



**Paul W. Abramowitz, Pharm.D., Sc.D. (Hon), FASHP**  
**Chief Executive Officer**

April 1, 2020

The Honorable Michael R. Pence  
Vice President of the United States  
The White House  
Office of the Vice President  
1600 Pennsylvania Avenue, N.W.  
Washington, DC 20500

Re: Shortages of Critical Medications for COVID-19 Patient Care

Dear Vice President Pence:

On behalf of our more than 55,000 pharmacists, pharmacy students, and pharmacy technicians practicing on the front lines of COVID-19 response, we urge the Administration to take urgent action to address shortages of supportive medications critical to ventilating and treating coronavirus patients.

ASHP greatly appreciates the efforts of the Taskforce and this Administration to assist hospitals in obtaining the personal protective equipment and ventilators necessary to keep patients alive. However, **these ventilators will be rendered useless without an adequate supply of the medications** – including opioids (e.g., fentanyl, morphine, hydromorphone), sedatives (e.g., midazolam, propofol), and paralytics (e.g., pancuronium, rocuronium, succinylcholine) – that must be administered concomitantly with mechanical ventilation in critically ill patients, including those with COVID-19, to ensure the successful use of this life-saving supportive care. **It is imperative that manufacturing of these medications be increased immediately and available supply be allocated based on current projections of critical care patient volume, rather than based on historical allocations, which do not reflect current need.**

Use of these essential medications has spiked as COVID-19 patient surge builds, and demand is outpacing supply and exhausting current allocations. Supplies freed up by the cessation of elective surgeries are not sufficient to match the intense critical illness of COVID-19 patients. In some cases, hospitals are scrambling to replenish dwindling stock with only hours before they run out completely. This need will grow exponentially over the next few weeks as case numbers climb nationally.

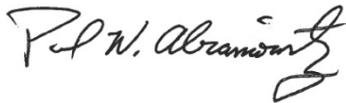
Since the COVID-19 crisis began, ASHP has been reaching out to federal agencies and Congress in an effort to protect our critical drug supply. Most recently, we, along with the American Hospital Association, the American Medical Association, and others, sent the Drug Enforcement Administration (DEA) a letter requesting that they immediately increase allocation of annual production quota for supportive opioids to manufacturers and 503B outsourcing facilities. We have also been working closely with the Food & Drug Administration (FDA) to mitigate potential and ongoing shortages (fentanyl, morphine, and hydromorphone have been on FDA's shortage list for months) and to request additional regulatory flexibilities for hospitals and 503B outsourcing facilities to compound essential medications, which have not yet been granted. Additionally, we are aware that the Department of Health & Human Services released a request for information regarding manufacturing capacity

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for critical drugs, but we were dismayed to see that the medications necessary for ventilating patients were designated Tier 2. Failure to treat these drugs as anything other than absolutely essential will render ventilators worthless and exact a heavy patient toll. (An appendix has been attached detailing drugs that are needed to treating these critical care patients.)

We respectfully request that you direct the agencies to coordinate their efforts to increase manufacturing capacity to the greatest extent possible for the duration of the national emergency to ensure that available supply is allocated based on volume of critical care patients. ASHP and its members will assist in any way possible. Please do not hesitate to let us know if we can provide additional information or data to aid the Administration in its efforts to defeat COVID-19.

Sincerely,

A handwritten signature in black ink, appearing to read "Paul W. Abramowitz". The signature is fluid and cursive, with a large, stylized initial "P" and "A".

