

Expert consensus on the definition of methamphetamine-associated pulmonary arterial hypertension (Meth-APAH) and associated treatment considerations

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Background

- Methamphetamine use can result in methamphetamine-associated pulmonary arterial hypertension (Meth-APAH). Compared with idiopathic PAH (IPAH), Meth-APAH may have a worse clinical course.¹
- Meth-APAH is a growing concern due to the exponential increase in methamphetamine use across the United States (US).^{2,3}
- Furthermore, patients with Meth-APAH have typically been associated with lower socioeconomic status (SES), education levels, income, and employment rates than those with IPAH.⁴ Despite the growing prevalence of Meth-APAH and methamphetamine use, the approach to treating patients with Meth-APAH is varied. A systematic approach is required as Meth-APAH becomes more widespread.

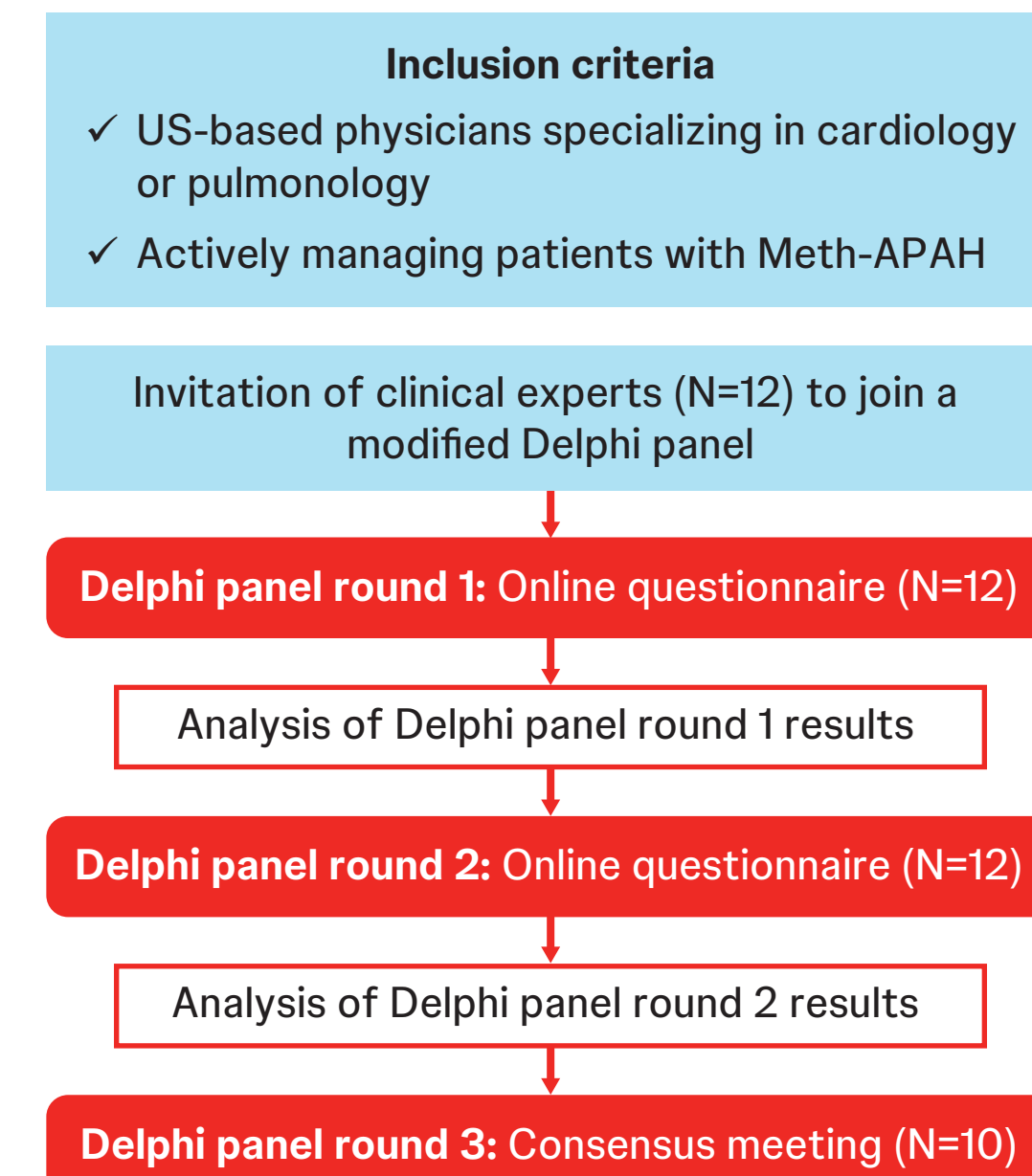
Objective

To collate, clarify, and develop a consensus of expert clinical opinion on the definition and classification of Meth-APAH and the impact of methamphetamine use on treatment considerations.

