

VACCINE TABLETOP EXERCISE

Vaccine Program Preparedness & Implementation



State Participant Prep Guide

Background:

Given the financial and technological investments needed for the judicious use of Foot-and-mouth disease (FMD) vaccination, this event was proposed and organized to provide states the first in a series of potential planning activities to discuss vaccination program planning opportunities and challenges. The overall goal is to use this event to coordinate **the establishment of a national vaccine planning working group** comprised of State Animal Health Official (SAHO) appointed representatives who will continue to collaborate to advance their state and national vaccine-related planning efforts moving forward.

Due to the COVID-19 pandemic and related travel challenges, the originally proposed in-person tabletop exercise format was shifted to a virtual workshop/tabletop. Seeing this virtual shift as an opportunity for both greater participation and breadth of discussion, the invite list was expanded from 6 to 24 of the largest food animal production states in the nation. The virtual format – along with the relationships that will be developed in this exercise – have value in that they will test 1) our ability to advance the subject and 2) our ability to convey complex ideas and work through varied opinions in a virtual/real-time atmosphere which could be utilized to great affect if applied during an actual event. Thus, as you participate, please understand that this is a first step in a national (and proposed ongoing) effort to understand how to plan effective vaccination programs in our states to not only benefit the industries within our borders but also ensure the health and welfare of the national herd.

After the four-day event, there will be a series of virtual hotwash meetings in which summarized information from each day will be shared back with all participants. An after-action report will also be disseminated to the full group.

Goals:

1. Foster collaboration by creating a community of state representatives who are tasked with developing state vaccine plans and who have interest in furthering regionalization and compartmentalization components through continued collaboration
2. Provide guidance to USDA regarding both where states are in their current vaccine planning and preparedness efforts and what states need to further these efforts
3. Identify best approaches from states who may be further along in the cycle of vaccine plan development (plus any planning gaps/improvement plan points)
4. Promote initial discussions about state-level vaccine planning perspectives that could lead to a national-level vaccine planning perspective that supports the way that US production infrastructures actually exist and function

Key Concepts:

This workshop/tabletop will touch on the critical activities highlighted in Table 1 below.

Table 1. Critical Activities

Etiology and Ecology	Biosecurity	National Veterinary Stockpile
Case Definitions	Quarantine and Movement Control	Wildlife Management and Vector Control
Surveillance	Continuity of Business	Animal Welfare
Diagnostics	Regionalization for International Trade	Modeling and Assessment Tools
Epi Investigation and Tracing	Mass Depopulation and Euthanasia	Appraisal and Compensation
Information Management	Disposal	Finance
Communication	Cleaning and Disinfection	National Response Framework and National Incident Management System
Health and Safety + PPE	Vaccination	

The concept of readiness depicted in Figure 1 will be used as the foundation for the assessment of capabilities mentioned in vaccine plans/planning efforts.

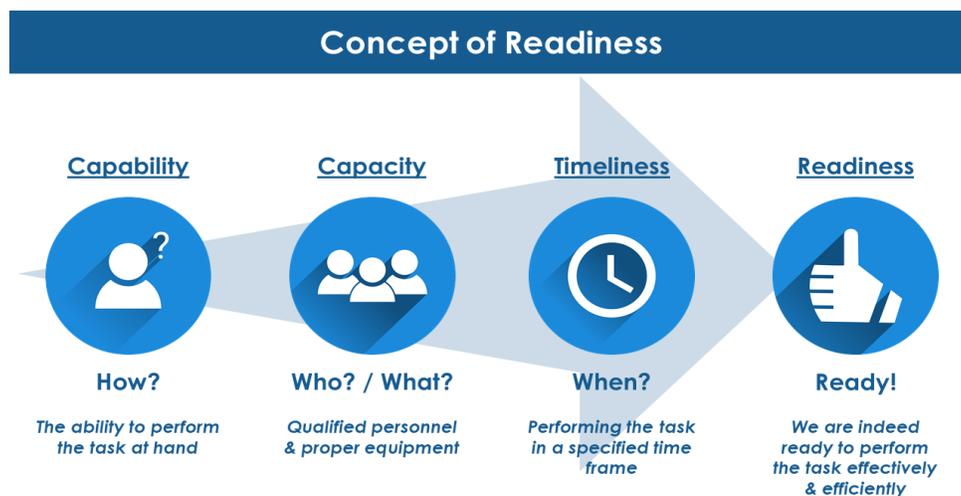


Figure 1. Concept of Readiness

Readiness is an evaluation of the ability to perform a capability (task) stated in your plan to the capacity needed and within the timeframe necessary to achieve the desired outcome. In our current Foreign Animal Disease (FAD) plans, we do not use this concept to help us evaluate the validity of our proposed strategic approaches. It is critical to utilize the concept of readiness to better understand what operational options could be effectively employed as well as when to shift between the various strategic approaches available. For every capability listed in your plan, you should evaluate your readiness to perform that task. A critical component affecting strategic decision-making is the realistic understanding of your readiness to perform each task you list as an available option. It may be helpful to try and assess the readiness for tasks listed in your vaccine plan (existing or theoretical) to determine how likely it is that you can perform them to the level that will be needed in reality. For those tasks where you have not achieved readiness, consideration could then be given to if/how you can increase your capability/capacity/timeliness. This gap analysis process may help identify areas for plan improvement. If the listed capabilities, capacities, or timeliness do not effectively match the scale/scope of the event, then other options should be developed/employed. We will use the concept of readiness during discussions that occur in our breakout groups.

Days 1-3
May 24-26, 2021

Scenario:

You are an invited participant based on your state's national standing in either the dairy, swine, or beef production sectors. We will use a very basic scenario that is not farm- or state-specific. It is meant to provide a starting point for states to enter into discussion with one another to problem-solve and assist one another in developing planning considerations.

