

COVID-19: Pandemic Contingency Planning for the Allergy and Immunology Clinic

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Shaker M, Oppenheimer J, Grayson M, Stukus D, Hartog N, Hsieh E, Rider N, Dutmer C, Vander Leek T, Kim H, Chan E, Mack D, Ellis AK, Lang D, Lieberman J, Fleischer D, Golden DBK, Wallace D, Portnoy J, Mosnaim G, Greenhawt M. Journal of Allergy and Clinical Immunology In Practice. 2020

Conflicts of Interest

- Marcus Shaker is a member of the Joint Taskforce on Allergy Practice Parameters; has a family member who is CEO of Altrix Medical; serves on the Editorial Board of the Journal of Allergy, Asthma, and Clinical Immunology In Practice, the Journal of Food Allergy, and the Annals of Allergy, Asthma, and Immunology.
- Matthew Greenhawt is supported by grant #5K08HS024599-02 from the Agency for Healthcare Research and Quality; is an expert panel and coordinating committee member of the NIAID-sponsored Guidelines for Peanut Allergy Prevention; has served as a consultant for the Canadian Transportation Agency, Thermo Fisher, Intromune, and Aimmune Therapeutics; is a member of physician/medical advisory boards for Aimmune Therapeutics, DBV Technologies, Sanofi/Genzyme, Genentech, Nutricia, Kaleo Pharmaceutical, Nestle, Acquestive, Allergy Therapeutics, Allergenics, Aravax, and Monsanto; is a member of the scientific advisory council for the National Peanut Board; has received honorarium for lectures from Thermo Fisher, Aimmune Therapeutics, DBV Technologies, Before Brands, multiple state allergy societies, the American College of Allergy Asthma and Immunology, the European Academy of Allergy and Clinical Immunology; is an associate editor for the Annals of Allergy, Asthma, and Immunology; and is a member of the Joint Taskforce on Allergy Practice Parameters
- Jay Portnoy has received financial support from Thermofisher, Kaleo, TEVA, Novartis, Hycor, and Boehringer-Ingelheim.

Pandemic Contingency Planning Learning Objectives

Discuss the etiology, clinical presentation, and mitigation of COVID-19

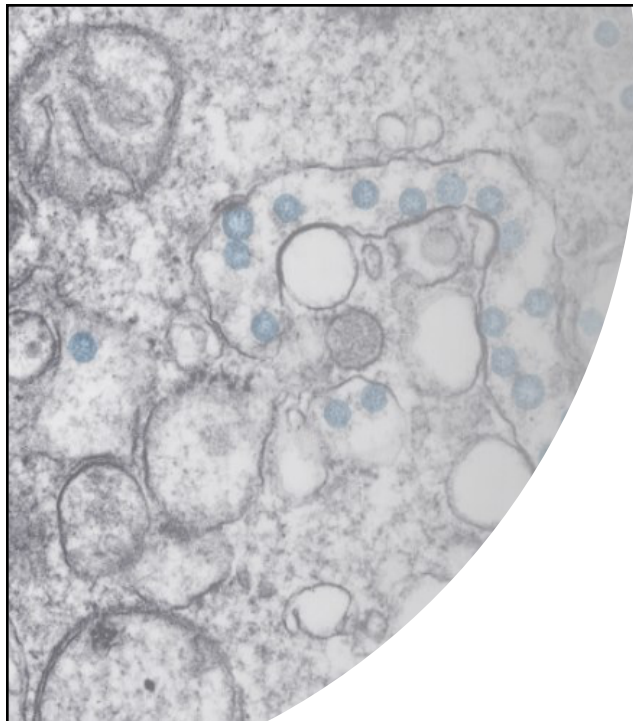
Describe a framework for allergy/immunology clinic contingency planning for reduction of services during a pandemic national emergency