Methods

- A modified Delphi panel involving two survey rounds followed by a final consensus meeting was conducted with clinical experts.

Modified Delphi panel process



- A nine-point Likert scale (from 1 [strongly disagree] to 9 [strongly agree]) was used to rate consensus.

Results

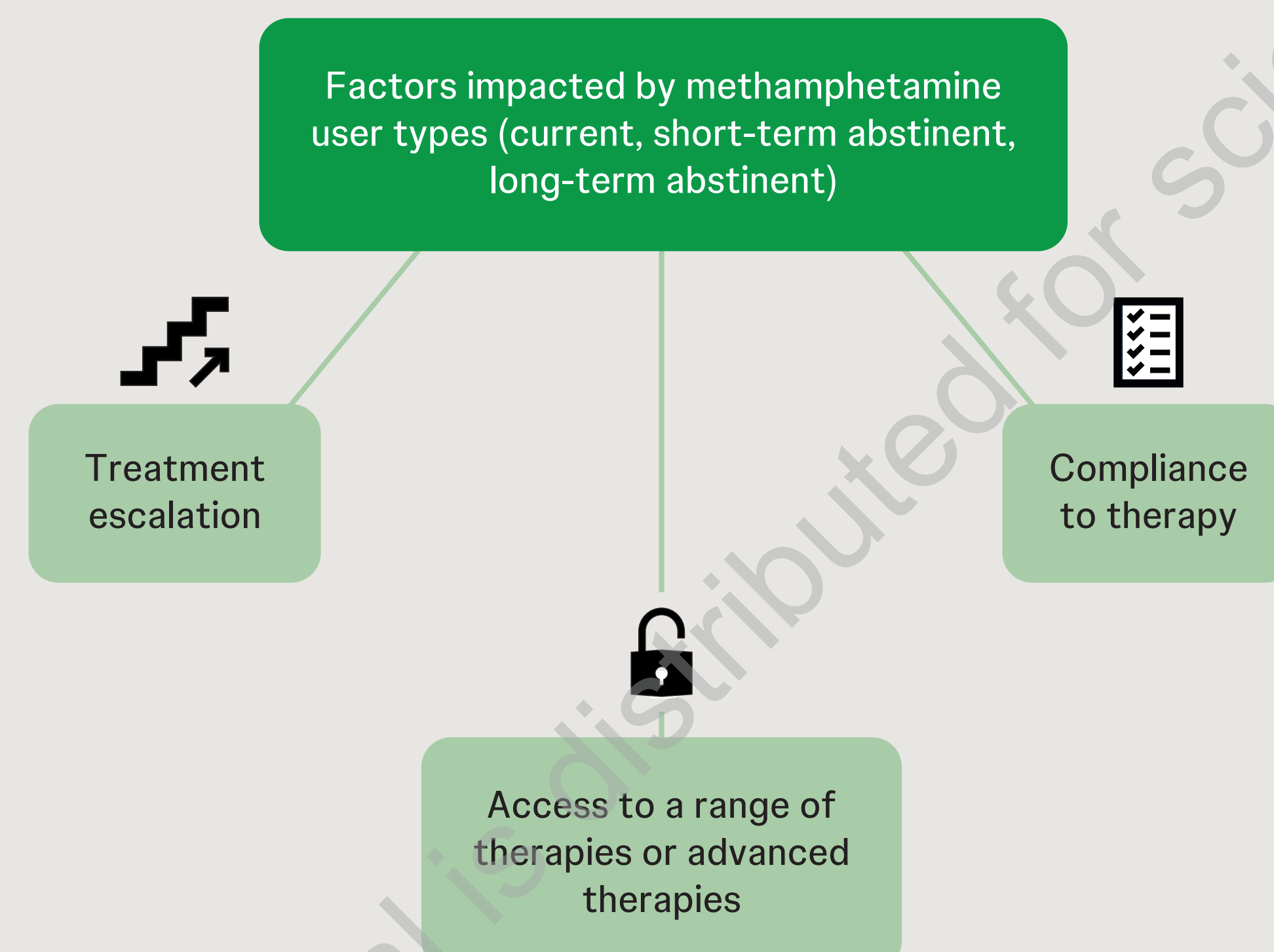
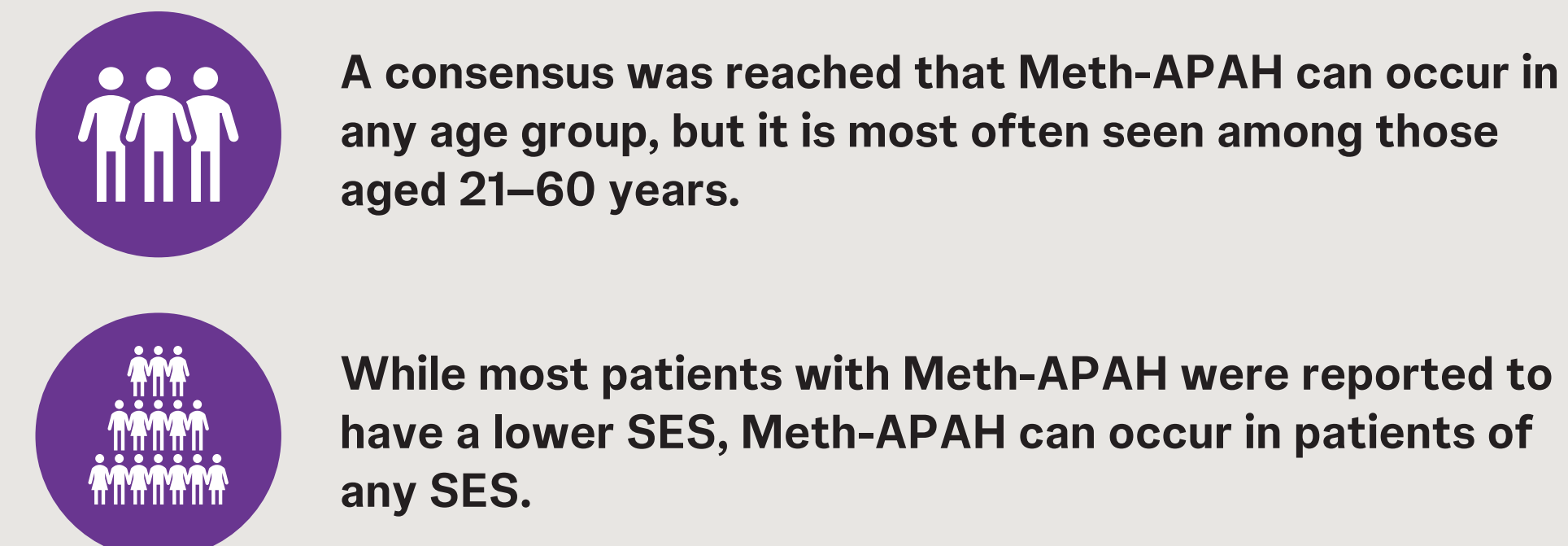
Panelist characteristics