For this event, please consider the direction and actions you would take on behalf of your state. In future iterations building off of our initial efforts here, we could certainly drill down further, but let's take things slowly understanding that most states in attendance do not yet have plans ready to be fully tested. Therefore, consider our time together to be either a) a workshop-type event for plan-building (if your state does not have a plan) or b) a more tabletop-like event where you can test your plan alongside the ideas of your fellow states (if your state is a bit further along and has a draft plan). Though you are working under a state-centric perspective, remember that as our efforts mature, we will want to think/plan in closer alignment with how our industries actually operate and how the virus will attack (i.e., without regard for state jurisdictional borders, requiring us to work regionally and compartmentally where possible).

For your state, consider your actions as if an outbreak were to occur in the production areas most at risk due to large numbers of animal, product, or feed movements. Defensive measures (biosecurity, movement restrictions, surveillance, etc.) would be maximized at the first notification of an increased risk and certainly upon recognition of an initial outbreak. Our offensive options currently focus on eliminating the virus and or taking away its fuel (i.e., unprotected animals) and include 3D and vaccination. In this exercise, we are going to focus on increasing animals' immunity through vaccine as our offensive response to the outbreak. We will assume that in the areas we are considering using vaccine, 3D measures are not available due to a lack of readiness or because they are not the best option; therefore, we are forced to rely on vaccination. As the outbreak occurs/progresses, efforts to request vaccine begin.

Note: Understandably, various vaccine strategies could be employed depending on the details of the outbreak, the production type, the state, etc. However, in this exercise, we will not focus on a particular strategy but rather on the overall ability to effectively initiate and manage a vaccine program with the knowledge that all strategies will have some key concepts in common. For this event, those key strategic concepts include:

1. Containment strategies refer to using vaccination in a ring and zone approach in an attempt to prevent spread. When using these strategies, remember that to create a barrier of protected animals, a certain percentage (85%) of animals have to be vaccinated in a timely manner (1-2 days) and no later than 10 days after discovery of an infected premises. Otherwise, these strategies will have little impact on disease spread and vaccine will be wasted (as CEAH modeling efforts will show in the pre-webinars).
2. Protective strategies refer to more targeted efforts to prevent and protect designated species/premises from becoming infected. These strategies can apply to whole production centers or to individual premises, and again, timeliness and effective percentages of vaccinated animals within the herds you are trying to protect have to be considered.

3. Accredited veterinarians have been proposed to perform/oversight the implementation of many parts of the vaccine program. Some suggested tasks within this proposed role include: receiving and transporting vaccine from state-sponsored staging areas to farm, administration, documentation, tagging, and performing surveillance on vaccinated farms. As these activities are absolutely critical, it will be important to assess the readiness of your state's accredited veterinarians.
4. Where possible, it has been proposed that producers will vaccinate animals on their premises. Again, as this task (capability) is crucial to vaccination efforts, evaluating the readiness of producers to vaccinate their herds will be an important aspect of the planning process, as well.

Breakout Groups:

To facilitate and manage discussions in our virtual setting, states participating will be divided into 3 breakout groups each day. To drive the discussion, the planning team has developed a “herd” of questions related to vaccine planning. Some questions will be asked of all groups to allow for consensus-building; whereas, other questions will only be asked to a single breakout group in an attempt to cover more topics. Your breakout group will have a dedicated facilitator who will guide you through the narrative and associated questions as well as move the breakout group along if discussion goes overly long on any one question. Please note: your breakout group may not have time to work through all of the questions below during the actual exercise, but the planning team thought it may be useful to provide them all for your consideration. Our hope is that they may be helpful as individual state planning efforts progress as well as help inform where to focus future discussions for the proposed National Vaccine Planning Working Group.

Monday, 5/24: Dairy

Breakout Group 1: Idaho, Michigan, Pennsylvania
Breakout Group 2: Minnesota, New York, Wisconsin
Breakout Group 3: California, New Mexico, Washington, Texas

Tuesday, 5/25: Swine

Breakout Group 1: Iowa, Illinois, Nebraska, Missouri
Breakout Group 2: North Carolina, Ohio, Oklahoma
Breakout Group 3: Minnesota, Indiana, Kansas

Wednesday, 5/26: Beef

Breakout Group 1: Oklahoma, South Dakota, Kentucky, Kansas, California
Breakout Group 2: Texas, Iowa, North Dakota, Nebraska
Breakout Group 3: Missouri, Wisconsin, Montana, Colorado

The sections that follow include a mixture of facilitator narrative and questions. The narrative – which your facilitator will use as his/her script during the workshop – is being shared so that you have as much context as possible going into the exercise. The specific questions that will be asked of you during the workshop are highlighted in yellow for easier identification.

Breakout Group 1

Dairy States (5/24): Idaho, Michigan, Pennsylvania

Swine States (5/25): Iowa, Illinois, Nebraska, Missouri

Beef States (5/26): Oklahoma, South Dakota, Kentucky, Kansas, California

Section 1

Note: All three breakout groups will answer the questions in Section 1 to help facilitate the consensus needed for building the management foundation of a state → national vaccine plan.

Facilitator's Narrative:

Let's get the discussion started in your breakout group with the following questions about how your state's Incident Management Team (IMT) structure will organize the task of vaccination:

Grp1/Q1: As part of your planning process, has your state identified the following management components of a vaccination program and described associated roles and responsibilities for the associated positions?

*For examples, see Figures 2 and 3

- A. Policy Group (potential members could include the State Veterinarian, Commissioner of Agriculture, Emergency Management Director, Area Veterinarian In Charge, and/or others)
- B. Vaccine Advisory Committee (a group of technical specialists consisting of subject matter expert (SME) representatives such as livestock association representatives and veterinarians, packer/processing industry reps, university representatives (economists, laboratories, FMD SMEs, cooperative extension reps), and/or any veterinarians with previous FMD-response experience (see Iowa's Draft Vaccine Program Plan))
- C. A vaccine program component within Operations (Vaccine Branch or Group)

Grp1/Q2: Has your state identified personnel who could serve in these positions and possibly even participate in developing/revising your response plan?

