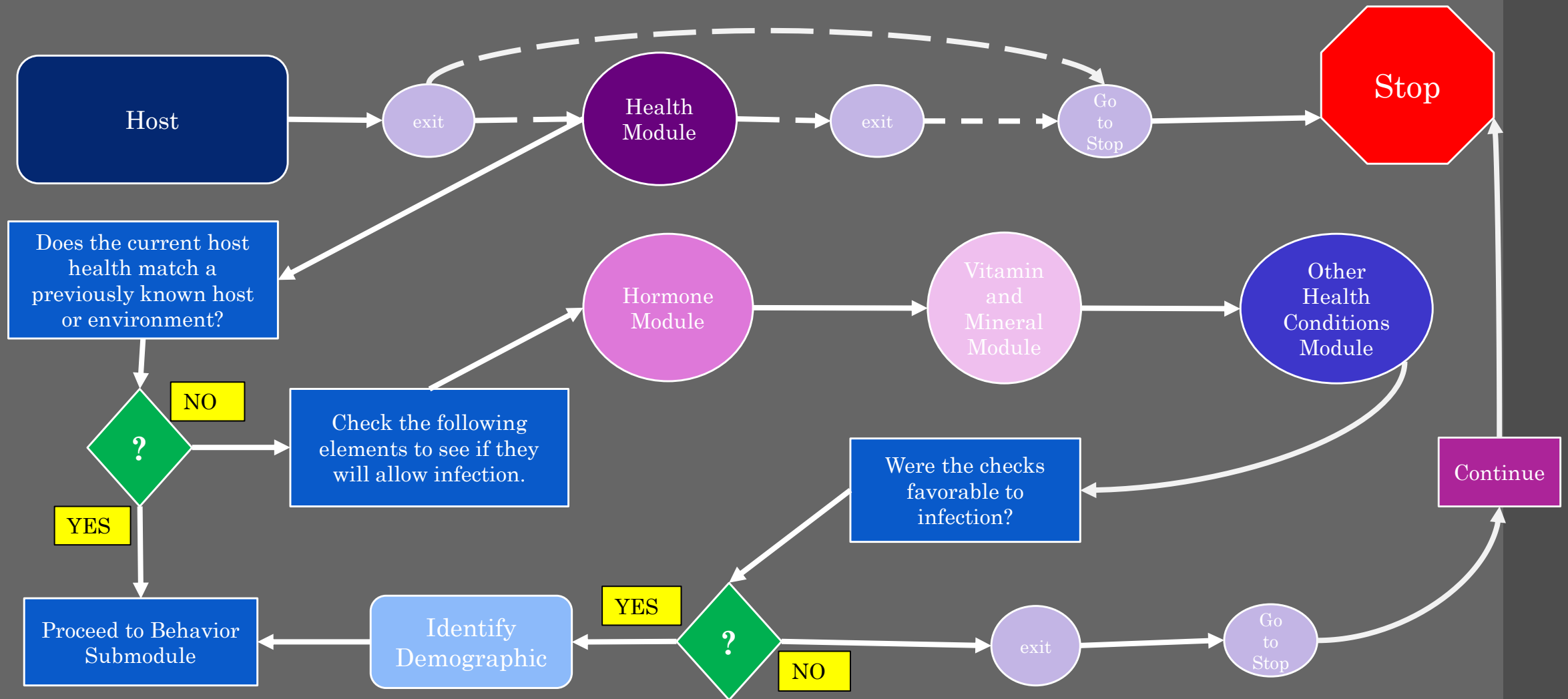
COVID-19 General Behavior Flowchart #3



COVID-19 Software Modules Flowchart #4

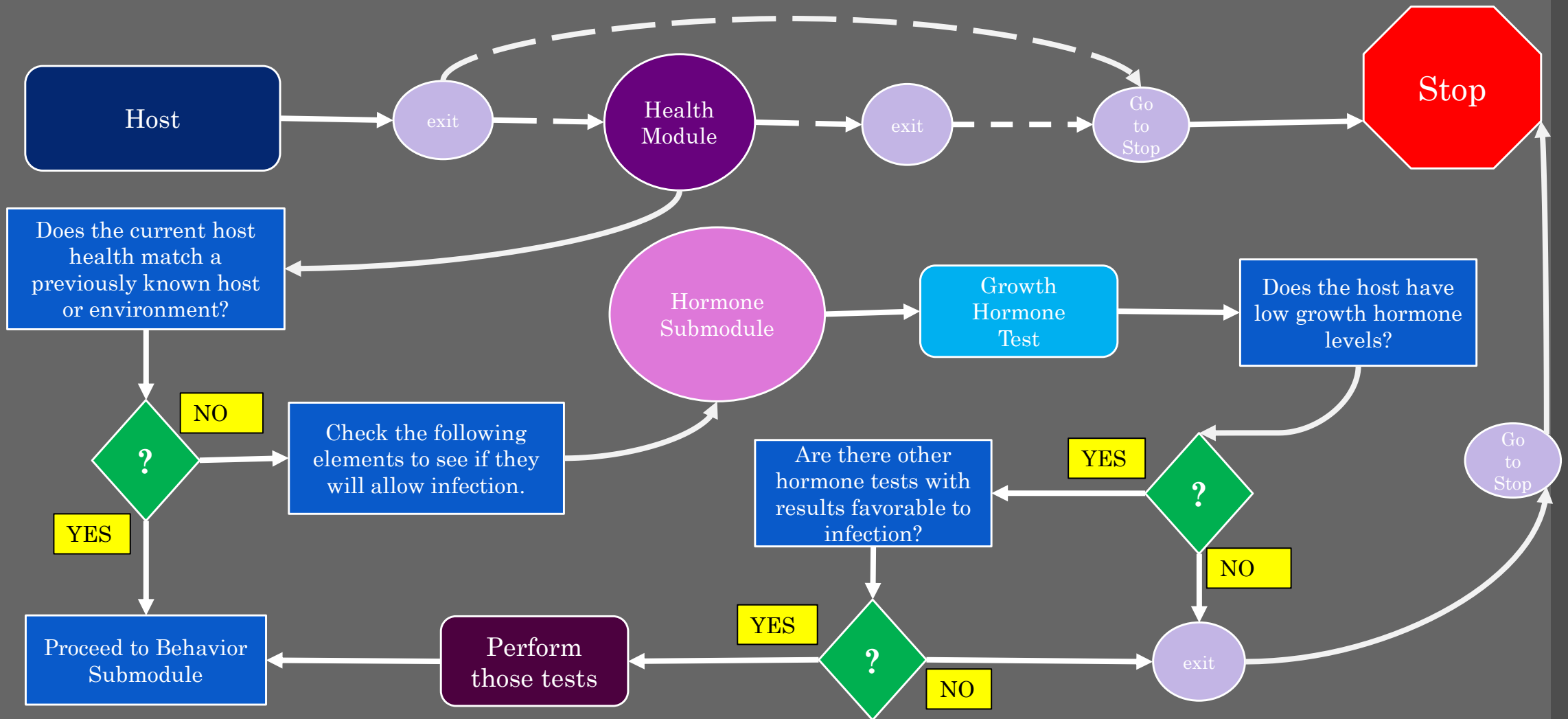


COVID-19 Software Modules Flowchart #5

