

## A Step-By-Step Plan for Resuming Suspended Clinical Allergy and Immunology Services

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### Abstract

The first cases of the novel severe acute respiratory syndrome coronavirus 2 infection were discovered in the United States and Canada in early 2020. The illness has rapidly spread during the past few months. State/provincial and local governments implemented shelter-in-place orders in March 2020 in reaction to the virus, and non-essential ambulatory care, including allergy/immunology services, was drastically reduced. There is a need to assist the allergy/immunology doctor in resuming services when constraints on the delivery of basic ambulatory care are lifting and incidence of new infections and fatalities may be plateauing or reducing. We present a flexible, algorithmic best-practices planning approach on how to prioritise services, in 4 stratified phases of reopening according to community risk level, and highlight key considerations for how to safely do so, given that coronavirus disease 2019 will circulate within our communities for months or longer. The choice of what services to provide and how quickly to go forward is left up to the individual clinician and practise, functioning in compliance with local and state laws regarding the amount of optional ambulatory care that may be offered. Given that this is a changing situation, there may be forward movement through the phases—and even backward movement—and there should be clear communication with staff and patients before and after all changes.

**Keywords:** Food allergy; Allergic rhinitis; Primary immunodeficiency; Urticaria; Angioedema; Atopic dermatitis; Personal protective equipment; SARS-CoV-2; COVID-19; Allergy; Immunotherapy; Asthma

### Introduction

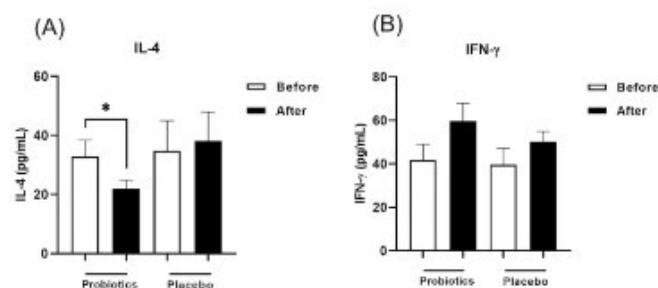
The novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infections was first discovered in the United States and Canada in early 2020. 1,2 As of May 12, 2020, there have been more than 1,350,000 cases and more than 81,000 fatalities in the United States and more than 70,000 cases and more than 5,000 fatalities in Canada, respectively, as a result of the infection's rapid [1-5] spread in the intervening months. 3, 4, 5 Strict social/physical distancing regulations were implemented at the municipal, state, and federal levels as a result of a  $R_0 = 3$  (i.e., for every person infected, it will transmit to 3 others) and the presence of asymptomatic transmission. There is currently no known cure that has been demonstrated to be successful, nor is there a vaccination that can be used widely. State/provincial and local governments implemented shelter-in-place orders in reaction to the virus, and non-essential ambulatory care was drastically reduced.

### Case presentation

This either involved the complete cessation of allergy/immunology services or a significant increase in their priority. The American Academy of Allergy, Asthma & Immunology, the American College of Allergy, Asthma and Immunology, and the Canadian Society of Allergy and Clinical Immunology jointly published guidance on how to scale down services in the context of the (Figure 1) coronavirus disease 2019 (COVID-19) pandemic in mid-March. While in some areas the infection rate may not have peaked yet, at the time of this writing, rates of new infections and fatalities may be plateauing and/or declining to the point where some [6-8] state and local municipalities are now lifting shelter-in-place orders, with or without "safer-at-home" or other less restrictive orders. As a result, constraints on the delivery of commonplace ambulatory care will probably be removed.

### Materials and Methods

Despite the possibility of new waves of the virus over the coming months, shelter-in-place and safer-at-home orders may fluctuate, therefore it is important to direct the allergy/immunology clinician on how to begin services again. It is anticipated that COVID-19 will spread throughout our communities for months or longer, much like other epidemic coronavirus types and viral pandemics. 14 As a result, stratifying the delivery of services and creating a plan for how to raise or lower service capacity are crucial. While some visits for allergic conditions, like allergic rhinitis and proactive medication



**Figure 1:** Plasma levels of IL-4 (A) and IFN- (B) in asthma patients in the probiotic and placebo groups before and after treatment. The mean and SEM are shown as bars. \*:  $p < 0.05$ .

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allergy labelling, can be reasonably postponed, others, like primary immunodeficiency, infant food allergy, Hymenoptera-induced anaphylaxis, medication allergy limiting current necessary therapy, and moderate to severe asthma, cannot. In this article, we outline an algorithmic strategy for prioritising such visits and services. This paper is solely concerned with the logistical restart of in-person clinical care, while acknowledging that judgements about doing so may involve several economic factors. We stress that these are consensus-based best-practice recommendations rather than evidence-based recommendations from a diverse North American group of academic and private practise allergy/immunology specialists. They represent an organised discussion of the challenges and potential solutions for reopening a clinical allergy/immunology practise after it has scaled back or closed due to COVID-19.

## Results and Discussion

### Assessing Key System Constraints

It is crucial to have specific important information when deciding whether to restart services in order to evaluate infrastructure capacity and safety simultaneously. The development of a vaccine, the possibility of herd immunity, and the acquisition of stronger evidence that there is personal long-lasting protection postinfection are future factors that may have an impact on these choices. Accurately predicting the rate of community transmission and the ability to spot new cases in real time before those affected expose others are challenges. Because many patients may be asymptomatic or presymptomatic during the office visit, this poses a special problem for the doctor. Reinitiation choices must therefore balance the availability and use of personal protective equipment (PPE). A plan for supplying PPE during patient visits, a steady supply of PPE that can minimise the risk of SARS-CoV-2 transmission, and regular reviews of the best PPE practises as new information about SARS-CoV-2 transmission becomes available. a successful screening procedure for patients and employees that determines the likelihood of symptomatic or asymptomatic SARS-CoV-2 infection. Accurate knowledge of the potential severity of COVID-19 infection that could put a patient (or staff member) at risk. Implementing suggestions for lowering patient density, meeting distance requirements for waiting areas and patient care areas, and reducing close contact time each visit to lower the risk of transmission. identifying (and perhaps developing) the office's patient separation capabilities and lowering the environment's potential for promoting transmission risk. establishing office procedures for how to thoroughly clean and disinfect a room after each visit, what materials to use, and how long it should take between cleanings for a space to become available once more.

### Conclusion

These are broad suggestions made to help establish a paradigm

for how to stage a return of services, much like the Shaker pandemic preparation advice. The individual clinician and practise decide what services to provide and how quickly to move forward, operating in accordance with state and local laws regarding the amount of unnecessary ambulatory care that can be provided, and to some extent, where appropriate, patient preferences, if a preference-sensitive context may exist within a specific risk tier. Each clinician must constantly reevaluate all services to see if they are sufficiently serving their needs and make adjustments in addition to considering numerous critical factors impacting safety, cleansing, and therapy. Given that this is a changing situation, there may be forward movement through the phases—and even backward movement—and there should be clear communication with staff and patients before and after all changes. In conjunction with the COVID-19 preparation paper, this document can offer a justification for how to approach the uncertain future in relation to the SARS-CoV-2 or any other prospective pandemic.

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### Conflict of Interest

For the research, writing, and/or publication of this work, the authors disclosed no potential conflicts of interest.

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