Identifying and Mitigating Transmission of COVID-19 Along the Food Supply Chain in Minority Communities

1890 Land Grant Regional Network
Objectives

- Getting to know what SARS-CoV-2 is
- Understanding personal safety in the time of a pandemic
  - Testing
  - Vaccinations
- Identifying potential points of contamination along the food supply chain
- Mitigation practices
Background and Introduction

General Information on the virus

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COVID-19 - caused by the SARS-CoV-2 coronavirus
A health emergency deemed a pandemic by WHO
Spread primarily through person-to-person contact
Virus dispersed through droplets from
- Coughing
- Talking
- Sneezing
- Contact with contaminated surfaces

https://www.facebook.com/CDC/videos/205156894698376/
Infection Rate

- Successful Infection = Exposure to Virus x Time
  - Breathing releases 20 viral particles/min (50 min for infectious dose)
  - Speaking releases 200 viral particles (5 min for infectious dose)
  - Coughs/Sneezes releases 200,000,000 viral particles
- Estimated 44% of transmission comes from asymptomatic individuals

https://doi.org/10.1038/s41591-020-0869-5
Adapted from Hirschtick et al. Prevalent symptoms (%) among respondents with persistent symptoms at least 60 days post COVID-19 onset (n = 170). Licensed under CC-BY-NC-ND 4.0.
Level of Community Transmission (Alabama)

- https://covid.cdc.gov/covid-data-tracker/#cases_casesper100klast7days
Here comes the variants!!!

- Viruses change through mutations- variants
- Multiple variants of COVID-19 documented in US and globally
- Seems to spread easier and faster
- Increase in cases will put more strain on the health care systems due to increase hospitalizations/deaths

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Sars-CoV-2 Variants Circulating in the US


- Transmission rates of the VOC (Variants of Concern)

## Variants of Concern (VOC)

<table>
<thead>
<tr>
<th>VOC</th>
<th>United States</th>
<th>Alabama</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.1.1.7 (UK)</td>
<td>20,915</td>
<td>186</td>
</tr>
<tr>
<td>B.1.351 (SA)</td>
<td>453</td>
<td>2</td>
</tr>
<tr>
<td>P.1 (Brazil)</td>
<td>497</td>
<td>0</td>
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</tbody>
</table>


Numbers updated Sundays, Tuesdays, and Thursdays by 7 PM Eastern time

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Infection rates with/without variants

https://www.cdc.gov/library/covid19/index.html

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SARS-CoV-2 Survival on Different Surfaces

- It is possible to become infected from contaminated surfaces, but is considered low (Approx. 1 in 10,000)


- [https://www.youtube.com/watch?v=lQvhoFMdXJo](https://www.youtube.com/watch?v=lQvhoFMdXJo)

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If Someone in the Home has COVID-19

- [https://www.youtube.com/watch?v=KHCrYOGkLMM](https://www.youtube.com/watch?v=KHCrYOGkLMM)
How to Select and Use Disinfectants and Sanitizers

- [https://www.youtube.com/watch?v=mrp7xscZ4LA&feature=youtu.be](https://www.youtube.com/watch?v=mrp7xscZ4LA&feature=youtu.be)

- For list of disinfectants, go to [epa.gov/listn](http://epa.gov/listn)
6 Steps for Safe & Effective Disinfectant Use

Step 1: Check that your product is EPA-approved
Find the EPA registration number on the product. Then, check to see if it is on EPA’s list of approved disinfectants at: epa.gov/listn

Step 2: Read the directions
Follow the product’s directions. Check “use sites” and “surface types” to see where you can use the product. Read the “precautionary statements.”

Step 3: Pre-clean the surface
Make sure to wash the surface with soap and water if the directions mention pre-cleaning or if the surface is visibly dirty.

Step 4: Follow the contact time
You can find the contact time in the directions. The surface should remain wet the whole time to ensure the product is effective.

Step 5: Wear gloves and wash your hands
For disposable gloves, discard them after each cleaning. For reusable gloves, dedicate a pair to disinfecting COVID-19. Wash your hands after removing the gloves.