Compare and contrast advantages of virtual care with face-to-face visits

An Unprecedented Moment In our Careers and Lifetimes

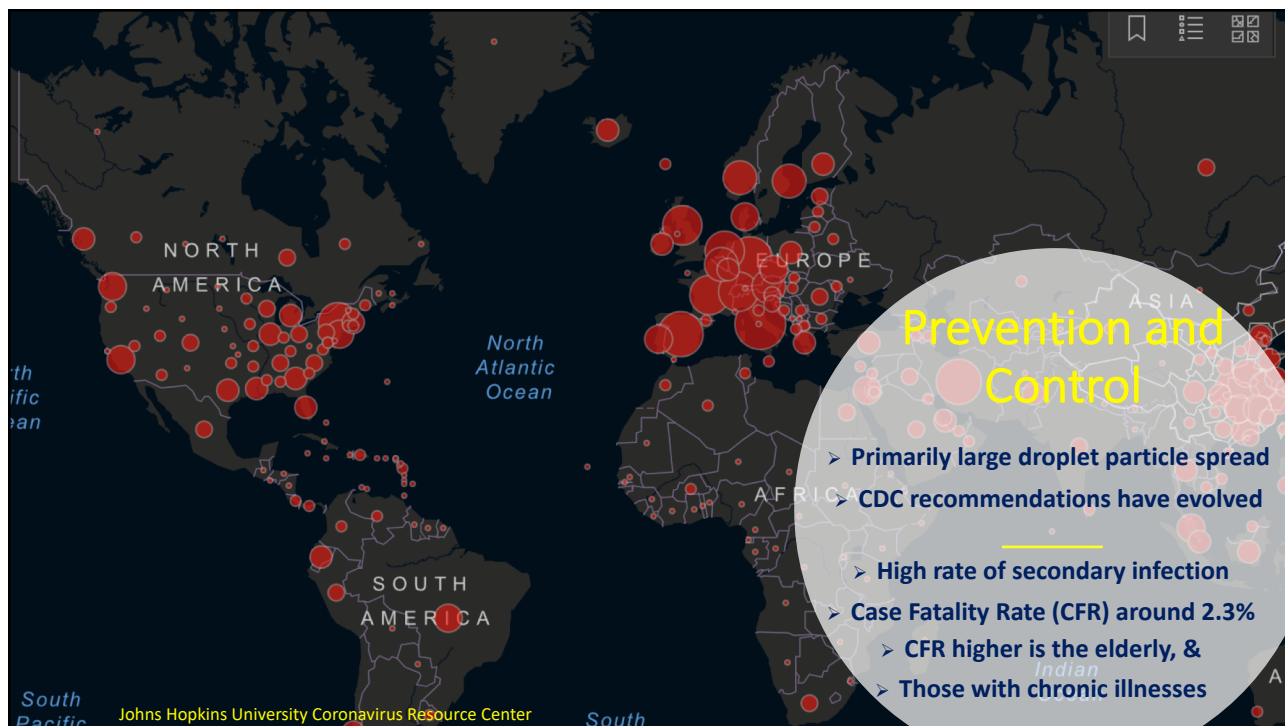
- COVID-19 is caused by SARS-CoV-2
- First reported in Wuhan in December 2019
- Appears to have originated in chrysanthemum bats with recombination in the pangolin (a commonly trafficked endangered scaly anteater)

