Responding to an FMD outbreak in the United States will be a complex event. This Ready Reference Guide provides common guidance for all responders and planners to facilitate the development of adaptable, flexible, and scalable emergency plans and processes. All the information provided is intended to be guidance, acknowledging that any FMD outbreak will be unique and responders will need to tailor the response accordingly.

**Classification of Phases and Types of an FMD Outbreak and Response**

- **Type**: A categorical measure of magnitude of an FMD outbreak.
- **Phase**: A temporal stage in FMD outbreak response.

This proposed typology of an FMD outbreak was developed by Dr. Jim Roth, of the Center for Food Security and Public Health, Iowa State University. It is one approach to describing a response to an FMD outbreak in the United States.

Even a focal FMD outbreak would require significant operational capabilities and have significant economic implications for the United States, including from lost international trade and disruptions to interstate commerce.

- **Type 1**: Focal FMD Outbreak
  - **Phase**: Heightened Alert Phase: FMD Outbreak in either Canada or Mexico, but not U.S.
  - **Phase 1**: From confirmation of the first case of FMD in the U.S. until reasonable evidence to estimate outbreak extent.
- **Type 2**: Moderate Regional FMD Outbreak
  - **Phase 2**: Surveillance and epidemiology provides timely evidence of outbreak extent to support decisions by Incident Command.
- **Type 3**: Large Regional FMD Outbreak
  - **Phase 3**: Recovery: surveillance and epidemiology indicates FMD is under control; plan implemented to recover disease-free status.
- **Type 4**: Widespread or National FMD Outbreak
  - **Phase 4**: U.S. declared free of FMD, possibly with vaccination.
- **Type 5**: Catastrophic U.S. FMD Outbreak
- **Type 6**: Catastrophic North American FMD Outbreak
In an FMD outbreak in the United States, there are five strategies that may be considered:

- **Stamping-out (with no emergency vaccination):** Depopulation of clinically affected and in-contact susceptible animals.

- **Stamping-out modified with emergency vaccination to kill:** Depopulation of clinically affected and in-contact susceptible animals and vaccination of at-risk animals, with subsequent depopulation and disposal of vaccinated animals. Depopulation and disposal can be delayed until logistically feasible.

- **Stamping-out modified with emergency vaccination to slaughter:** Depopulation of clinically affected and in-contact susceptible animals and vaccination of at-risk animals, with slaughter and processing of vaccinated animals, if animals are eligible for slaughter.

- **Stamping-out modified with emergency vaccination to live:** Depopulation of clinically affected and in-contact susceptible animals and vaccination of at-risk animals, without subsequent depopulation of vaccinated animals. Vaccinated animals intended for breeding, slaughter, or other purposes live out their useful lives.

- **Vaccination to live (with no stamping-out):** Vaccination used without depopulation of infected animals or subsequent depopulation or slaughter of vaccinated animals.

**Resources Needed Based on Response Strategy and Outbreak Type**

- **Type of FMD Outbreak**
  - **Type 6 (Catastrophic North American)**
  - **Type 5 (Catastrophic U.S.)**
  - **Type 4 (Widespread National)**
  - **Type 3 (Large Regional)**
  - **Type 2 (Moderate Regional)**
  - **Type 1 (Focal)**

Where should I go for more information?

Example of Stamping-Out

This map illustrates a stamping-out strategy for controlling, containing, and eradicating FMD in the United States. This map is not prescriptive—it is only an illustration. In this example, animals on Infected Premises would be stamped-out, and emergency vaccination strategies would not be employed.
Example of Stamping-Out Modified with Emergency Vaccination to Kill or Emergency Vaccination to Slaughter

This map illustrates a stamping-out strategy, modified with emergency vaccination to kill or emergency vaccination to slaughter, for controlling, containing, and eradicating FMD in the United States. This map is not prescriptive—it is only an illustration. In this example, the Infected Premises would be stamped-out and there would be emergency vaccination to kill or emergency vaccination to slaughter in Containment Vaccination Zones (typically inside Control Areas).
Example of Stamping-Out Modified with Emergency Vaccination to Live

This map illustrates a stamping-out strategy, modified with emergency vaccination to live for controlling, containing, and eradicating FMD. This map is not prescriptive—it is only an illustration. In this example, the Infected Premises would be stamped-out, and there would be emergency vaccination to live in Protection Vaccination Zones (typically outside Control Areas).
Example of Stamping-Out Modified with Emergency Vaccination to Slaughter and Emergency Vaccination to Live

This map illustrates a stamping-out strategy, modified with emergency vaccination to slaughter and emergency vaccination to live. This map is not prescriptive—it is only an illustration demonstrating the possibility of employing multiple vaccination strategies during an outbreak. In this example, the Infected Premises would be stamped-out, and there would be emergency vaccination both inside (in Containment Vaccination Zones) and outside (in Protection Vaccination Zones) the Control Areas. Emergency vaccinated animals may be destined for slaughter or to live out their intended useful lives.
Example of Stamping-Out Modified with Emergency Vaccination to Live (Regional)

This map illustrates a stamping-out strategy, modified with emergency vaccination to live. This map is not prescriptive—it is only an illustration demonstrating the possibility of employing emergency vaccination to live in regions in the United States. In this example, the Infected Premises would be stamped-out, and there would be emergency vaccination outside (in Protection Vaccination Zones) the Control Areas. Emergency vaccinated animals would live out their intended useful lives.
Example of Stamping-Out Modified with Emergency Vaccination to Live (Large-Scale)

This map illustrates a stamping-out strategy, modified with emergency vaccination to live. This map is not prescriptive—it is only an illustration demonstrating the possibility of employing emergency vaccination to live across the entire United States. In this example, the Infected Premises would be stamped-out, and there would be emergency vaccination outside (in Protection Vaccination Zones) the Control Area. Emergency vaccinated animals would live out their intended useful lives.
Example of Emergency Vaccination to Live (No Stamping-Out)

This map illustrates an emergency vaccination to live strategy, where there is not stamping-out on the Infected Premises. This map is not prescriptive—it is only an illustration. In this example, emergency vaccination to live will be employed both inside (in Containment Vaccination Zones) and outside (in Protection Vaccination Zones) the Control Areas. Emergency vaccinated animals would live out their intended useful lives.