Criteria		N
US-based physicians		12
Mean number of patients with PAH in a 3-month period		~50
Specialty area	Cardiology	1
	Pulmonology	11
Type of practice	Center of Comprehensive Care	6
	Academic Medical Center	5
	Private practice	1

PAH, pulmonary arterial hypertension.

Definition and characteristics of Meth-APAH

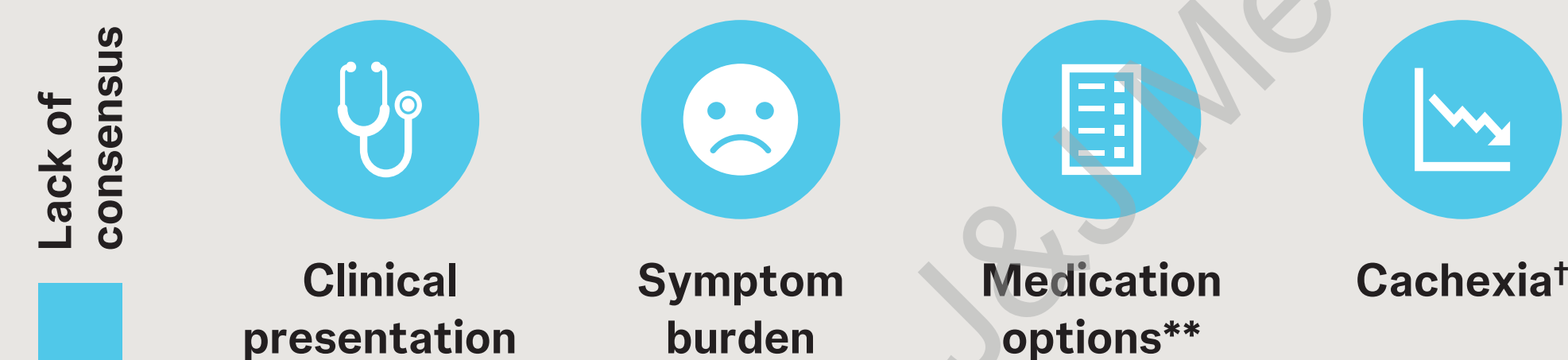
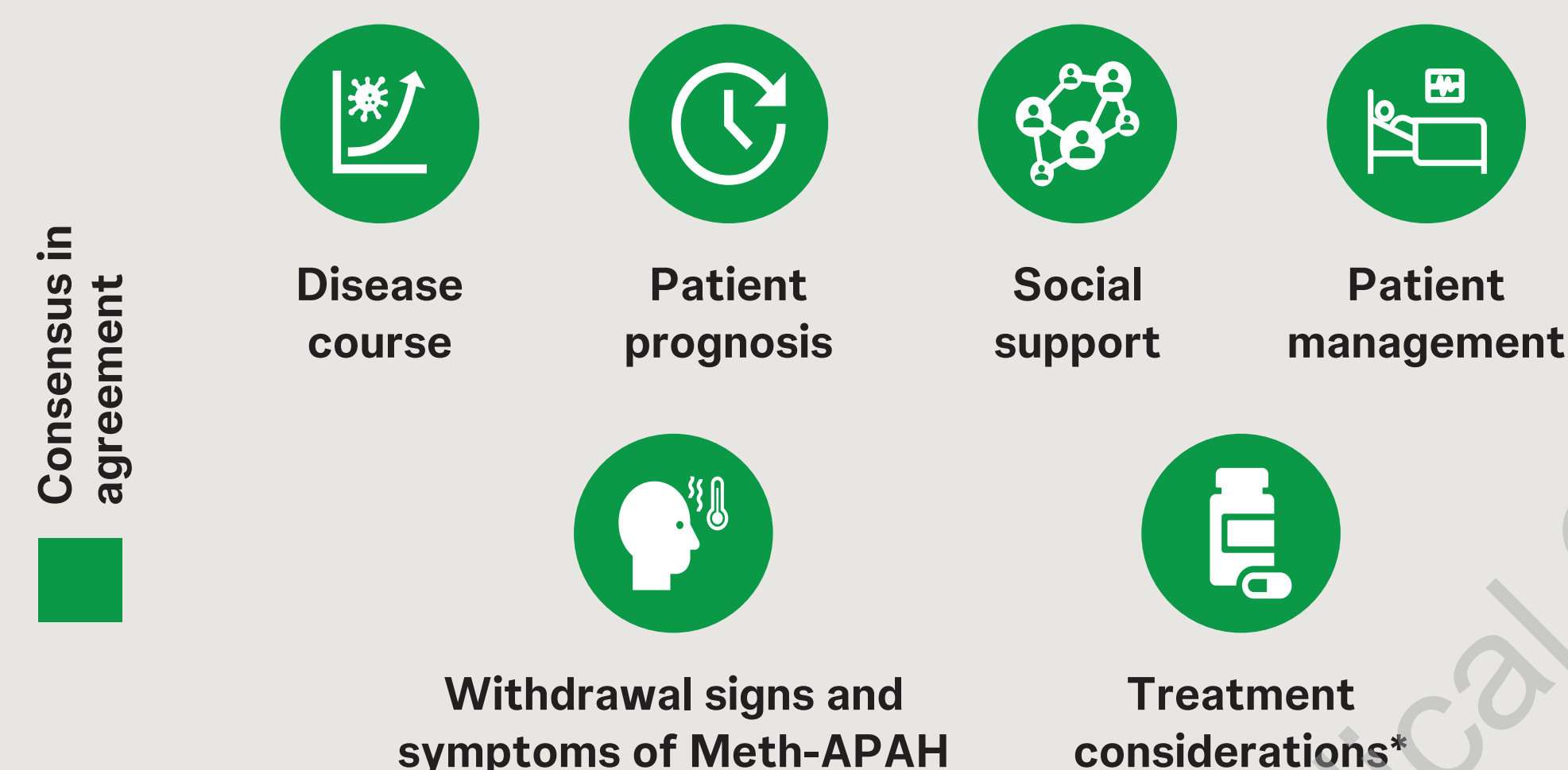
- The panel discussed whether Meth-APAH can be defined as World Health Organization Group 1 PAH in a patient with a history of methamphetamine use; however, a consensus in agreement was not reached.
- Panelists felt that additional details needed to be incorporated, e.g. the definition of Meth-APAH should specify duration, dosage, and/or frequency of methamphetamine use. However, parameters for these vary due to the heterogeneity of the patient population.
- The panel further explained that the definition of Meth-APAH should incorporate the exclusion of other etiologies.



- The timeframes that define methamphetamine user types are not well established and lack precision.