Paul W. Abramowitz

				First date of ASHP Shortage tracking
<b>Sedation / Pain / Palliative Care</b>				
<b>Intravenous/Intramuscular</b>	Form	Preferred package size(s)	Other package size(s)	
Fentanyl*	50 mcg/mL injection, vials or ampules	50 mL and 20 mL	5 mL, 2 mL, 1 mL	August 28, 2015
Midazolam* continuous infusion	5 mg/mL injection vials			September 7, 2018
Midazolam for intubation	1 mg/mL injection or syringe	10 mL and 4 mL		September 7, 2018
Hydromorphone				June 2, 2017
Morphine				May 14, 2009
Remifentanyl				not following
Propofol (also for intubation)				March 27, 2020
Lorazepam				February 11, 2016
Dexmedetomidine				January 24, 2018
Ketamine (also for intubation)				February 6, 2018
Etomidate (intubation)				June 10, 2011
Diazepam				not following
Phenobarbital				not following
Pentobarbital				not following
<b>Oral/Enteral options</b>				
Hydromorphone				June 2, 2017
Oxycodone				not following
Morphine (also concentrated liquid for palliative)				May 14, 2009
Lorazepam (also concentrated liquid for palliative)	Tablet			October 4, 2018
Diazepam				not following
Chlordiazepoxide				November 20, 2019
<b>Neuromuscular blockers</b>				
Succinylcholine (intubation)				not following
Rocuronium (continuous or intubation)				February 9, 2017
Vecuronium (continuous or intubation)				September 15, 2015
Cisatracurium				not following
Atracurium				not following
Pancuronium				not following
<b>ICU agitation</b>				
Olanzapine				not following

Quetiapine				not following
Haloperidol				not following
Droperidol				October 15, 2019
Risperidone				not following
Asenaptine				not following
<b>ICU supportive care</b>				
Scopolamine patch (secretions)				not following
Glycopyrrolate (secretions)				not following
Atropine eye drops (secretions in palliative patients)				October 11, 2019
Artificial tears/ophthalmic lubricants (for paralyzed patients)				not following
Lidocaine UroJet or Surgilube for urinary catheter insertion				not following
<b>Cardiovascular support</b>				
Norepinephrine				February 9, 2017
Phenylephrine				not following
Vasopressin				not following
Dopamine				May 20, 2016
Epinephrine				May 1, 2017
Milrinone				not following
Dobutamine				October 23, 2016
Amiodarone				April 19, 2017
<b>Respiratory meds</b>				
Albuterol inhalers				March 22, 2020
Albuterol nebulizer solution				not following
Chlorhexidine (mouth rinse to prevent ventilator associated pneumonia)				not following
Methylprednisolone (severe asthma/COPD)				not following
Prednisone (severe asthma/COPD)				March 22, 2019
Hydrocortisone (adrenal insufficiency)				March 25, 2020
Budesonide inhalation (COPD)				not following
Duoneb				not following
Combivent				not following

Dexamethasone				March 17, 2011
Epoprostenol (Veletri) / Flolan if Veletri not available				not following
GI / Stress ulcer prophylaxis				
Pantoprazole				March 16, 2019
Famotidine injection				had resolved
Omeprazole				not following
Any PPI/H2RA				
Famotidine tablets				November 19, 2019
Ranitidine injection				May 14, 2018
Senna (especially on opioid)				
Docusate (especially on opioid)				not following
Miralax (especially on opioid)				August 8, 2019
				not following
Hematology (DVT prophylaxis/treatment)				
Heparin				January 23, 2017
Enoxaparin				September 5, 2018
Other low-molecular-weight heparins				not following
Fonaparinux				not following
Sequential compression devices				not following
Direct oral anticoagulants with DVT prophylaxis approval				not following
Bivalirudin				May 2, 2019
Argatroban				October 15, 2018
Antimicrobials				
Vancomycin				February 8, 2009
3rd/4th generation cephalosporin				
Ceftazidime				November 22, 2011
Cefoxitin				October 31, 2016
Cefepime				May 14, 2014
Avibactam/ceftazidime				February 21, 2020
Antipseudomonal beta-lactams				Pip/tazo 5/8/2013
Tamiflu				not following
Linezolid				not following

Hydroxychloroquine				March 10, 2020
Chloroquine				March 4, 2020
Azithromycin injection				Injection 1/11/2018
ARDS				
Tocilizumab (along with steroids & paralytics)				not following
IV Fluids / Electrolytes				
Liter bags of fluids (LR, Plasmalyte, NS,				not following
250 mL bags for mixing (NS, D5)				May 4, 2017
Sodium bicarbonate				February 2, 2017
Sodium acetate				May 9, 2017
Sodium citrate				not following
Primasol/Primasate (if CRRT)				not following