Step 6: Lock it up
Keep lids tightly closed and store out of reach of children.

coronavirus.gov
Cleaning And Disinfecting Your Home

Everyday Steps and Extra Steps When Someone Is Sick

How to clean and disinfect

Wear disposable gloves to clean and disinfect.

Clean

- Clean surfaces using soap and water. Practice routine cleaning of frequently touched surfaces.

High touch surfaces include:

Tables, doorknobs, light switches, countertops, handles, desks, phones, keyboards, toilets, faucets, sinks, etc.

Disinfect

- Clean the area or item with soap and water or another detergent if it is dirty. Then, use a household disinfectant.
- Recommend use of EPA-registered household disinfector.

Follow the instructions on the label to ensure safe and effective use of the product.

Many products recommend:

- Keeping surface wet for a period of time (see product label).
- Precautions such as wearing gloves and making sure you have good ventilation during use of the product.

- Disinfect household bleach solutions may also be used if appropriate for the surface. Check to ensure the product is not past its expiration date. Unexpired household bleach will be effective against coronaviruses when properly diluted.

Follow manufacturer’s instructions for application and proper ventilation. Never mix household bleach with ammonia or any other cleanser.

Leave solution on the surface for at least 1 minute

To make a bleach solution, mix:

- 5 tablespoons (1/3rd cup) bleach per gallon of water
- OR
- 4 teaspoons bleach per quart of water

- Alcohol solutions with at least 70% alcohol.

Soft surfaces

For soft surfaces such as carpeted floor, rugs, and drapes

- Clean the surface using soap and water or with cleaners appropriate for use on these surfaces.

cdc.gov/coronavirus
Impact on the Food Supply Chain

Production, Harvesting, Cleaning, Packaging, Processing, Transportation, Markets, Purchases, Home
Impact on the Food Supply Chain

- Negative impact on global economy
- Food Supply Chain (Farm to Table)- one of the most important sectors of economy
- COVID-19 – impacting entire process from field to consumers
- Considerable concern about food production, processing, distribution, and demand

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Vulnerable Populations

- Small and minority farmers, other vulnerable people are disproportionately affected
- Blacks and Hispanics are getting infected and dying at much higher rates than the rest of the population
- This inequality has led to most limited resource producers losing money, sometimes even their entire businesses

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Focused Training

- The 1890 Land Grant Institutions are highlighting health and safety training procedures for limited resource and minority farmers.
- Important to focus training that will directly impact small businesses and livelihoods of minority populations.
Focused Training

Important to protect and maintain health of people working in the food supply chain (FAO and WHO, 2020)

Ensuring the confidence of consumers is essential

Therefore, it’s important that everyone involved in the food supply chain (farmers/producers, distributors, retailers, etc.) are trained in mitigation strategies
The Production Level

- People are the #1 vector in spreading disease pathogens
- Must adjust ‘normal’ routine to ensure personal health as well as safety of the products on the farm
Possible Risks on the Farm

- Whether you’re farming produce or raising animals, extra care must be taken during this time.

- People- Anyone entering the farm
  - Yourself
  - Family members
  - Hired hands
  - Volunteers
  - Extension personnel
  - Veterinarians
  - Visitors
  - Customers
  - Others (utilities, etc.)
Possible Risks on the Farm

- Everyone entering the farm should be wearing a mask
- Post guidelines in a clear, conspicuous place so everyone can see
- Customers, extension personnel, veterinarians and others must follow the guidelines to be allowed on the farm

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Planting and Harvesting
Planting and Harvesting

- Masks must be worn at all times and should cover the mouth and nose (not worn below the nose or under the chin).
- All workers should be at least 6 feet apart in the field.
- Anyone showing signs of illness (fever, cough, cold), should not enter the farm.
Planting and Harvesting

- Hands must be thoroughly washed after using the restroom
- Wash hands for at least 20 seconds
- Wash then sanitize
- Make sure there is adequate amount of toilet paper, liquid hand soap (bar soap can harbor some pathogens and possibly contaminate the next user), disposable paper towels

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Planting and Harvesting

- If disposable gloves are worn, put a new pair on after leaving the restroom
- Make sure restrooms are frequently cleaned and disinfected
- Make sure there is a lined waste bin for collecting trash
Planting and Harvesting

- If lunch is eaten on the premises, be sure to have a designated area for eating while still maintaining social distancing.
- Do not allow visitors to bring pets on the farm (no reports yet of pets spreading the virus, but for sanitary purposes).
In some situations, it appears that the virus can spread from humans to animals.

