

Facilitating ED COVID-19 Response with ACEP Standards in a Customizable Free Web-App

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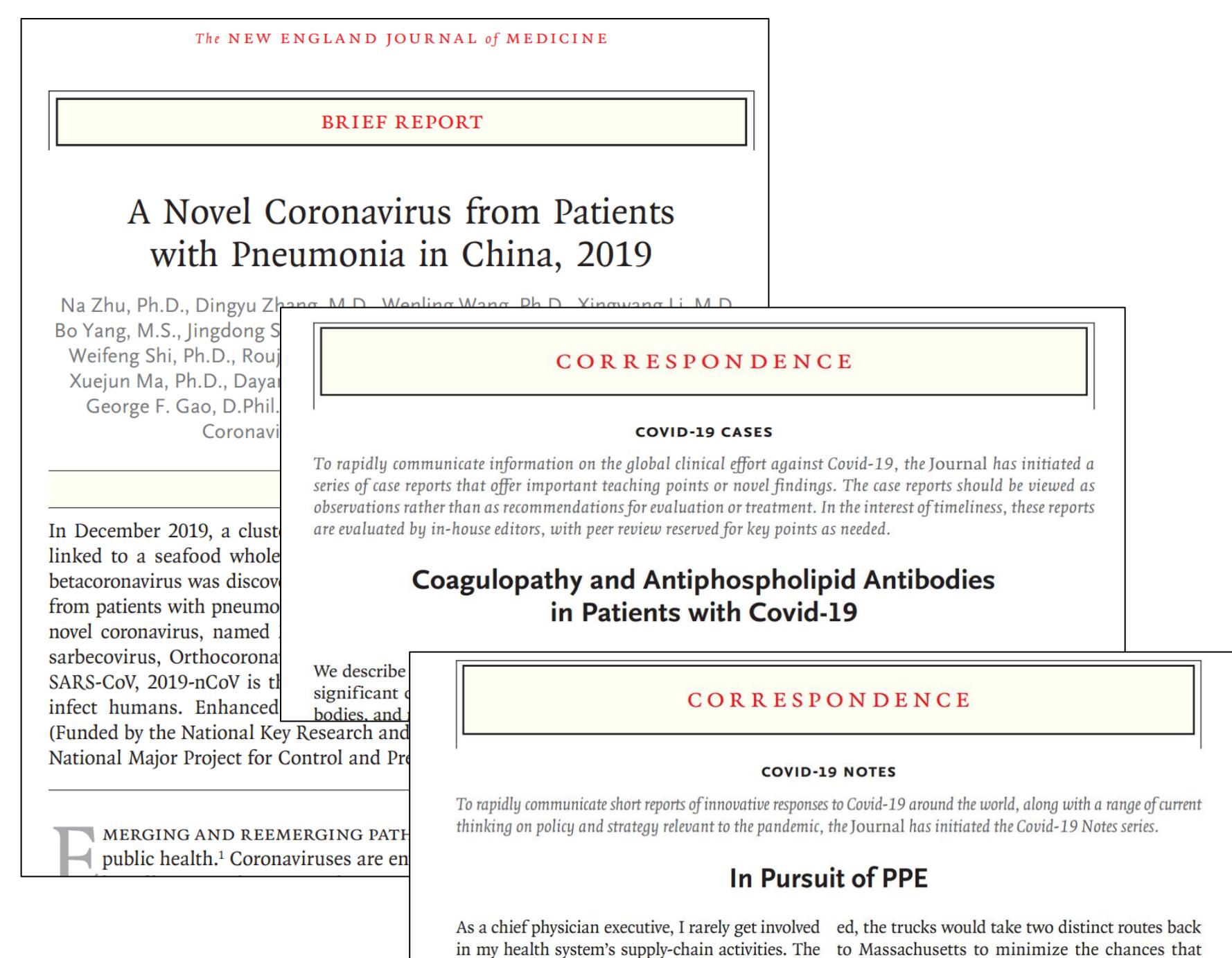
Background

COVID-19 presented a unique challenge to Emergency Departments (EDs)

- New medical evidence published frequently
- CDC guidelines constantly evolving
- PPE shortages
- Hospitals reaching surge capacity
- Hospital policies & workflows continually adapting to daily circumstances

UCSF ED had successfully deployed a web-application for team communication & microlearning and shared COVID best practices with affiliate institutions.

We sought to develop a free version of this web-app in partnership with ACEP to scale COVID readiness best practices to Emergency Departments nationally.