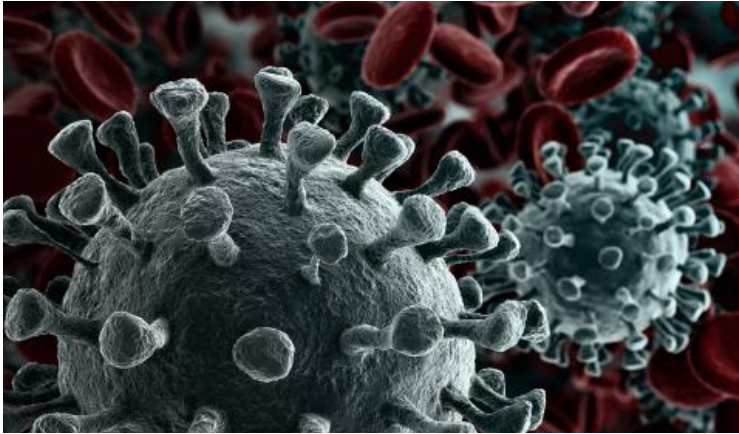




Biology of SARS-CoV-2

- SARS-CoV-2 uses a densely glycosylated spike (S) protein to enter host cells and bind to the angiotensin-converting enzyme 2 (ACE2) receptor expressed on type II alveolar cells
- Incubation typically ranges 1 to 14 days (median 5-6 days), but may be as long as 24 days
- Symptoms of infection: Fever, Cough, SOB, Fatigue/Myalgia

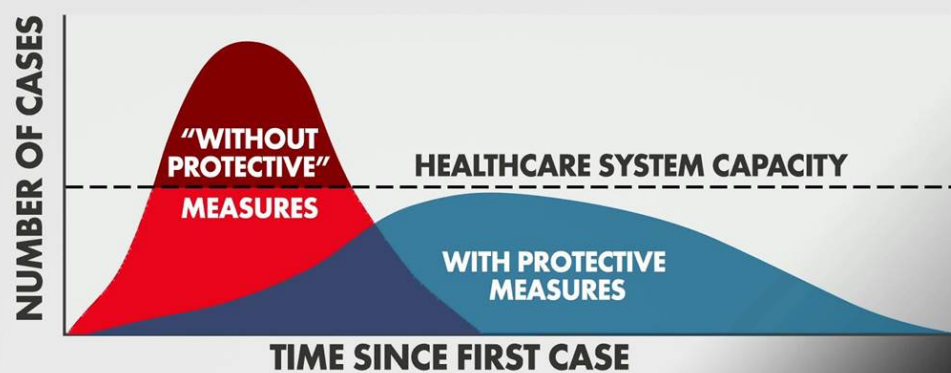




- As COVID-19 became more pervasive, quarantine measures were instituted across the world