Small number of animals, (cats and dogs) worldwide reported to be infected with the virus causing COVID-19 after coming in contact with people who are infected.

The risk from animals to people are considered very rare.

Planting and Harvesting

The same hygiene and mitigation practices mentioned previously must be applied everywhere on the farm.

Containers for harvesting must be carefully handled to avoid product contamination.
Planting and Harvesting

- Clean water must be provided for handwashing
- Workers should wash hands for 20 seconds
- All tools and equipment on the farm must be cleaned and sanitized before and after use
- If possible, it’s best not to share equipment and tools during this time
- Wear clean boots/shoes and clothes each visit to the farm
Postharvest Handling
Post-Harvest Handling and Sanitation

- Once produce are harvested, they must be handled before getting to the consumer
  - Washing
  - Sorting
  - Packing
  - Cooling
  - Storing
Post-Harvest Handling and Sanitation

- **Washing** - remove dirt/chemicals before storage/retail
- **Sorting** - remove damaged, discolored, decaying produce
- **Packaging** - pack in clean and sturdy containers to protect from contamination and damage during transportation
- **Pre-cooling** - done in chilled water or ice before storage at lower temperature - reduce microbial activity
Post-Harvest Handling and Sanitation

- Area where produce are cleaned (shed, outdoors) must be separate from other areas of farm activities
- If you are using the kitchen, clean and disinfect surfaces
- Area must be clean (no trash or standing water)
- Control pests if necessary (they can carry harmful pathogens that can cause diseases)
- Again, everyone should be wearing a mask
Post-Harvest Handling and Sanitation

- Arrange layout from dirty to clean
- This ensures that clean fresh produce won’t come in contact with possible contaminants from other produce
- Field containers must be separate from clean produce containers
Post-Harvest Handling and Sanitation

- Cleaning and sanitizing are separate actions
  - Cleaning is the physical removal of dirt or organic matter from surfaces
  - Sanitizing is the treatment of a clean surface to reduce or eliminate microorganisms

- https://www.youtube.com/watch?v=WBynfFM0fVo&feature=emb_logo
Post-Harvest Handling and Sanitation

- Cleaning and sanitizing surfaces - a 4-step process
  - Remove obvious dirt/debris from surface
  - Apply appropriate detergent and scrub
  - Rinse with clean water to remove dirt/debris
  - Apply appropriate sanitizer (that’s approved for food contact surfaces).
  - Rinse if required by label

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Backyard Processing
Backyard Processing (Poultry)

- Before processing begins, gather and clean all tools and surfaces
- If processing is being done with multiple people from multiple households, must follow CDC guidelines
- All workers keep safe distance, or set up partitions to separate each worker
- Workers should not be face to face with each other
- If fans are being used, angle so air does not blow across multiple people
Backyard Processing (Poultry)

- Keep separate sets of clothes and shoes while processing
- These clothes should not be worn more than once without washing
- Set up handwashing and hand sanitizing stations
- Personal protective equipment (gloves and masks) should be worn at all times while processing
- If gloves are damaged, replace immediately before continuing with the job at hand
- Clean more frequently than normal
Currently, there is no evidence that the virus is transmitted from birds to humans, however, other pathogens, for e.g., *Salmonella* does.

Therefore, take precautions to avoid any kind of contamination.

