Pulmonary Arterial Hypertension: Phosphodiesterase 5 Inhibitors and Guanylate Cyclase Stimulators Utilization Management Criteria

Therapeutic Class:	Pulmonary Arterial Hypertension: Phosphodiesterase 5 Inhibitors and Guanylate Cyclase
Non-Preferred Agents:	Adcirca (tadalafil), Adempas (riociguat), Revatio (sildenafil citrate) suspension/tablet, sildenafil suspension, Tadliq (tadalafil)
Preferred Agents:	Sildenafil 20mg tablet, tadalafil 20 mg tablet (generic Adcirca), Alyq 20 mg (tadalafil)
Implementation Date:	1/1/2026
Prepared For:	CT
PDL Status:	Non-preferred & Preferred
Purpose:	Pulmonary hypertension (PH) is a disease characterized by elevated pulmonary artery pressure. The World Health Organization (WHO) classifies patients with PH into five groups: Group 1 (pulmonary arterial hypertension [PAH]), Group 2 (PH due to left heart disease), Group 3 (PH due to chronic lung disease and/or hypoxemia), Group 4 (PH due to pulmonary artery obstructions), Group 5 (PH due to unclear mechanisms). PAH is a progressive disease characterized by dyspnea, fatigue, syncope, and edema. Patients with PAH are typically evaluated for baseline risk of disease progression and death prior to the selection of therapy; risk stratification determines initial treatment regimen selection. PAH-specific agents include prostacyclin pathway agents, endothelin-1 receptor antagonists, phosphodiesterase-5 inhibitors, a soluble guanylyl cyclase stimulator, an activin-signaling inhibitor, or, more rarely used, calcium channel blockers. The two classes of agents included in this review are the phosphodiesterase-5 inhibitors (PDE5Is) and the soluble guanylate cyclase (sGC) stimulators. Both classes increase signaling in the nitric oxide (NO) and cyclic GMP (cGMP) pathways. The PDE5Is, sildenafil and tadalafil, act to enhance and prolong the action of cyclic guanylate monophosphate (cGMP) through inhibition of the PDE5 isoenzyme that catalyzes its breakdown, resulting in the relaxation and vasodilation of the pulmonary vasculature. Riociguat, a soluble guanylate cyclase (sGC) stimulator, sensitizes sGC to endogenous NO and stimulates sGC to produce cGMP independently from NO availability, resulting in subsequent vasodilation. Sildenafil, tadalafil, and riociguat are all approved to treat World Health Organization (WHO) Group 1 PAH. Riociguat is also approved for use in WHO Group 4 chronic thromboembolic pulmonary hypertension (CTEPH). Common side effects amongst all 3 medications include headache, flushing, and dyspepsia. The PDE5Is have a warning for possible vision or hearing loss. Riociguat is contraindicated in pregnancy.

	Both classes are contraindicated in combination with each other or with organic nitrates.

Table 1. Pulmonary Arterial Hypertension: Phosphodiesterase 5 Inhibitors and Guanylate Cyclase

Generic Name	Brand Name	Approved Indications	Route of Administration	Generic Availability
Riociguat	Adempas®	PAH (WHO group 1), CTEPH (WHO group 4)	PO	N
Sildenafil	Revatio®	PAH (WHO group 1)	PO, IV	Y
Tadalafil	Adcirca®	PAH (WHO group 1)	PO	Y
	Alyq®			N
	Tadliq®			N

Abbreviations: CTEPH, chronic thromboembolic pulmonary hypertension; IV, intravenous; PAH, pulmonary arterial hypertension; PO, orally; WHO, World Health Organization.

All authorizations must be prescribed in accordance with FDA approved labeling. Use of samples to initiate therapy does not meet step therapy and/or continuation of therapy prior authorization requirements. Prior therapies will be verified through pharmacy claims and/or submitted chart notes.

General Approval Criteria:

- Requested quantity in accordance with FDA approved product labelling
- For specific formulation requests
  - **For brand requests when a therapeutically equivalent generic is preferred:** Provider must provide a documented medical reason the preferred generic formulation cannot be used
  - **For generic requests when a therapeutically equivalent brand is preferred:** Provider must provide a documented medical reason the preferred brand formulation cannot be used
  - **For non-preferred dosage or formulation requests:** Provider must provide a documented medical reason the preferred dosage or formulation cannot be used

Initial Therapy for Non-preferred Agents- All of the following must be met:

- Documented diagnosis of pulmonary hypertension
- Failure to achieve desired therapeutic outcomes with a trial of **ONE** preferred agent (defined as 30 day trial) **OR** documentation of adverse drug event/adverse drug reaction or contraindication
- **For Sildenafil and Tadliq Suspensions:** Documentation of medical reason why a preferred formulation cannot be used . *(Trial and failure of preferred dosage form is not required for patients unable to swallow solid dosage forms)*

OR

For Adempas – All of the following must be met:

- Documented diagnosis of chronic thromboembolic pulmonary hypertension (CTEPH) **OR**
- Diagnosis of pulmonary arterial hypertension and failure to achieve desired therapeutic outcomes with a trial of **ONE** preferred agent (30 days) **OR** documentation of adverse drug event/adverse drug reaction or contraindication
- Provider attests that the patient is not pregnant

- Provider attests to having met the REMS requirements for counseling and monitoring for female patients

Initial PA length: 1 year

Exclusion Criteria: Coadministration with nitrates

Continuation Therapy: Documented compliance on current therapy regimen **AND**
Documented continued clinical benefit **AND**

- For specific formulation requests
  - **For brand requests when a therapeutically equivalent generic is preferred:** Provider must provide a documented medical reason the preferred generic formulation cannot be used
  - **For generic requests when a therapeutically equivalent brand is preferred:** Provider must provide a documented medical reason the preferred brand formulation cannot be used
  - **For non-preferred dosage or formulation requests:** Provider must provide a documented medical reason the preferred dosage or formulation cannot be used

Continuation Length: 1 year

For Preferred Agents: An accepted diagnosis code is required for Alyq, sildenafil and tadalafil claims

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Revision History

Date	Version	Revisions
11/7/2025	V1	Document approved by DSS.