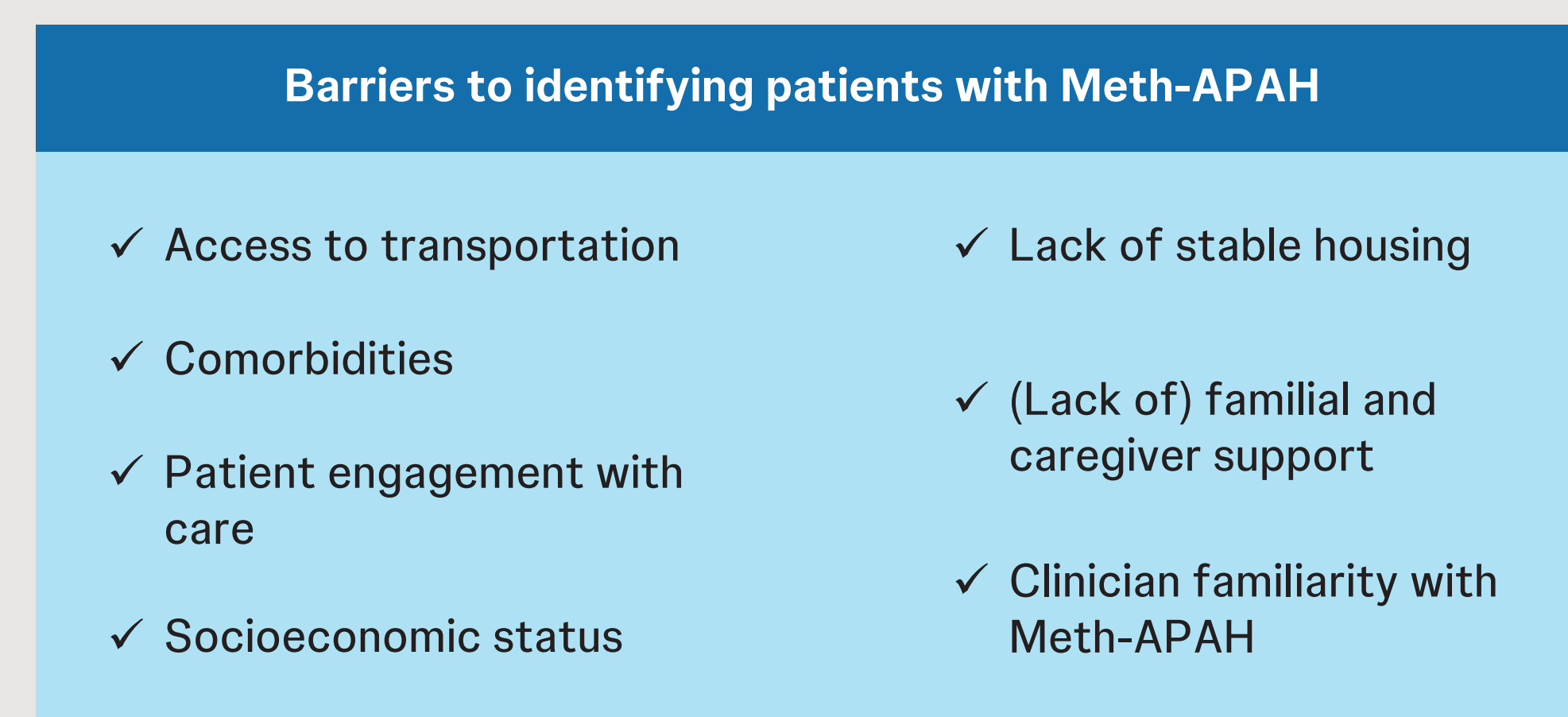
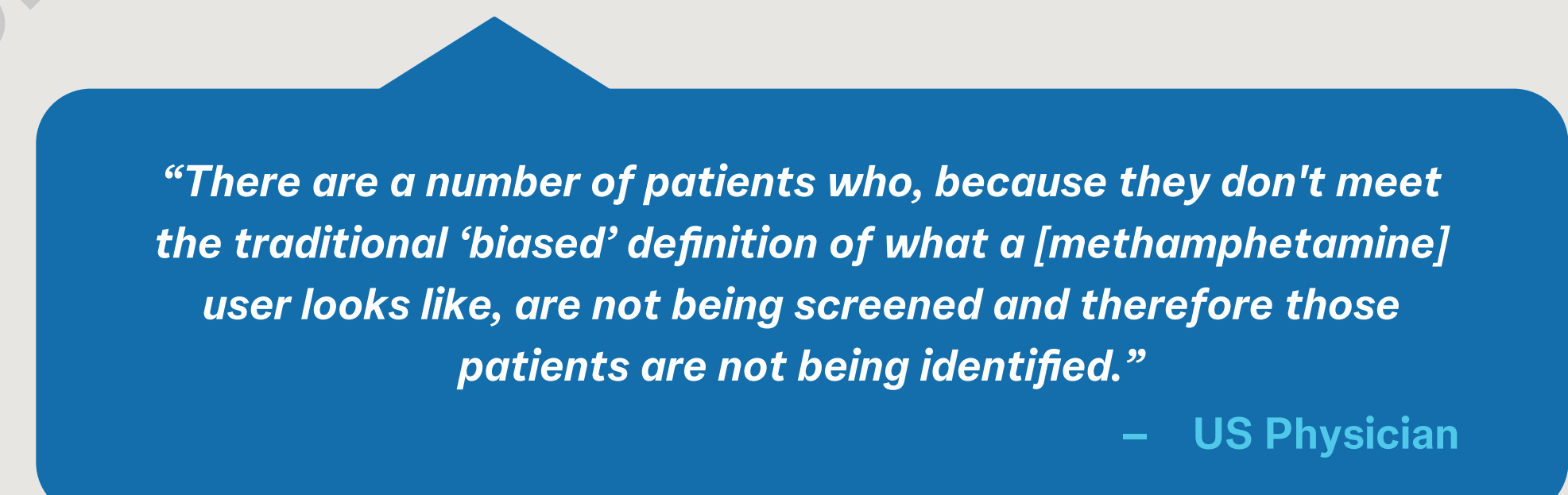