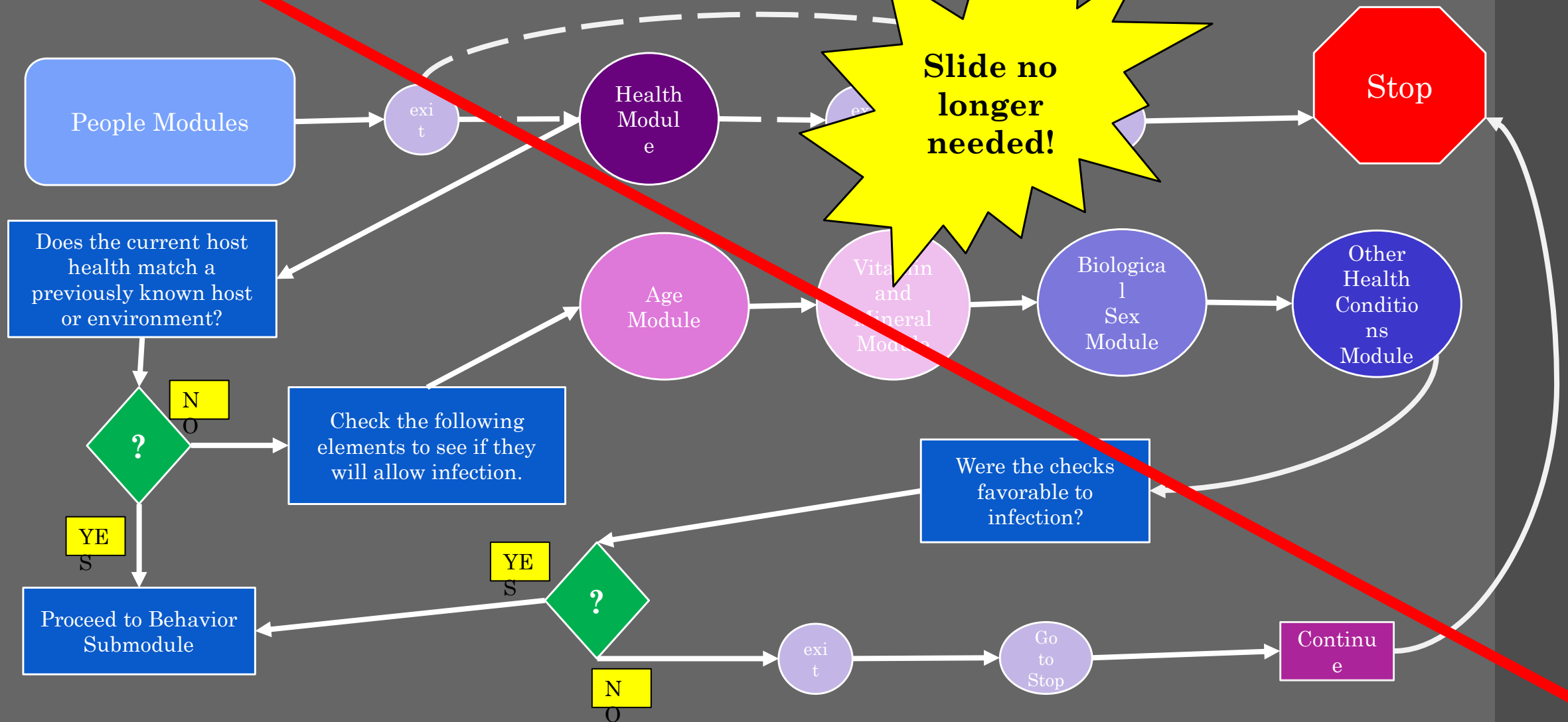


COVID-19 Virus Software

Hormone Submodule Flowchart #6



COVID-19 Software Modules Flowchart #5



COVID-19 Software Modules Flowchart #5