Make sure each workstation is separate, that means, areas for bleeding, scalding, plucking, eviscerating, cleaning, and chilling.
Backyard Processing (Poultry)

- Tables used for evisceration can either be stainless steel for easier cleaning, or any table with disposable plastic cover.
- Use different knives for each process to avoid cross contamination, or wash knives between each activity.
- Separate containers should be used at each stage of the process.
Backyard Processing (Poultry)

- Wear a new pair of gloves when moving between workstations. You do not want to transfer organisms from one to the next.
- Screen each worker for any symptoms like fever, chills, or cough before allowing them at any of the workstations.
- If any symptoms are detected, that person should not be allowed to work.
- Anyone who has been in contact with a COVID-19 positive individual, should not be allowed to work.
- That person should go into a 14-day quarantine and get tested.
Transportation/Distribution
Transportation/Distribution

- Proper handling of products (meat, fruits, vegetables) during transportation is essential
  - Maintains quality from farm to packing house to retail stores/markets/restaurants
- Transport vehicle must have clean floors and walls
- Containers must be clean
- Should be covered to prevent possible contaminants from landing on produce

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Transportation/Distribution

- The virus will only enter business premises if an infected person enters it or if contaminated products or items are brought in
- It is imperative to adhere to posted safety measures
- Masks must be worn at every stage
- It is preferrable to not have multiple passengers in the same vehicle, especially for long distances
- If more than one passenger is necessary, masks must be worn by everyone
Transportation/Distribution

- **Driver/Vehicle Guidelines**
  - Drivers must adhere to physical distancing rules when picking up goods and delivering them to customers
  - Drivers must take great care of their personal hygiene and wear clean protective clothing
  - Drivers and others who deliver agricultural produce to food retailers should not leave their vehicle during delivery
Transportation/Distribution

- **Driver/Vehicle Guidelines**
  - They should be aware of the potential risks of COVID-19 transmission through contact.
  - Drivers should be provided with:
    - Face coverings
    - Alcohol-based hand rub
    - Disinfectant and paper towels
Transportation/Distribution

- **Driver/Vehicle Guidelines**
  - The surfaces that are most likely to be infected with the virus are those that are frequently touched, such as:
    - Steering wheels
    - Door handles
    - Mobile devices
    - Containers etc.
Transportation/Distribution

- If possible, use disposable containers to avoid having to clean items before returning them to the delivery person/farm.
- Food containers should be kept separate from other cargo that could cause cross contamination.
Consumer/Retailer Handling of Food
Consumer/Retailer Handling of Food

- Risk of getting sick directly from eating or handling food is still considered low
- However, people can get the virus by touching a surface or object including food and food packages infected with the virus then touching their mouth, nose, or eyes

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Consumer/Retailer Handling of Food

- Wash hands with soap and water before and after handling food
- Use hand sanitizer containing at least 70% alcohol
- Cover all surfaces of the hand and rub in until dry

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Retailers - whether a corner store, coffee shop, or farmers market - adjust the usual layout so sellers and shoppers can practice proper social distancing.

- Wear a mask yourself and post signs to alert customers to wear masks.

- If possible, have customers enter and exit through different doors.
Consumer Handling of Food

- At the Store or Market
  - Wear mask in market or grocery store
  - Choose fresh produce that isn’t bruised or damaged
  - Pre-cut fruits and vegetable should be kept refrigerated or on ice
  - Keep fruits and vegetables separated from raw meat, poultry, and seafood
BEST PRACTICES FOR GROCERY SHOPPING

COVID-19

STAY HOME IF YOU ARE SICK

CONSIDER FOOD OR MEAL DELIVERY; HAVE FAMILY OR FRIENDS SHOP FOR YOU.

GO SHOPPING AT A TIME THAT'S LESS BUSY

USE SANITIZING WIPES TO CLEAN AND DISINFECT CARRIERS AND BASKETS

KEEP SOCIAL DISTANCE WHILE IN THE STORE (6- FEET APART)

BRING A GERMICIDE TO WIPE YOUR HANDS BEFORE AND AFTER SHOPPING

USE TAP AND PAY OR CREDIT/DEBIT CARDS FOR PURCHASES

USE SELF-CHECKOUT LINES WHERE POSSIBLE

USE CURBSIDE PICKUP OR GROCERY DELIVERY SERVICES

DON'T USE REUSABLE BAGS

WHEN HOME, WASH YOUR HANDS AFTER HANDLING AND PUTTING AWAY ITEMS

SOURCE: ILLINOIS DEPARTMENT OF PUBLIC HEALTH
Stay home if you are sick.
Consider food or meal delivery; have family or friends shop for you.