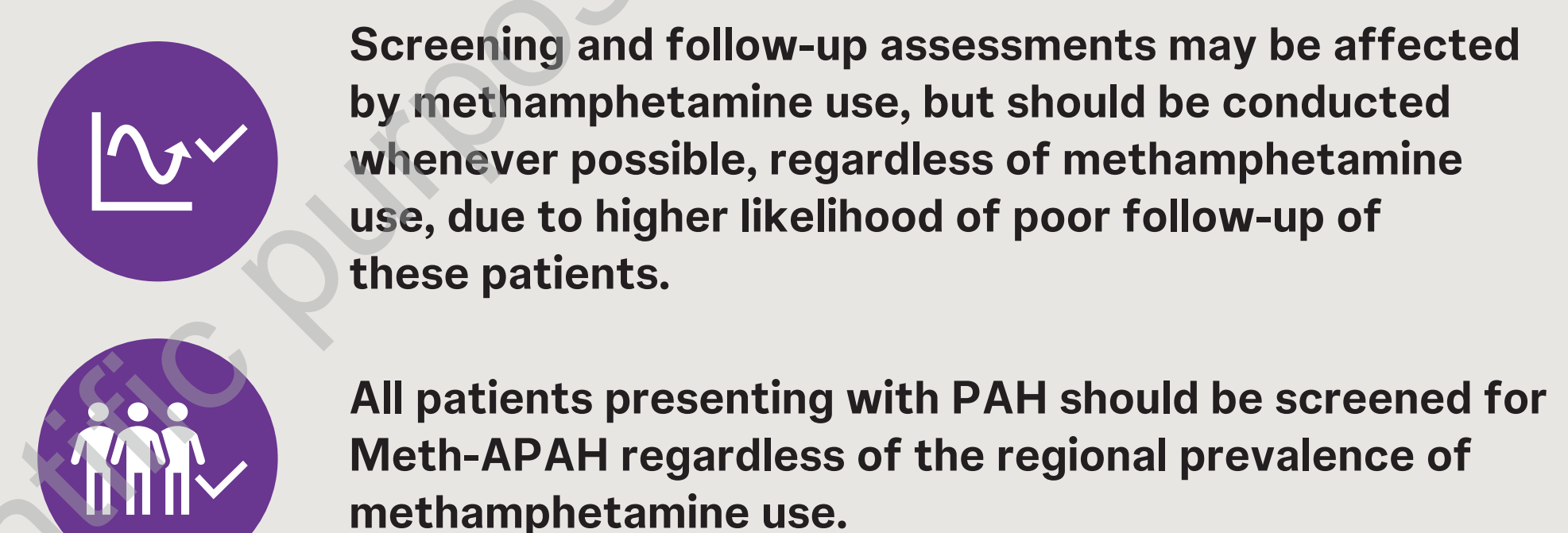
Meth-APAH versus IPAH