Facilitator's Narrative:

To support continuity of plan development, creating a position or permanently adding a task to an existing position's description rather than informally tasking an individual may allow for a more permanent solution, especially knowing that the use of vaccine is likely to expand over time.

For reference, see California Department of Agriculture's Incident Command Structure (ICS) organizational chart (Figure 2 below). California places their vaccination group under the Disease Surveillance Branch Director. Figure 3 depicts how an Operations Vaccine Branch could be

organized including where the Vaccine Advisory Committee would come into play. Understanding that ICS allows for states to establish and most importantly expand their operational structure as needed, the most important things to consider is whether or not your state has 1) incorporated these types of response components (A, B, C, above) and 2) considered how to increase the functional capacity tied to them. Understanding that a good deal of initial work needs to be done in order to even request vaccine, an additional question could be: does your plan state that the vaccine component of the IMT would be activated at the outset of an outbreak?

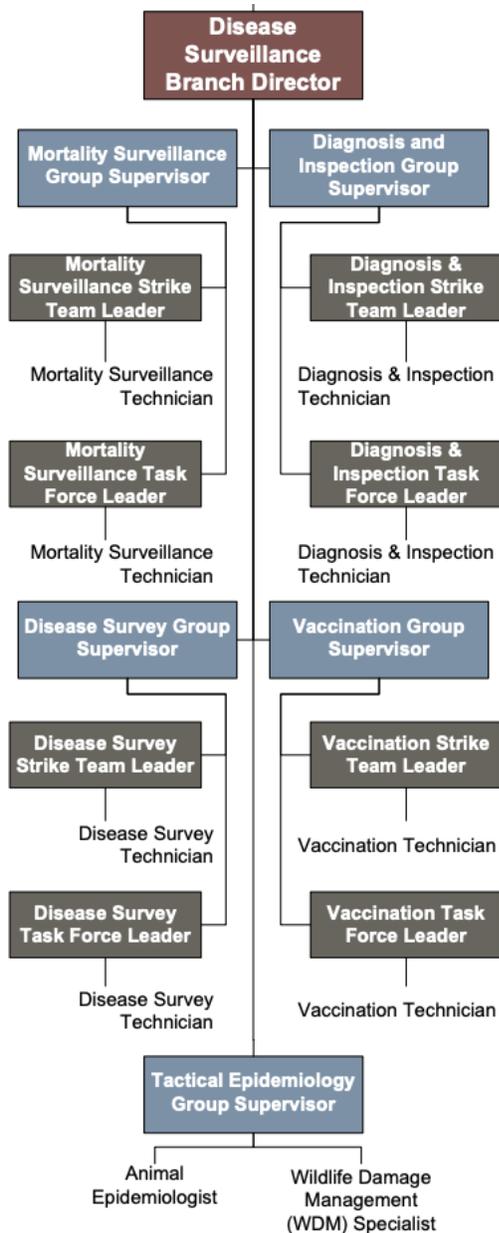


Figure 2. CDFA ICS Org Chart

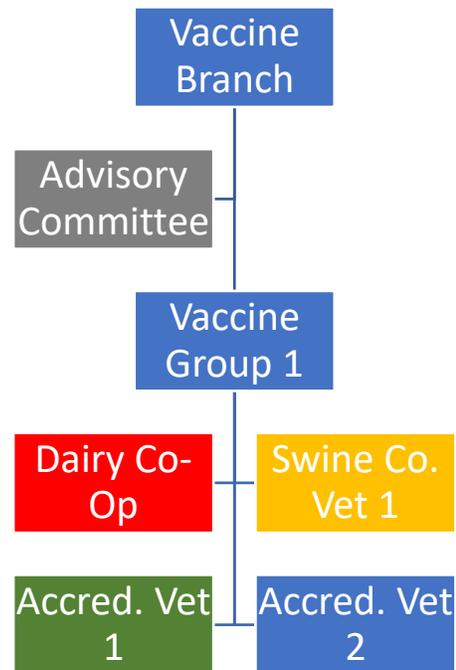


Figure 3. Vaccine Branch Org Chart

Facilitator's Narrative:

As so often happens with limited staff, many state-level personnel become dual-tasked for response activities. Building effective plans requires dedicated staff and time. Most professional response agencies designate personnel to specific activities that allow for effective planning, exercising, and responding. For example, Fire and Emergency Management have dedicated IMT personnel who build and exercise plans during the quiet times and then operate those plans during events. There is no substitute for having dedicated personnel help build a plan that they know they will be responsible for executing in a real event.

Grp1/Q3: Does your state have dedicated vaccination program IMT staff for pre-event vaccine plan development, and who would serve in vaccination program activities post-outbreak?

Grp1/Q4: Have personnel in the Policy Group, Vaccine Advisory Committee, and IMT Operations been trained to perform their roles/responsibilities effectively? If yes, discuss how they were trained. If not, briefly discuss the training you think would be needed.

Facilitator Notes:

- Policy Group members need to be knowledgeable about strategies, prioritization, and timelines for requesting vaccine.
- Vaccine Advisory Committee members should be knowledgeable about all aspects of state and national-level vaccine plans and how vaccine can be used to protect their state's industries (possibly including knowledge of models based on the use of vaccine in their specific food animal populations).
- The Operations Vaccine Branch Manager should be knowledgeable in all operational aspects of vaccine programs including strategies, prioritization, and modeling focused on the use of vaccine in their state's food animal populations.

Facilitator's Narrative:

For consideration, most states will likely utilize a state level IMT for their FMD response as opposed to using county-based IMTs. This means that the state's IMT structure will manage the vaccine program at all levels, including at individual premises (strike team/task force). Thus, the IMT will need to be prepared to include and manage accredited veterinarians as they would oversight/implement the majority of the program activities at the premises level. We will discuss whether the structures portrayed in Figures 2 and 3 are reasonable representations of how your state's plan would incorporate vaccine components of the IMT.

Grp1/Q5: Does your state plan to use Category II Accredited Veterinarians to oversight premises activities which may include: receiving and transporting vaccine from state-sponsored staging areas to farm, administration, documentation, tagging, and performing surveillance on vaccinated farms?