- Go shopping at a time that’s less busy.
- Use sanitizing wipes to clean and disinfect carts and shopping baskets.
- Use tap and pay or credit/debit cards for purchases to reduce the risk of transmission through money.
- Use curbside pickup or grocery delivery services.
- Keep social distance while in the store (6 feet or two arms-length from other shoppers and grocery store staff).
- Bring a germicide to wipe your hands before and after shopping.
- Use self-checkout lanes where possible to limit contact with employees.
- Don’t use reusable bags.

When you return home, wash your hands after handling packages and when finished putting items away.

Questions about COVID-19?
Call 1-800-889-3911 or email dph.sick@illinois.gov
Illinois Department of Public Health - www.dph.illinois.gov
Food Safety Tips

DURING COVID-19

Grocery Shopping
Use disinfectant to wipe down cart or basket.
Examine produce with your eyes, not hands. Wash before eating.
Wipe down reusable shopping bags before and after use.

Takeout & Delivery
Ask for no-contact delivery: pay ahead of time and have order left at door.
Wash hands after removing food from packaging and after throwing packaging away.

Meal Delivery Kits
Wash hands before opening boxes and after emptying them.
Practice normal safe food handling procedures, like separating meat and poultry from other foods.
Consumer Handling of Food

- At Home
  - Once packages are brought home from the market or store, wipe the outside with disinfectant or just soap and water before placing on kitchen counter.
  - Wash hands, kitchen utensils, food preparation surfaces (chopping boards and countertops), before and after use.
  - Wash fruits and vegetables under running water even if you do not plan to eat the peel (germs on peel and skin can get inside when you cut them).
Consumer Handling of Food

- At Home
  - DO NOT wash fruits and vegetables with soap and/or detergent
  - DO NOT use bleach solutions or other disinfectant products on food
  - Use disposable paper towels (if necessary) to dry fruits and vegetables
Consumer Handling of Food

- At Home
  - Refrigerate fruits and vegetables within 2 hours after cut, peel or cook (1 hour if outside temperature is 90° or warmer)
  - So far, there has been no reported incidence of COVID-19 in drinking water, however, water containers should be clean and handled with clean hands
  - Some instances of detection in untreated sewage water (very important to wash hands frequently)
Consumer Handling of Food

- *At Home*
  - Currently, there is no evidence of the virus infection caused by eating food including wild/game meat
  - However, hunters can get other diseases when processing or eating game or other meat
  - Practice good hygiene when processing
At Home

- DO NOT harvest animals that appear sick or found dead
- Keep meat clean, cool down as soon as possible after harvest
- After handling game or other meat, wash hands thoroughly with soap and water
- Clean and disinfect knives, equipment and surfaces that were in contact with the meat
Consumer Handling of Food

- At Home
  - Wash hands for 20 seconds
  - Cook all meat thoroughly
  - Raw wild meat or uncooked dishes containing blood of animals should not be eaten
Small Restaurant Owner?
Owner of a Small Restaurant?

- First and foremost, you want to keep employees, customers and community safe
- Follow CDC guidelines: Everyone must wear a mask
- Schedule staff so that safe distancing can be practiced at all times
- Encourage staff to take the pandemic seriously
- Offer sick leave when necessary

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Owner of a Small Restaurant?

- Contact-free exchange of food and equipment
  - Instead of passing food/equipment to each other, one employee set it down on a table, step away, and another pick it up
  - Other documents can be laid out on table and pick up one at a time by employees
- Prop open doors that are accessed frequently including doors to the kitchen, dish room, offices, and bathroom (if privacy can still be maintained)
Owner of a Small Restaurant?

- Communicate importance of hygiene and food safety protocols to employees
- Have well maintained handwashing stations
- Can transition to take-out until health professionals say it’s ok to resume dine-in
- Can transition to online menus, or if printed menus are used, either sanitize with EPA-approved product, or use single-use menus
Owner of a Small Restaurant?