Objectives

Provide EDs with a free, customizable mobile-friendly web-app that is:

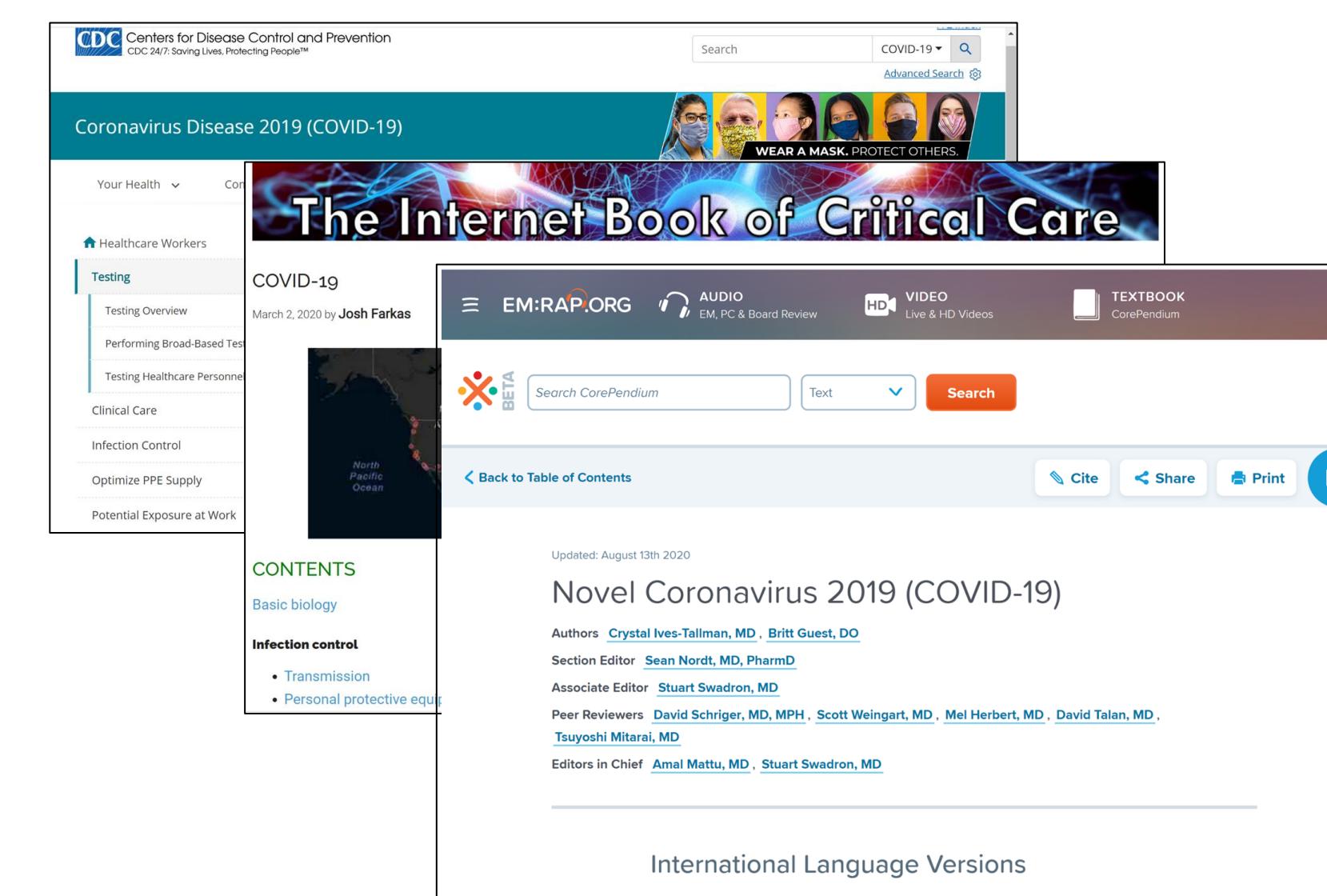
- Standardized to CDC guidelines
- Reviewed by experts in the field and approved by ACEP
- Updated on a regular basis

Acknowledgments

Special thanks to Scott Cohen, Lisa Crounse, Elliott Nguyen, and Dr. Maria Raven.