Grp1/Q5a: If not, who does your plan propose to perform these roles instead?

Grp1/Q5b: If yes, discuss how well you think your state's accredited veterinarian population is trained/prepared to 1) carry out the tasks listed above and 2) function as part of an IMT (i.e., understand how ICS functions).

Grp1/Q6: Does your plan recommend that further oversight on premises would be performed by designated state employees/representatives (e.g., akin to the Case Manager role for infected premises) in addition to the assigned accredited veterinarian?

Section 2

Facilitator's Narrative:

Having tackled some of the critical organizational planning tasks, let's move on and discuss the considerations of personnel based on their designated role, the information they might need to perform their tasks, and how best to account for such in our pre-event planning activities. One of the first things to consider before requesting vaccine is how to determine an estimate of how much you will actually need. To do so, both the details of the specific outbreak and your understanding of your susceptible population (plus how you plan to work them) play a huge role.

We know that states may choose to use USDA National Agricultural Statistics Service (NASS) data. Some states have invested in confidential, state-level production databases (e.g., North Carolina Department of Agriculture's database cannot be FOIA'ed) while others have invested in commercial databases. Importantly, these databases contain both animal population demographics and producer contact information to facilitate communication.

Grp1/Q7: Does your state have the ability to quickly determine the location of production facilities and number/types of animals that exist in your borders so that you could calculate the amounts of vaccine you would need (based on your chosen vaccine strategy/prioritization plan) for your request to USDA? Discuss what tools (e.g. internal databases, commercial software solutions) you would use to estimate the numbers of vaccine you would need.

Grp1/Q8: Does your state have the ability to contact owners in order to include them in a vaccination campaign? What method will you use to contact them? Conversely, if you do not already have producer contact information in an existing database, will you rely on producers to contact you to participate/request vaccination? If so, how would that be done?

Facilitator Notes: Non-registered, independent producers with susceptible animals are a challenge common to all states when working response efforts.

Grp1/Q9: How will your state account for independent producers when determining your vaccination request numbers pre-event and/or at time of event? Later, how do you plan to inform those producers of vaccination program details?

Facilitator Notes: Comparing NASS-type data with officially registered PIN data could help us understand the magnitude of any existing gaps in our records. Some states have suggested going door-to-door while others have proposed outreach efforts that would require producers to reach out to become part of the vaccination program. Another consideration may be to work with accredited veterinarians or cooperative extension representatives to identify producers in their areas, using the veterinarians as direct points of contact for the producers. Discuss briefly any planning considerations you have for this challenge.

Facilitator's Narrative:

Okay, now it's time for a reality check to make sure that we are creating a vaccine plan that will be grounded in accuracy. The target goal to establish herd immunity in a susceptible population of animals to contain spread is 85%.

Grp1/Q10: Do you know where at least 85% of your susceptible animals are located (and have the ability to contact producers) to allow for a vaccination campaign to occur within 7-10 days to meet the time constraints that modeling suggests would be needed for a successful vaccine containment effort?

Facilitator's Narrative:

Now, let's consider a critical disease containment/response concept: zoning. Many zoning considerations discussed to date (and exercised in previous events many of us participated in) have focused on using 3D as our initial containment strategy. Today, we want to discuss zoning considerations when vaccination is being used as our primary containment response option.

Facilitator Notes:

Some general zoning considerations when 3D is our initial response option are listed below. These are, of course, still valid, we will not ignore them.

- Traceback/forward information
- Index case details (e.g., comingled stockyard vs. isolated cow calf with no movements in the last three months)
- Density of production/distance between premises
- Types of production in the area surrounding the outbreak premises and associated risk factors (animal movements, sharing of resources like AI, vaccination crews, markets, etc.)
- Potential impacts of wildlife, weather, etc.

Based on modeling information from CEAH, vaccination will not make a statistical difference in containing an outbreak in a control zone if the timeframe from outbreak to administering vaccine is greater than 10-15 days.

Grp1/Q11: Which of the below factors should be considered based on how you plan to use vaccine to contain an outbreak? How would you rank them?

1 = not important | 2 = somewhat important | 3 = highly important | 4 = unsure/need more info

- A. Lag time between vaccine request and vaccine arrival
- B. Ability to accurately identify and communicate with premises in your state
- C. Ability of producers to vaccinate their own herds
- D. Production infrastructure and how industry operates (e.g., relationship to feedmills, multi-site production, marketing, and processing)
- E. Staging of vaccine to facilitate distribution
- F. Overlapping of production infrastructure across multiple state borders such that a regional vaccination program may be needed

Facilitator's Narrative

As you consider the above factors and how you will estimate the amount of vaccine needed for your strategy/strategies, a recently developed tool may prove quite valuable. Dr. Jim Roth at Iowa State University's Center for Food Security and Public Health has developed an [FMD Potential Spread Estimator](#) to help states more accurately estimate their vaccine needs in a designated area by accounting for the impact of spread and understanding that there will be lag time between request and arrival.

Grp1/Q12: According to your answer about Factor F above, should states with overlapping production infrastructures work together to understand how/when they might request vaccine jointly?

Section 3

Facilitator's Narrative:

So far, we have considered some key points involved in using vaccination during an outbreak to contain area spread based on geographic relationships. Now, let's consider the use of vaccine as a protective measure and discuss your state's prioritization protocols to identify which premises/animals should be vaccinated. USDA has developed a great [basic protocol](#) which very briefly summarized says: vaccinate cattle first, with calves and dairy receiving highest priority; then swine with sows and breeding stock; then finishers; then sheep and goats. For this section, consider that large (but not unlimited) amounts of vaccine are available such that you will still need to prioritize premises/types of animals for your request.

Grp1/Q13: What types of premises/animals would you plan to prioritize for vaccination in a protective measure strategy? What is your reasoning?