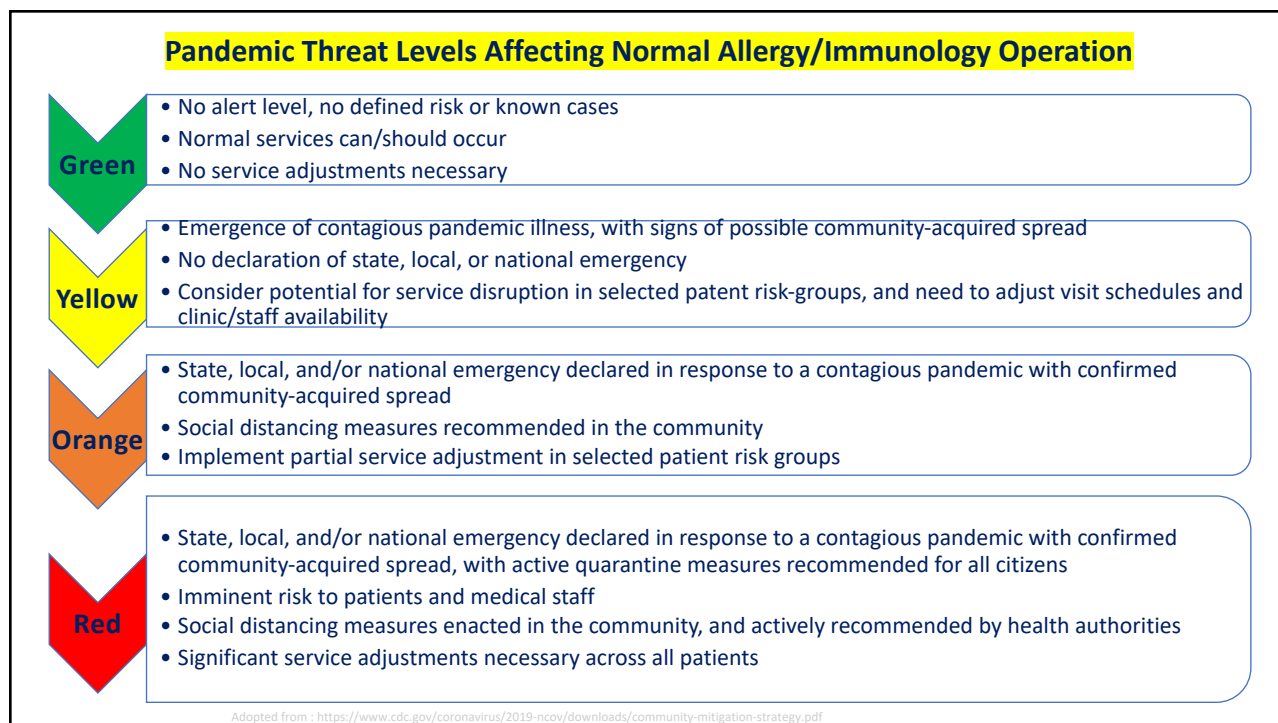
Emergency Social Distancing

FLATTENING THE CURVE



SOURCE: CDC, THE ECONOMIST, @CT_BERGSTROM

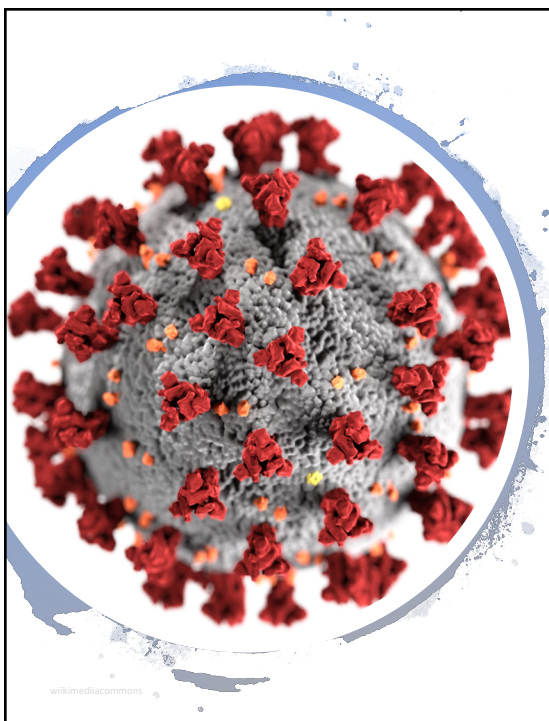
https://media.1x.com/news.com/MSNBC/Components/Video/2020/03/19/hyges_curve_202003_1920x1080_03c0e0e0_1200_630.jpg Accessed March 13, 2020





Pandemic
Contingency
Planning

- A consensus-based ad-hoc expert panel of allergy/immunology specialists from the US and Canada developed a service and patient prioritization schematic to temporarily triage allergy/immunology services. Recommendations and feedback were developed iteratively, using an adapted modified Delphi methodology to achieve agreement



Acute Service Reductions

- **Asthma**
- **Allergic Rhinitis**
- **Immunotherapy and Biologics**
- **Food Allergy, EoE, Drug Allergy**
- **Anaphylaxis**
- **Allergic Skin Disorders**
- **Immunodeficiency**

Asthma Service Reduction Considerations

- Avoid “step down” therapy unless clearly favorable and telehealth available/adequate
- Prioritize high-risk patients
- COVID-19 screening may be indicated for certain groups
- Telehealth or postpone visits for patients with well-controlled asthma
- Suspend screening patients for clinical trials
- Consider virtual care for patients in research protocols as permitted



