This outline of questions is divided into two phases: the “here and now” phase, and the “future-proofing” phase.

* Here and now:
  + Can we create a facility where swabs are sent in the mail to the lab for testing?
  + How do we mitigate the risk of infection from the specimens as they are transported?
  + What resources are needed to be able to perform testing on a large scale?
    - What machines?
    - What consumable materials?
    - What materials are needed that may be scarce?
      * How long would it take for industry to ramp up capacity to create more?
      * How much would that ramp-up cost a manufacturer?
      * How long can these materials be stored?
  + How many tests are needed per day to contain the epidemic?
    - With known rates of infection?
    - With estimated actual rates of infection?
    - By the time the program is rolled out?
* Future proofing:
  + Can we make a fully automated realtime PCR machine with the following specifications:
    - Easy to input specimens: you simply insert a swab and press a button
      * Minimal training is needed to operate the machines beyond infection control.
    - Easy to read output: result is unambiguous and is fast as possible
      * Is there a tradeoff between those two constraints? If so, is there sweet spot for people who are in a hurry?
      * The machine sends an email, text message, or phone call to the patient and their doctor once an unambiguous result is obtained.
        + Information for quarantining and other infection control pertinent to the disease is delivered.
        + If security is a concern, a patient portal is available, but the patient may opt to receive the message directly after they understand the privacy implications.
    - Easy to maintain:
      * reagents are stored in cartridges that can be either refilled or swapped out quickly.
      * cartridges track:
        + what they are storing
        + how much remains
        + when they will expire
      * the machine orders replacemnt from a central facility as necessary
      * they are stored refrigerated or frozen inside the machine if that is more suitable
      * it self-cleans and disposes spent materials in the appropriate biohazard container.
      * experts can troubleshoot and change the machine settings remotely
    - Adaptable: new DNA/RNA sequences can be specified digitally and broadcast to machines around the country.
      * What reagents would need to accompany this? Can they be sent in the mail?
    - Transparent: anonymized statistics can be viewed online and allow people to track an outbreak in their neighborhood
      * Multiple vendors adhere to a standard so that data is collected easily gathered together.
  + What would the R&D cost of this machine be?
  + Fixed costs of manufacturing?
  + How much would it cost to produce per machine?
  + How long would its service life be expected?
  + What kind of services would be needed to maintain the machine? How much would this cost?
  + How many machines would we need to provide coverage for the entire United States?
  + Could mobile versions be developed?