Facilitator Notes:

Some goals for using a protective strategy include: premises preservation of valuable genetics, allow necessary animal movements (e.g., to prevent animal welfare issues) or product movements, protect adjacent crops/feed, the potential for involvement of wildlife/feral animals

Grp1/Q14: Should livestock premises located near sale barns, processing facilities, feed mills, and other such high-impact locations be considered as a priority for a protection vaccination approach?

Grp1/Q15: Would it be helpful to know how other states are prioritizing protective vaccination efforts? Do you think states should collaborate to develop protective prioritization schemes?

Facilitator's Narrative:

As many endemic diseases have shown us, disease agents may spread by transport of animals/products, feed, or fomites to neighboring farms and even across state lines. The food animal livestock production infrastructure is truly a network of overlapping business models that inherently share risks that can lead to the spread of disease.

Grp1/Q16: Have you worked to understand the business models of your livestock production industries in order to be able to vaccinate from a network risk model (in addition to an area/zoning model)? If so, how?

Facilitator Notes:

A suggestion might be that the Vaccine Advisory Committees of states who trade with one another meet with the National Vaccine Planning Working Group to discuss how to leverage vaccine across the infrastructure rather than by state borders. Are there other suggestions?

Facilitator's Narrative:

Let's discuss the value of the following considerations in protecting premises and production systems using a network model:

1. Having regional and national industry representatives serving on Vaccine Advisory Committees and participating in National Vaccine Working Group meetings
2. Animal and product movement maps that show transport connections
3. Work crew and vendor maps from those serving industries

Facilitator Notes:

Perhaps discuss the use of pre-event modeling to estimate amount of vaccine needed to mitigate risks across the entire industry infrastructure; discuss the value of having CEAH modeling team collaborate with university SMEs (both epidemiologists and production experts) on this type of effort.

Grp1/Q17: Do you think states that serve as corridors for interstate movements of livestock should assess related risk, and (given additional risk is found), request vaccine to immunize animals along those corridors?

Additional Questions for Future Discussion:

- Please feel free to add questions here

Breakout Group 2

Dairy States (5/24): Minnesota, New York, Wisconsin

Swine States (5/25): North Carolina, Ohio, Oklahoma

Beef States (5/26): Texas, Iowa, North Dakota, Nebraska

Section 1

Note: All three breakout groups will answer Section 1 questions to help facilitate the consensus needed for building the management foundation of a state → national vaccine plan.

Facilitator's Narrative:

Let's get the discussion started in your breakout group with the following questions about how your state's Incident Management Team (IMT) structure will organize the task of vaccination:

Grp2/Q1: As part of your planning process, has your state identified the following management components of a vaccination program and described associated roles and responsibilities for the associated positions?

*For examples, see Figures 2 and 3

- D. Policy Group (potential members could include the State Veterinarian, Commissioner of Agriculture, Emergency Management Director, Area Veterinarian In Charge, and/or others)
- E. Vaccine Advisory Committee (a group of technical specialists consisting of subject matter expert (SME) representatives such as livestock association representatives and veterinarians, packer/processing industry reps, university representatives (economists, laboratories, FMD SMEs, cooperative extension reps), and/or any veterinarians with previous FMD-response experience (see Iowa's Draft Vaccine Program Plan))
- F. A vaccine program component within Operations (Vaccine Branch or Group)

Grp2/Q2: Has your state identified personnel who could serve in these positions and possibly even participate in developing/revising your response plan?

Facilitator's Narrative:

To support continuity of plan development, creating a position or permanently adding a task to an existing position's description rather than informally tasking an individual may allow for a more permanent solution, especially knowing that the use of vaccine is likely to expand over time.

For reference, see California Department of Agriculture's Incident Command Structure (ICS) organizational chart (Figure 2 below). California places their vaccination group under the Disease Surveillance Branch Director. Figure 3 depicts how an Operations Vaccine Branch could be

Facilitator's Narrative:

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Grp2/Q3: Does your state have dedicated vaccination program IMT staff for pre-event vaccine plan development, and who would serve in vaccination program activities post-outbreak?

Grp2/Q4: Have personnel in the Policy Group, Vaccine Advisory Committee, and IMT Operations been trained to perform their roles/responsibilities effectively? If yes, discuss how they were trained. If not, briefly discuss the training you think would be needed.

Facilitator Notes:

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- The Operations Vaccine Branch Manager should be knowledgeable in all operational aspects of vaccine programs including strategies, prioritization, and modeling focused on the use of vaccine in their state's food animal populations.

Facilitator's Narrative:

For consideration, most states will likely utilize a state level IMT for their FMD response as opposed to using county-based IMTs. This means that the state's IMT structure will manage the vaccine program at all levels, including at individual premises (strike team/task force). Thus, the IMT will need to be prepared to include and manage accredited veterinarians as they would oversight/implement the majority of the program activities at the premises level. We will discuss whether the structures portrayed in Figures 2 and 3 are reasonable representations of how your state's plan would incorporate vaccine components of the IMT.

Grp2/Q5: Does your state plan to use Category II Accredited Veterinarians to oversight premises activities which may include: receiving and transporting vaccine from state-sponsored staging areas to farm, administration, documentation, tagging, and performing surveillance on vaccinated farms?

Grp2/Q5a: If not, who does your plan propose to perform these roles instead?

Grp2/Q5b: If yes, discuss how well you think your state's accredited veterinarian population is trained/prepared to 1) carry out the tasks listed above and 2) function as part of an IMT (i.e., understand how ICS functions).

Grp2/Q6: Does your plan recommend that further oversight on premises would be performed by designated state employees/representatives (e.g., akin to the Case Manager role for infected premises) in addition to the assigned accredited veterinarian?

Section 2

Facilitator's Narrative:

Success – your vaccine request has been filled and vaccine is being prepped to be shipped your way. As presented during the prep webinars, you remember that your window to receive, store, transport, and administer vaccine to the animals in your designated area is 7-10 days after the outbreak to effectively accomplish your containment goals.

