Operation Warp
Speed/Therapeutics

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What is Operation Warp Speed (OWS)?

• Joint effort of DHHS and DOD

• Mission: do everything possible to make highly performing, thoroughly evaluated vaccines, drugs and diagnostics available in the US as soon as possible and ideally during this calendar year

• To that end, offer financial, manufacturing, logistical, scientific, medical and regulatory assistance to leading candidates
Criteria for Candidates

• Timeliness: availability by EOY 2020
  • For therapeutics, this mainly means repurposed drugs
  • Certain virus-specific products possible—neutralizing antibodies

• Scientific merit
  • Strong mechanistic rationale and
  • Successful animal model studies or
  • Early clinical signal

• Manufacturability and scale-up
  • Feasible to make at commercial scale by EOY 2020 or at the least 1st quarter 2021
Therapeutics Focus

• At OWS start—approximately May 15—hundreds of trials of immunomodulatory agents and a few putative antivirals ongoing worldwide

• *De novo* small molecule development timeline outside program parameters

• Repurposed antivirals (as was done with remdesivir) feasible—pick up from screening programs

• Virus neutralizing monoclonal or polyclonal antibodies feasible with acceleration of development

• Additional agents to manage disease complications considered
Therapeutic Efforts

• Rapid, comprehensive inventory of ongoing development programs, including monoclonal antibodies, worldwide

• Assessment of scientific merit and prioritization by cross-Agency group—this activity is ongoing

• Assessment of state of manufacturing for leading candidates

• Special emphasis on small molecule repurposed antivirals and monoclonal antibodies
Assembling a Program

• Lead candidates identified and developmental needs assessed—this is an iterative process
• Continuation of BARDA efforts, e.g. Regeneron monoclonal cocktail
• Creation of teams to work closely with selected manufacturers
• Research team to work on standardized assays and comparisons
Types of Interventions: Therapeutics

• Some (large) companies need no assistance but seek advance purchasing agreements with various conditions (e.g., should their product prove successful)
• Some companies need little clinical assistance but require funding for at risk manufacturing scale-up and/or advanced purchasing
• Some companies need logistical help with supply chain bottlenecks
• Many companies need assistance with clinical program
Clinical Program

• ACTIV: Dr. Francis Collins had started this public-private partnership in April run by the FNIH
  • Performed rapid survey of potential clinical trial networks
  • Screened many compounds for scientific merit
  • Selected 3 immunomodulators to test
  • Proposed study of anticoagulation in COVID19

• OWS/ACTIV
  • Developed 2 “Master Protocols”, one for outpatients (ACTIV 2) and one for hospitalized patients (ACTIV 3) and launched in August
  • Developed process and criteria for candidate entry
  • Currently studying Lilly’s neutralizing Ab in both trials; other agents in queue
  • OWS also supporting immunomodulator and anticoagulation trials as well as (non-ACTIV) trials of hyperimmune globulin and convalescent plasma
Challenges for Clinical Trials of COVID-19 Patients

• Large number of ongoing trials—many underpowered, not randomized
• Competing platform trials and industry-sponsored trials in the US
• Difficulties in reaching infected outpatients
• Existing clinical trial networks based in academic medical centers—difficult to reach community sites who have most of the patients
• Monoclonal antibodies given by infusion are difficult in an outpatient setting
• In-hospital trials mostly facing competition issue
Other Master Protocols Ongoing

• RECOVERY (UK); SOLIDARITY (WHO); REMAP-CAP; I-SPY COVID; UNIFY

• Additional USG-sponsored MP or ongoing studies: ACTT, BET (ACTIV); ACTIV-1 (Immunomodulators); ACTIV-4 (three separate studies of anticoagulation in outpatients, hospitalized patients and discharged patients); INSIGHT 13 (hyperimmune globulin, NIAID)
Summary

• OWS hopes to assist developers to have treatment options available by the end of this year
• A few therapeutics contracts are public, some under negotiation
• Only able to support products in fairly late stage development
• Clinical evaluation proving very challenging
• New clinical signals may trigger OWS support for additional agents; rather late to utilize mechanistic plausibility alone or even promising animal data