- Contact-free payment methods
  - Can pay online with credit card
  - If paying online is not possible, make sure to wipe credit card device after each customer
  - If cash is used, wear gloves while handling
- Offer contact-free pickup
  - Place ready-to-go orders on a table with customers names
  - If there is a line, make sure they maintain social distancing

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Vaccinations
Vaccinations

- The Food and Drug Administration (FDA) has so far approved three vaccines for Emergency Use Authorization in the US
  - Moderna (2 doses)
  - Pfizer (2 doses)
  - Johnson & Johnson (1 dose)

Vaccinations

- If you get a COVID-19 vaccine that requires two shots, you are considered fully vaccinated two weeks after your second shot.
- If you get a COVID-19 vaccine that requires one shot, you are considered fully vaccinated two weeks after your shot.
- Getting vaccinated is one of many steps you can take to protect yourself and others from COVID-19.
Vaccinations

- According to news reports, you can take any one of the three vaccines that are available in your area.
- They are all effective in keeping you and your loved ones from becoming severely ill and out of the hospital.

https://www.facebook.com/CDC/videos/186242932933494/
What to Expect after Vaccination

- https://www.youtube.com/watch?v=EiLCpte7GSw
Vaccinations

- After you’ve been fully vaccinated against COVID-19, continue to take precautions when in public
- When you’re among unvaccinated people from more than one household

To find vaccination providers near you:
- Visit VaccineFinder.org
- Check your local pharmacy’s website to see if vaccine appointments are available
- Check your state health department to find additional vaccination locations in your area
- Check your local news outlets—they may have information on how to get vaccines
Alabama COVID-19 Vaccine Reports

https://www.alabamapublichealth.gov/covid19vaccine/data.html

https://alpublichealth.maps.arcgis.com/apps/opsdashboard/index.html#/e4a232feb1344ce0af9ac162f3ac4ba
Alabama National Guard Issuing Vaccines

Perry County o Marion Military Institute

March 30: Dallas, Lowndes counties
• Dallas County o Bloch Park: 108 Dallas Avenue, Selma, AL 36701
• Lowndes County o Old National Guard Armory: 5 Gilmer Hills Road, Fort Deposit, AL 36032

March 31: Bullock, Choctaw counties
• Bullock County o Union Springs Elementary School: 211 Conecuh Avenue West, Union Springs, AL 36089
• Choctaw County o Heritage Church of God: 161 Main Street, Gilbertown, AL 36908

April 1: Macon, Marengo counties
• Macon County o ALNG Armory: 1101 Chappie James Avenue, Tuskegee, AL 36083
• Marengo County o Old ALNG Armory Maintenance Shop: 2420 Alabama Highway 28 East, Linden, AL 36748

April 2: Russell, Wilcox counties
• Russell County o Chattahoochee Valley CC: 2602 College Drive, Phenix City, AL 36869
• Wilcox County o Wilcox Central High School: 1310 T.L. Threadgill Road, Camden, AL 36726

April 6: Butler, Conecuh counties
• Butler County o Southside Baptist Church: 211 King Street, Greenville, AL 36037
• Conecuh County

April 7: Crenshaw, Monroe counties
• Crenshaw County o Tom Harbin Farm Center: 816 Airport Road, Luverne, AL 36049
• Monroe County o Monroe County High School: 212 Tiger Drive, Monroeville, AL 36460

April 8: Clarke, Pike counties
• Clarke County o SP Hudson Park: 115 Park Street, Grove Hill, AL 36451
• Pike County o Sportsplex: 701 Enzor Road, Troy, AL 36079

April 9: Barbour, Washington counties
• Barbour County o Baker Hill School: 24 School House Road, Eufaula, AL 36027
• Washington o 111 River Road (Just off Hwy. 43), McIntosh, AL 36553
Posters

The following links are posters that can be printed out and posted in county offices, or send through email, or hand out (safely) to your clientele

Sources

- https://doi.org/10.1093/cid/ciab230
- https://www.cdc.gov/library/covid19/index.html
- https://www.cdc.gov/mmwr/volumes/70/wr/mm7011e1.htm?s_cid=mm7011e1_x
- Arellano, 2020; Dalton, 2020; EC, 2020; Pressman et al., 2020
I Got My COVID-19 Vaccine Stickers