- **Continue controller medications**
- **Nebulizer use discouraged during the pandemic as it is more likely to aerosolize SARS-CoV-2**

Allergic Rhinitis Service Reduction Considerations

- Under "red zone" circumstances, universal service reduction could be considered baring "extenuating circumstances"
- Medical management is appropriate
- Utilize virtual care as available
- Defer / postpone evaluation of allergic sensitizations that require travel to clinic



Immunotherapy and Biologics



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| <ul style="list-style-type: none"> • AIT should not be initiated for allergic rhinitis • Consider schedule reduction for aeroallergen AIT or suspending treatment • Home immunotherapy could be considered for VIT (shared decision making) • No VIT for LLR or isolated cutaneous symptoms | <ul style="list-style-type: none"> • Consider home health to initiate biologics • Consider off-label home administration of omalizumab for patient who have tolerated at least 4 in-clinic doses • For other biologics, consider home transition |
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Food Allergy, EoE, Drug Allergy, Anaphylaxis

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| <ul style="list-style-type: none"> • In the setting of quarantine measures, unless there is a critical acute nutritional need for a key nutrient, it is likely that all food challenges would be deferred • OFC may be considered in high-risk sensitized infant in whom deferring challenge may lead to development of peanut allergy • Suspend routine advice for EMS activation after EIA use unless symptoms do not immediately resolve without recurrence | <ul style="list-style-type: none"> • Postpone or use virtual visits for routine food allergy follow-up • Postpone or use virtual visits for proctocolitis • Defer food OIT initiation or up dosing • Face-to-face drug allergy evaluation is reasonable for urgent drug delabeling, challenge, or desensitization • Also prioritize vaccine challenge in any immunocompromised patient |
|---|---|

Service Adjustments for Allergic Skin Disorders

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| <ul style="list-style-type: none"> • Prioritize new patient evaluations (virtual or face-to-face) for suspected angioedema, particularly with pharyngeal/laryngeal, abdominal, or genital involvement • Consider virtual care for stable HAE patients • Postpone or consider virtual care for CSU • Laboratory evaluation of patients with CSU with a normal H&P can be deferred | <ul style="list-style-type: none"> • Defer evaluation of food sensitizations in patients with atopic dermatitis without a history of acute food reaction • Face-to-face evaluation may be necessary for severe atopic dermatitis with extensive body surface evaluation • Initiation of biological therapy may be considered with limited face-to-face interaction or virtual care |
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Service Adjustments for Immunodeficiency

- Face-to-face evaluation may be needed for acutely ill patients
- Consider risk of non-COVID-19 infection (such as liver abscesses, osteomyelitis, meningitis, bacteremia, PJP, etc) in acutely ill patients
- New cases of SCID or other T-cell deficiencies should continue to be seen
- Autoimmune phenomena need prompt treatment
- Consider virtual care for initial evaluation of abnormal newborn screens
- Consider transitioning immunoglobulin replacement to home for those patients receiving replacement in an infusion center
- Drug monitoring is necessary for various immunosuppressive agents
- Patients with malignancy should continue chemotherapy
- Consider virtual care routine follow-up, some labs, imaging, and PFTs may be deferred

Virtual Care

Telehealth is central to pandemic triage

- Can limit provider exposure to infection
- Can reduce patient exposure to infection
- Can provide rapid evaluation of potential COVID-19 while limiting exposure



Telehealth

- Be aware of potential pitfalls such as patients with unstable asthma or poor perception of dyspnea
- Both the AAAAI and ACAAI have online telehealth toolkits as useful resources
- Established patients do not require a physical exam unless medically necessary
- To reduce exposure, patients can be seen from home
- The COVID-19 pandemic will likely accelerate adoption of telehealth within the field of A/I and across medical specialties
- US legislative and executive actions in response to the national emergency is expected to allow practice across state lines by relaxing the originating site requirement

Shared Decision Making and Communication

SDM is a patient-centered process in which the clinician and patient exchange information to make medical decisions based on best evidence and patient values/preferences