Methods

Compiling Evidence-Based Practices



Expert Panel Review Cycle

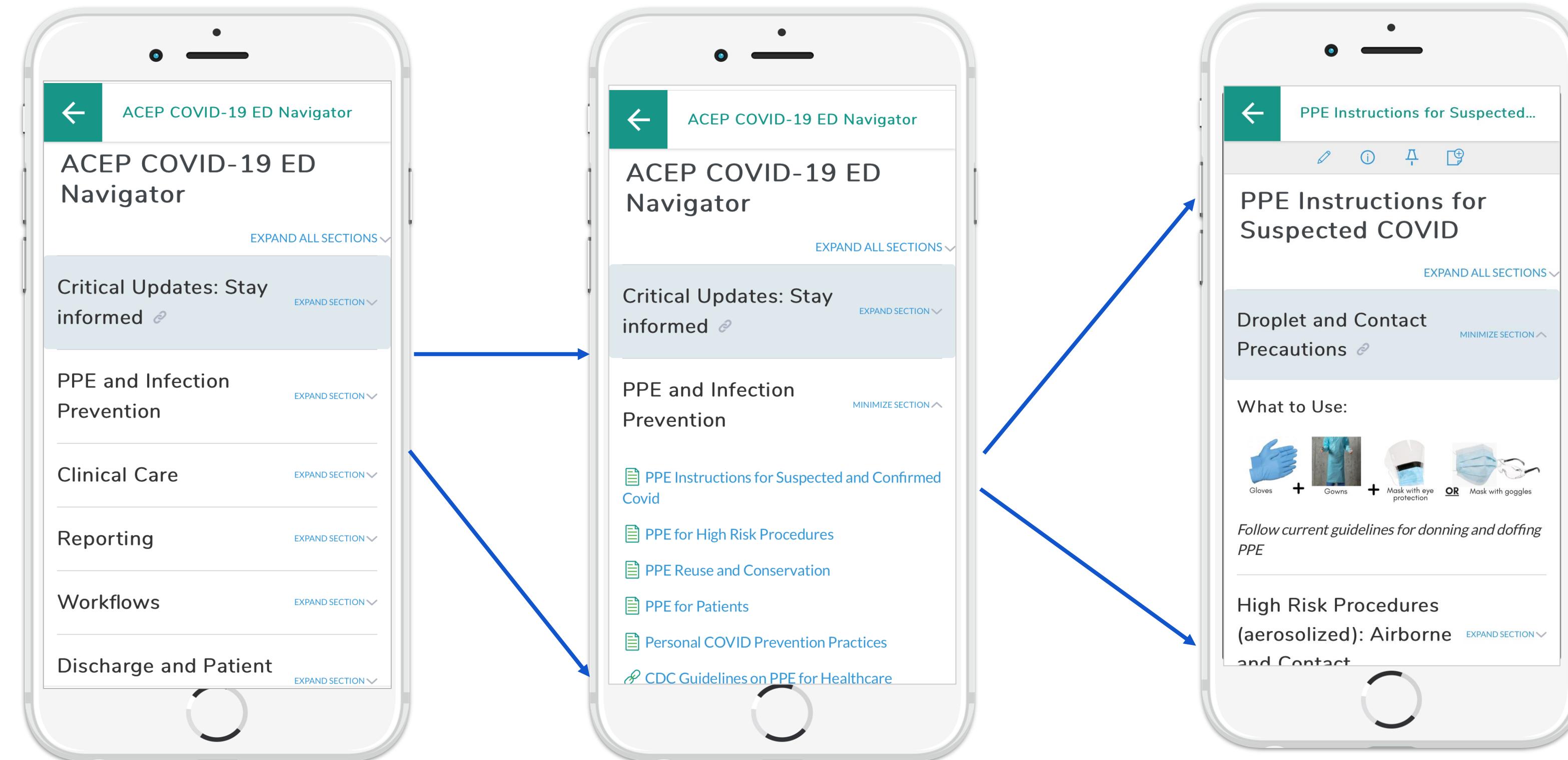
- Initial content sourced from UCSF Parnassus COVID Response Team (ED, Infection Control) by UCSF-ACEP joint Content Advisory Panel (CAP)
- External review via ACEP volunteer physician evidence-based review committee (selected by ACEP Education & Training)
- Feedback from managers and frontline staff end-users at beta testing sites relayed to CAP
- CAP iterated practices, with repeat of cycle

Dynamic Development

- Kept up-to-date with CDC guidelines, which were utilized as the gold standard for hospital policy
- Removed and added information as new evidence became available, e.g.,
 - CDC testing guidelines expanded as testing became more widely available
 - Several reports on improved outcomes with awake proning



BETA WEB-APP



BETA USER FEEDBACK

Importance of Customizability

- Appreciated the ability to include their own ED's critical updates in the navigator
- Requested the ability to turn off sections of the site and modify to their own site-specific resources and needs