Before jumping right into distribution and implementation challenges, let's discuss an overarching logistical planning consideration that may assist the effort greatly: **pre-event contracting**. An argument could be made that without contracts, there is less certainty that personnel resources will be prepped and ready. Contracts that state terms of activation/deployment, tasks/equipment to be provided, training requirements, and logistics information would provide those responding with a better understanding of their individual roles, responsibilities, and financial compensation. Pre-event contracting could help planners assess the overall readiness status of their production centers related to executing a vaccine campaign effectively. A national perspective for all vaccine request approaches is that NO STATE should request vaccine if they do not have the resources to administer it in an effective timeframe. Therefore, let's discuss the value of pre-event contracts as a planning approach.

Grp2/Q7: Have you already developed contracts for any vaccine program-related tasks? If so, please share any lessons learned. If not, share whether you see value in doing so moving forward.

Grp2/Q8: Which vaccine program tasks (if any) do you think should be contracted pre-event?

Facilitator's Narrative:

Another thing to consider is who should initiate the contracting process given there are a number of potential options (e.g., government representatives, producer associations, accredited veterinarians, cooperative extension). USDA supports a producer/Category II accredited veterinarian relationship where producers are responsible for paying veterinary costs not covered by USDA (Iowa's plan works off of this approach).

Grp2/Q9: Do you think producers and Category II accredited veterinarians should enter into contractual relationships pre-event using templates provided by the Department of Agriculture? If so, share any challenges would you anticipate encountering?

Facilitator Notes:

Some contracting considerations for discussion include:

- Contracts would spell out potential roles: accredited veterinarians, vaccination crews, handling crews, tagging crews, transport crews, etc.
- Pre-event contracts could help lay the foundation for assessing amounts of vaccine needed, assessing readiness of local resources, and identifying potential gaps.
- Pre-event contracts could support understanding veterinary capacity and the need for contingency planning efforts by identifying the point where known resources would be exhausted.
- Contracts could work to provide consistency in performance of response activities as well as provide a foundation for the evaluation of such.
- Pre-event contracts could assist the implementation of longer-term vaccination efforts where producers would bear the cost of the vaccination program.

Facilitator's Narrative:

Any successful vaccine program will require outreach to all producers and involved veterinarians. Clear and effective messaging – as seen in ongoing COVID-19 vaccination efforts – will help all stakeholders understand how the vaccine program is working at every level.

Grp2/Q10: Have you developed any plans for vaccine program messaging? If so, are you using your communication plans to engage with your stakeholders and help prepare pre-event? What types of information do the messages contain?

Facilitator Notes:

Messages could be used to explain the program, recruit producers and veterinarians, describe roles and responsibilities, describe the contracting process (if applicable)

Section 3

Facilitator's Narrative:

Getting back to the great news that vaccine has arrived in your state: let's work on getting vaccine properly stored and distributed.

Grp2/Q11: Does your state's plan have cold-chain stability protocols outlined for transporting, storing, and administering vaccine (specific to your state's proposed vaccination program)?

Grp2/Q12: Does your plan provide for the use of regional or satellite staging of vaccine to assist distribution from the beginning, or will you shift to this setup as the size of your vaccine program increases?

Facilitator Note:

North Carolina and other states developed a regional sampling and materials distribution concept that identifies (pre-event) a number of locations where surveillance supplies could be stored and then sample collection could occur for highly pathogenic avian influenza (HPAI) response. The Department of Agriculture partnered with local Emergency Management to identify the locations and provide logistical support.

Grp2/Q13: Who would transport vaccine from your state staging site(s) to premises?

Facilitator Note:

A couple of options could include 1) a Category II accredited veterinarian transports the vaccine to either their own storage site or straight to the premises or 2) contractors are employed for transportation of vaccine directly to a veterinarian, local storage site, or premises.

Grp2/Q14: Given the likelihood that the next FAD we face may be a pandemic zoonotic where vaccines are crucial for both humans/animals, have you discussed the potential for partnering with Emergency Management and Public Health for cold-chain stability/storage and distribution of vaccines?

Facilitator's Narrative:

One consideration is the need for reporting of bottlenecks, inefficiencies, failures in distribution and administration, etc. that could jeopardize vaccine effectiveness. Some related questions include: should vaccine be repackaged to reduce waste, where would that handling occur, and under what circumstances? Is it a good idea to stage vaccine at the local level for ongoing vaccine operations allowing just in time (JIT) delivery and providing contingency supply options? This could include staging at a contracted resource site that would work as part of the overall distribution process such as veterinary clinics or even pharmacies.

Grp2/Q15: How do you plan to deal with the following handling/supply challenges?

- A. Repackaging to avoid waste
- B. JIT delivery of vaccine to producers who have run out of supply for whatever reason (e.g., broken vials, delivery syringe malfunctions, etc.)

Facilitator Notes:

Local staging may come more into play in areas where there is ongoing vaccination to allow for more nimble handling/supply. Also, an expensive but valuable resource could be the National Guard, especially for situations where options were limited.

Grp2/Q16: Will you allow vertically-integrated production systems and co-ops to play a role in vaccine staging and distribution (working in conjunction with associated Category II accredited veterinarians)?

Additional Questions for Future Discussion:

- Are all of the previously discussed contractual arrangements contained in your state's plan sustainable over longer operational periods of time (12+ months).
- Looking at the logistics contained in your vaccine plans, do you have contingency plans for instances where a secondary event such as a natural disaster could occur simultaneously? Could the aforementioned contracting process assist in developing such contingency plans?
- Could County Extension offices serve as local vaccine coordination centers (e.g., for storage and repackaging)?

Breakout Group 3

Dairy States (5/24): California, New Mexico, Washington, Texas

Swine States (5/25): Minnesota, Indiana, Kansas

Beef States (5/26): Missouri, Wisconsin, Montana, Colorado

Section 1

Note: All three breakout groups will answer Section 1 questions to help facilitate the consensus needed for building the management foundation of a state → national vaccine plan.

Facilitator's Narrative:

Let's get the discussion started in your breakout group with the following questions about how your state's Incident Management Team (IMT) structure will organize the task of vaccination:

Grp3/Q1: As part of your planning process, has your state identified the following management components of a vaccination program and described associated roles and responsibilities for the associated positions?