COVID-19 presents unique challenges to SDM due to a greater balance of societal interests

Practice Implications

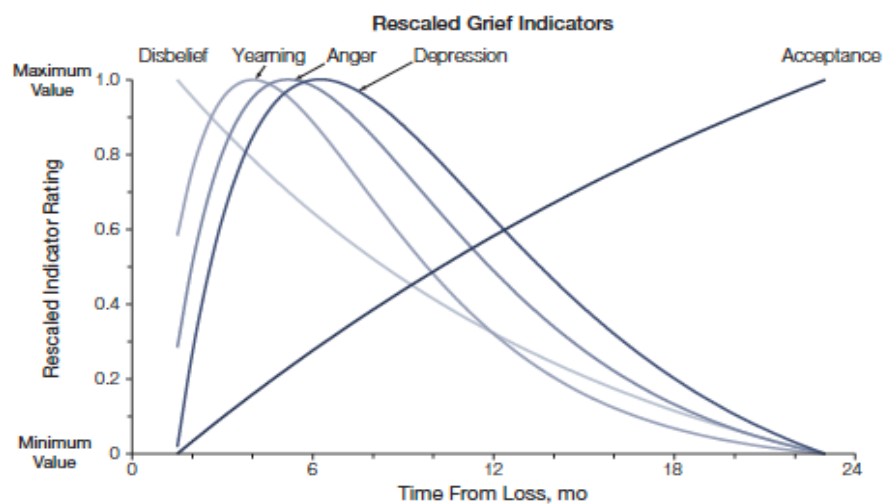
COVID-19 reduction in services include

- Imposed or voluntary physician self-quarantine
- Practice restrictions after actual COVID-19 infection
- Financial reduction due to decline in consultation, follow-up assessments, immunotherapy visits, and reduction in testing
- Resultant reduction in staff

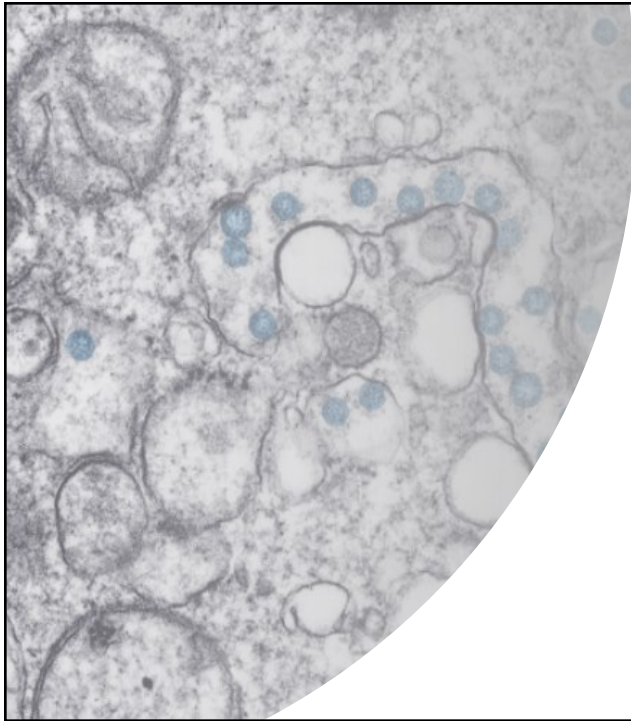


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Change and Grief



Maciejewski PK, Zhang B, Block SD, Prigerson HG. An empirical examination of the stage theory of grief. JAMA. 2007;297(7):716-23.



Conclusions

- The COVID-19 pandemic is a global emergency and requires new strategies to design effective paradigms of care
- The current situation is fluid and changes have been occurring rapidly
- The framework provided should be viewed as conditional and needs to be implemented in the perspective of “on the ground” circumstances
- Telemedicine will be a key tool to provide safe and effective care



Thank you!

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