- The panel agreed that Meth-APAH and IPAH were different in several key domains but could not come to agreement about differences in others:



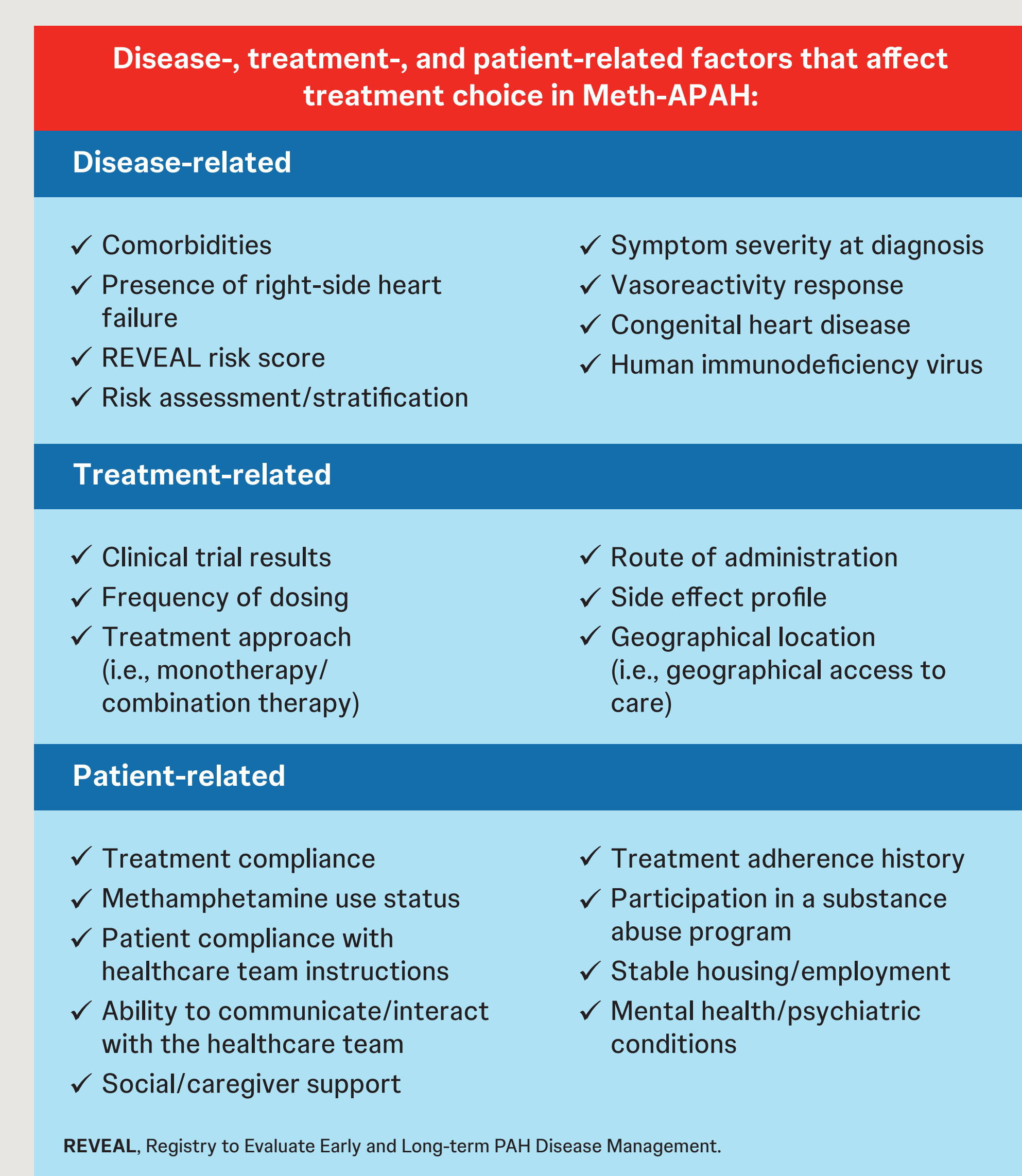
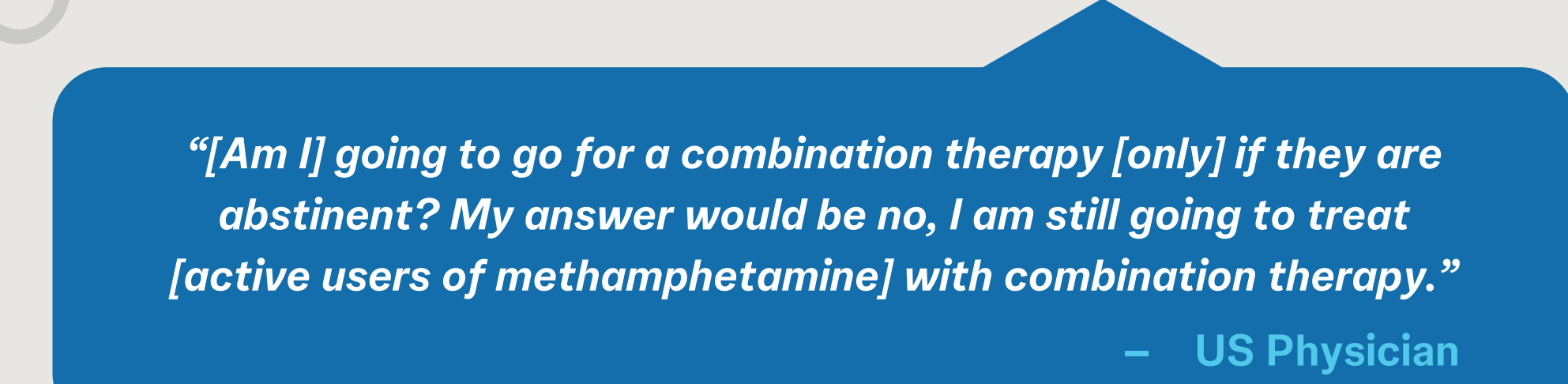
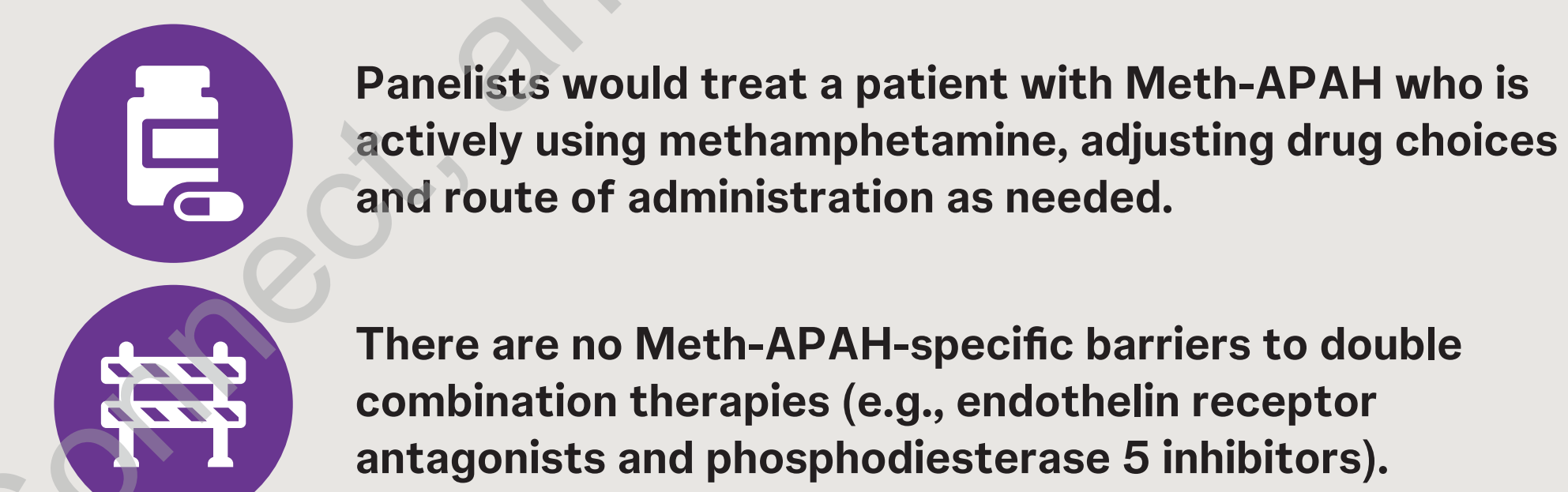
Identifying patients with Meth-APAH

- Physicians reached a consensus in agreement that:



Treatment implications and barriers for patients with Meth-APAH

- A consensus in agreement was reached that:



Meth-APAH in clinical trials

- The panel agreed that patients with Meth-APAH should be included in:



Key takeaway

- This is the first systematic approach to setting standards for and defining, diagnosing, and treating this unique patient population for which there is no standardized guidance.
- The characterization of Meth-APAH is expected to aid in the quicker identification and individualized management of patients with Meth-APAH to improve clinical outcomes as well as raising awareness.

Conclusions

- The heterogeneity of Meth-APAH and the wider PAH patient population causes difficulty in defining and characterizing this under-recognized PAH subtype. Methamphetamine user types impact disease-, treatment-, and patient-related factors.
- The definition of Meth-APAH should consider factors such as duration, frequency, and/or dose of methamphetamine use and the exclusion of other etiologies.
- All patients presenting with PAH should be screened for Meth-APAH regardless of regional prevalence of methamphetamine use.
- Patients with Meth-APAH can be treated according to the same guidelines recommended for patients with IPAH.
- Patients with Meth-APAH should consistently be included as part of clinical trials to generate information regarding treatment and disease management within this patient population.

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Pulmonary Hypertension



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