*For examples, see Figures 2 and 3

- G. Policy Group (potential members could include the State Veterinarian, Commissioner of Agriculture, Emergency Management Director, Area Veterinarian In Charge, and/or others)
- H. Vaccine Advisory Committee (a group of technical specialists consisting of subject matter expert (SME) representatives such as livestock association representatives and veterinarians, packer/processing industry reps, university representatives (economists, laboratories, FMD SMEs, cooperative extension reps), and/or any veterinarians with previous FMD-response experience (see Iowa's Draft Vaccine Program Plan)
- I. A vaccine program component within Operations (Vaccine Branch or Group)

Grp3/Q2: Has your state identified personnel who could serve in these positions and possibly even participate in developing/revising your response plan?

Facilitator's Narrative:

To support continuity of plan development, creating a position or permanently adding a task to an existing position's description rather than informally tasking an individual may allow for a more permanent solution, especially knowing that the use of vaccine is likely to expand over time.

For reference, see California Department of Agriculture's Incident Command Structure (ICS) organizational chart (Figure 2 below). California places their vaccination group under the Disease

Surveillance Branch Director. Figure 3 depicts how an Operations Vaccine Branch could be organized including where the Vaccine Advisory Committee would come into play. Understanding that ICS allows for states to establish and most importantly expand their operational structure as needed, the most important things to consider is whether or not your state has 1) incorporated these types of response components (A, B, C, above) and 2) considered how to increase the functional capacity tied to them. Understanding that a good deal of initial work needs to be done in order to even request vaccine, an additional question could be: does your plan state that the vaccine component of the IMT would be activated at the outset of an outbreak?

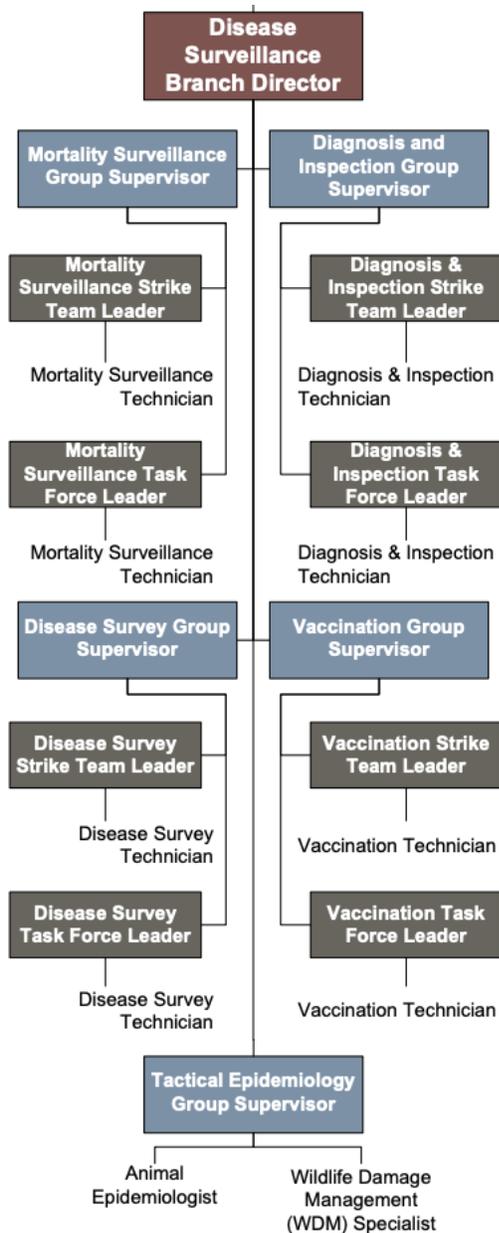


Figure 2. CDFA ICS Org Chart

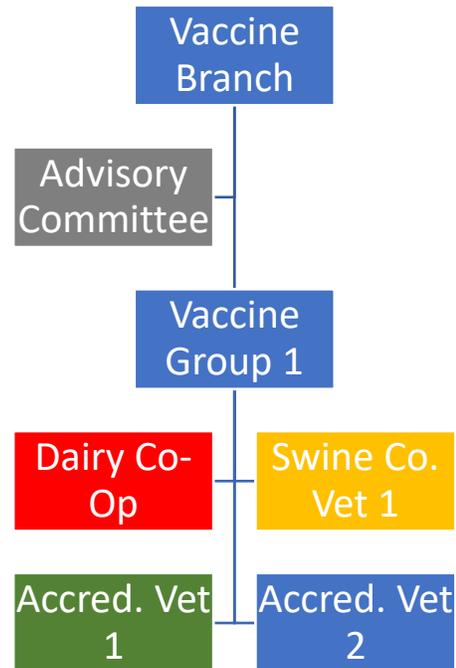


Figure 3. Vaccine Branch Org Chart

Facilitator's Narrative:

As so often happens with limited staff, many state-level personnel become dual-tasked for response activities. Building effective plans requires dedicated staff and time. Most professional response agencies designate personnel to specific activities that allow for effective planning, exercising, and responding. For example, Fire and Emergency Management have dedicated IMT personnel who build and exercise plans during the quiet times and then operate those plans during events. There is no substitute for having dedicated personnel help build a plan that they know they will be responsible for executing in a real event.

Grp3/Q3: Does your state have dedicated vaccination program IMT staff for pre-event vaccine plan development, and who would serve in vaccination program activities post-outbreak?

Grp3/Q4: Have personnel in the Policy Group, Vaccine Advisory Committee, and IMT Operations been trained to perform their roles/responsibilities effectively? If yes, discuss how they were trained. If not, briefly discuss the training you think would be needed.

