Supplementary Table 1. Criteria used to determine drug compliance with evidence-based aerosol therapy guidelines	
Drug therapy criteria	**Definition used in this study**
Correct indication	Drug prescribed for guideline-supported clinical indication
Appropriate drug selection	Drug class matched the recommended therapy for the diagnosis
Recommended dosing frequency	Frequency adhered to guideline dosing ranges for the medication and for the disease
No incompatible drug combinations	Drugs that should not be mixed were not administered together
Appropriate duration of therapy	Duration aligned with guideline recommendations and avoids unnecessary prolonged use
A session was classified as drug-compliant if all of the following criteria were met	

Supplementary Table 2. Criteria used to determine administration compliance with evidence-based aerosol therapy guidelines	
Administration criteria	**Definition used in this study**
Incorrect mask application	A mask not worn properly, resulting in an inadequate seal and reduced effectiveness of aerosol drug delivery
Inappropriate carrier gas selection	Follows guideline recommendations for carrier gas
Incompatible drug dilution	Dilution of the drug aligns with the recommendations specified in the guideline
A session was classified as administration-compliant if all of the following criteria were met	