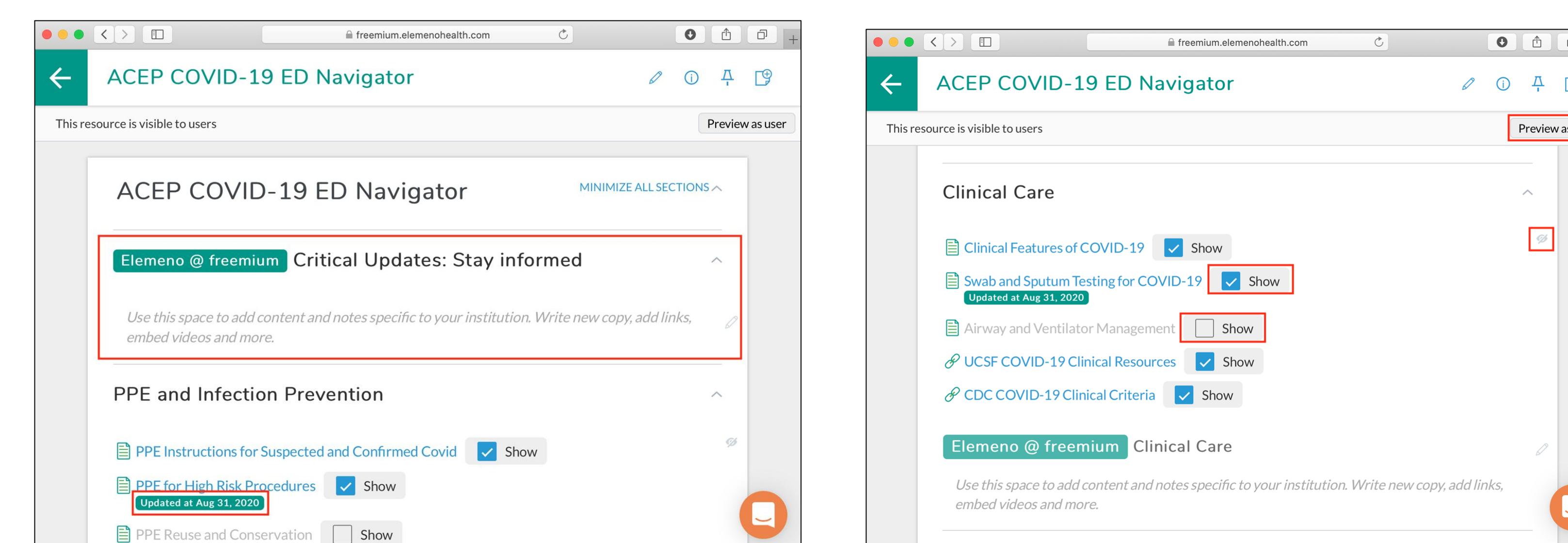
Content Name	Publish as-is	Publish with edits	Wouldn't publish, but useful	Not useful	Comments
PPE and Infection Prevention					- In subsection Surgical Mask vs N95, remove "N95 is required for 1 hour after BIPAP or neb treatment has ended" and "For one hour following intubation and/or last suctioning of intubated patient". Remove the picture below of Preferred PPE vs Acceptable Alternative
PPE Instructions for Suspected Covid					- In subsection PAPR use, under "When is a PAPR required?", would clarify in first bullet point that it's when you can't use an N95
Droplet and Contact Precautions					Remove signage, remove table (too UCSF specific)
What to Use:					Remove subsection "Gowns" would change text to "mask all patients", not only during transport
Gloves + Gowns + Mask with eye protection + Mask with goggles					"Reporting" should be its own section, separate from "Clinical Care". Add editing capability to add other clinical care resources
Follow current guidelines for donning and doffing PPE					Remove testing criteria it should be local testing criteria
PPE for High Risk Procedures					Would remove Modify One Ventilator video
Surgical Mask vs. N95					Would remove One Ventilator video
PPE Reuse and Conservation					
PPE for Patients					
Personal COVID Prevention Practices					
CDC Guidelines on PPE for Healthcare Professionals					
Clinical Care and Reporting					
Clinical Features of COVID-19					
Swab and Sputum Testing for COVID-19					
Airway and Ventilator Management					
UCSF COVID-19 Clinical Resources					
CDC COVID-19 Clinical Criteria					
CDC PUI Case Report Form					

Results

Functionalities

- Unique branded site for each individual ED
- Auto-update of ACEP-vetted content
- Self-service local site custom content
- Collection of frontline team feedback

Final App



Live App Engagement

- Development academic site: UCSF
- Beta community sites:
 - Sturdy Memorial (MA)
 - St. Mary's (CT)
- Free ED sites created: 18
 - 17 hospitals
 - FCEP (FL)
- Std unique content: 34
- Custom client-specific content (resources): max 52 (Sturdy)

Key Take-Aways of a Free Team-Based Web-App for ED COVID Readiness

- **Team Communication:** Provides a readily updatable authoritative source, decreasing email fatigue. Provides a feedback loop, allowing leadership to measure staff needs.
- **Point-of-Care Training:** Simplifies onboarding and cross-training of staff, keeping workforce agile and ready to adapt to changing demands.
- **Standardized Best Practices:** Allows rapid dissemination of ACEP expert-reviewed content, with ability to customize to local needs