Facilitator Notes:

- Policy Group members need to be knowledgeable about strategies, prioritization, and timelines for requesting vaccine.
- Vaccine Advisory Committee members should be knowledgeable about all aspects of state and national-level vaccine plans and how vaccine can be used to protect their state's industries (possibly including knowledge of models based on the use of vaccine in their specific food animal populations).
- The Operations Vaccine Branch Manager should be knowledgeable in all operational aspects of vaccine programs including strategies, prioritization, and modeling focused on the use of vaccine in their state's food animal populations.

Facilitator's Narrative:

For consideration, most states will likely utilize a state level IMT for their FMD response as opposed to using county-based IMTs. This means that the state's IMT structure will manage the vaccine program at all levels, including at individual premises (strike team/task force). Thus, the IMT will need to be prepared to include and manage accredited veterinarians as they would oversight/implement the majority of the program activities at the premises level. We will discuss whether the structures portrayed in Figures 2 and 3 are reasonable representations of how your state's plan would incorporate vaccine components of the IMT.

Grp3/Q5: Does your state plan to use Category II Accredited Veterinarians to oversight premises activities which may include: receiving and transporting vaccine from state-sponsored staging areas to farm, administration, documentation, tagging, and performing surveillance on vaccinated farms?

Grp3/Q5a: If not, who does your plan propose to perform these roles instead?

Grp3/Q5b: If yes, discuss how well you think your state's accredited veterinarian population is trained/prepared to 1) carry out the tasks listed above and 2) function as part of an IMT (i.e., understand how ICS functions).

Grp3/Q6: Does your plan recommend that further oversight on premises would be performed by designated state employees/representatives (e.g., akin to the Case Manager role for infected premises) in addition to the assigned accredited veterinarian?

Section 2

Facilitator's Narrative:

Some plans (for example, Iowa's draft plan) state that the Policy Group would collaborate with the Vaccine Advisory Committee to make decisions regarding changes in strategic direction.

Grp3/Q7: What resources from the federal level would be useful in assisting states when needing to change vaccine strategy?

Facilitator Notes:

Some ideas include: modeling from CEAH, training programs on how/what Vaccine Advisory Committees should consider to help formulate strategy and suggest potential changes, applications or solutions that aid in reporting information that would be crucial to strategic decision making.

Grp3/Q8: To guide strategic changes in direction (if/when needed), what information do you think should be collected to assist decision-makers?

Facilitator Notes:

Some ideas include: status of susceptible premises, effectiveness of biosecurity protocols, status of vaccine implementation (e.g., distribution timeframes from state to premises, waste, rate of administration once on farm based on species production types, etc.)

Grp3/Q9: Do you have the ability to receive daily health and biosecurity statuses from producers to determine potential changes in area status that could impact your planned vaccine strategy (i.e., can you assess an area daily to know if disease is spreading during the lag time between ordering and receiving vaccine given that virus may spread so quickly that your requested doses should be prioritized elsewhere)?

Facilitator Notes:

Similar information would be needed to assess both near- and long-term needs for 3D operations.

Grp3/Q10: Has anyone in your state been trained to formulate an initial vaccine program strategy and decide when/how changes should be made? If so, what trainings did they attend?

Facilitator Notes:

Further considerations for this question:

- Did the trainings focus on both state and regional/compartmentalization/national strategic approaches?
- Should states advocate for training courses that could be attended by Policy, IMT, and Advisory Committee members?
- Should colleges of veterinary medicine host these types of trainings so that students could also be exposed to this topic area, generating interest/expertise in the next generation of responders?
- An assumption is that this type of course would issue a certificate, allowing for formal recognition of attendees' knowledge acquired.

Facilitator's Narrative:

Great progress is about to be made as your vaccination efforts begin tomorrow. Let's spend some time talking about how documentation of all that hard work will occur. Two requirements for vaccination programs are 1) vaccinated animals must be identified and 2) vaccination must be documented. We will now explore how your plan would address vaccinated animal identification.

Due to lack of personnel resources and time constraints, some states have suggested they will use currently accepted forms of animal identification for those animals that remain on farm. Discuss best practices for animal identification based on your experience with previous disease control programs. It might be helpful to consider the following use cases:

- A. Animals that will move off farm for processing but will stay within your state
- B. Animals that will leave your state but are going to slaughter
- C. Animals that will leave your state to be fed or for breeding purposes but are staying within the same production company

Grp3/Q11: Has your state determined what forms of identification it will accept?

Grp3/Q12: On the other end of the decision process, will your state receive vaccinated animals if they have not been tagged with the official FMD pink metal tags?

Facilitator's Narrative:

Surveillance of vaccinated animals may be needed for a variety of reasons including but not limited to:

1. Evaluate the efficacy of the vaccine and/ or effectiveness of the vaccine program
2. Confirm status of animals to allow permitted movements
3. Identify carriers and monitor their status over time

As these are all valid reasons to perform surveillance, let's spend some time discussing how your state will address surveillance-related needs.

Grp3/Q13: Who will perform surveillance testing on vaccinated premises? If you have Category II accredited veterinarians overseeing vaccination, will you use those same personnel for surveillance activities?

Facilitator Note:

Though many producers, especially commercial swine, can vaccinate their own animals, many may not know how to sample/submit according to protocol. Thus, surveillance activities would most likely be hands-on rather than oversight.

Grp3/Q14: If using the same accredited veterinarians to oversee vaccination and conduct surveillance activities, would the state provide transportation to conserve time/effort? If not using the same accredited veterinarians for surveillance, you can skip this question.

Additional Questions for Future Discussion:

- Determining who will perform surveillance activities may help us decide more easily how surveillance on vaccinated premises will be managed in the IMT structure. If using the same accredited veterinarians to conduct surveillance activities, would you continue to manage those veterinarians through the vaccine branch/group and add surveillance as an activity of the Task Force? Alternatively, if other personnel will be conducting surveillance activities on vaccinated premises, how would IMT coordination work?
- Will your state laboratory be able to support surveillance efforts (e.g., conduct DIVA testing) in addition to other vaccination program-related testing being performed? A potential approach: perform a laboratory readiness assessment for DIVA testing (e.g., number of samples received/tested in a 12-hour period) and then determine how that affects readiness for FMD testing effort.