Time to and Time in Better Health States with Sotatercept for Pulmonary Arterial Hypertension: A modelling study

Draganigos A[1]., Skroumpelos A[1]., Klok R[2]., Arnet U[3]., Michel J[4]., Jootun M[5].

[1]MSD Greece, Athens, Greece, [2]Merck & Co., Inc., Rahway, NJ, USA, [3]MSD, Zürich-Airport, Switzerland, [4]MSD International, Schlierbach, Switzerland, [5]MSD (UK) Limited, London, UK

Objectives

- Pulmonary arterial hypertension (**PAH**) is a **chronic**, **progressive** disease that significantly reduces patients' quality of life (**QoL**) and imposes a substantial **burden** on **families** and **healthcare systems**
- PAH management strategies **emphasize** the importance of **keeping** patients in **better health states** for extended periods, as this can help **preserve** physical function, independence, and overall life satisfaction
- By supporting patients to remain **stable** or **improve**, the overall **burden** on caregivers is **reduced**, alleviating stress and allowing families to maintain a higher **quality of daily life**
- These outcomes not only benefit the individual patient but also contribute to the **sustainability** of healthcare systems by **minimizing** the resource use required for managing advanced **disease complications**

Methods

- A previously published **Markov model**[1] was utilized to **simulate** disease progression in patients with pulmonary arterial hypertension (**PAH**) treated with sotatercept plus background therapy (**BGT**) compared to those receiving **BGT** alone in Greece. The model used a lifetime horizon
- Given that Low risk patients could not transition to a better Health state, patients were categorized into three **risk groups** at baseline: **high**, intermediate-high (**IH**), and intermediate-low (**IL**) at the start of the analysis
- The primary outcomes assessed by the model included the amount of time patients spent in **better** or **not worse** health **states**, as well as the time required to **reach** better health states
- Model inputs were informed by the STELLAR trial and peer-reviewed literature on functional class (FC) transitions and survival[2].

RESULTS

Time-in Better Health State

- In high-risk patients, time in better health states was 12.21 years with sotatercept versus 1.85 years with BGT; time in not worse health states was 13.98 years versus 3.84 years.
- In IH-risk patients, time in better health states was 15.65 years with sotatercept versus 1.40 years with BGT; time in not worse health states was 16.21 years versus 2.29 years.
- IL-risk patients experienced 12.85 and 15.50 years in better and not worse health states with sotatercept, versus 1.44 and 2.75 years with BGT.

Time-to Better Health State

- Median time to improvement was 3 weeks for high-risk patients in both arms
- Median time to improvement was 12 weeks for IH-risk patients with sotatercept versus 84 weeks with BGT
- Median time to improvement was 12 weeks for IL-risk patients with sotatercept versus over 180 weeks with BGT

Time-in better health state per different risk group patients
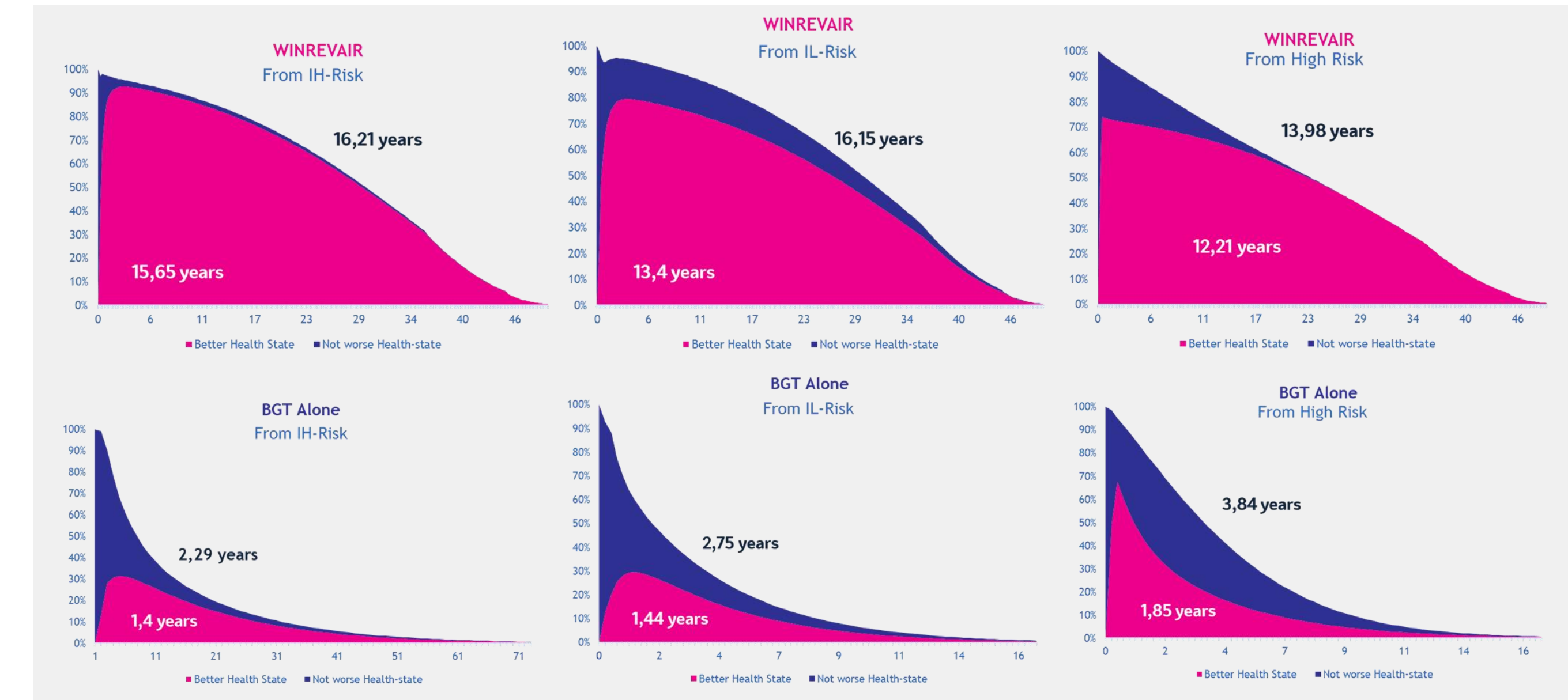
Time-to better Health State per different risk group patients
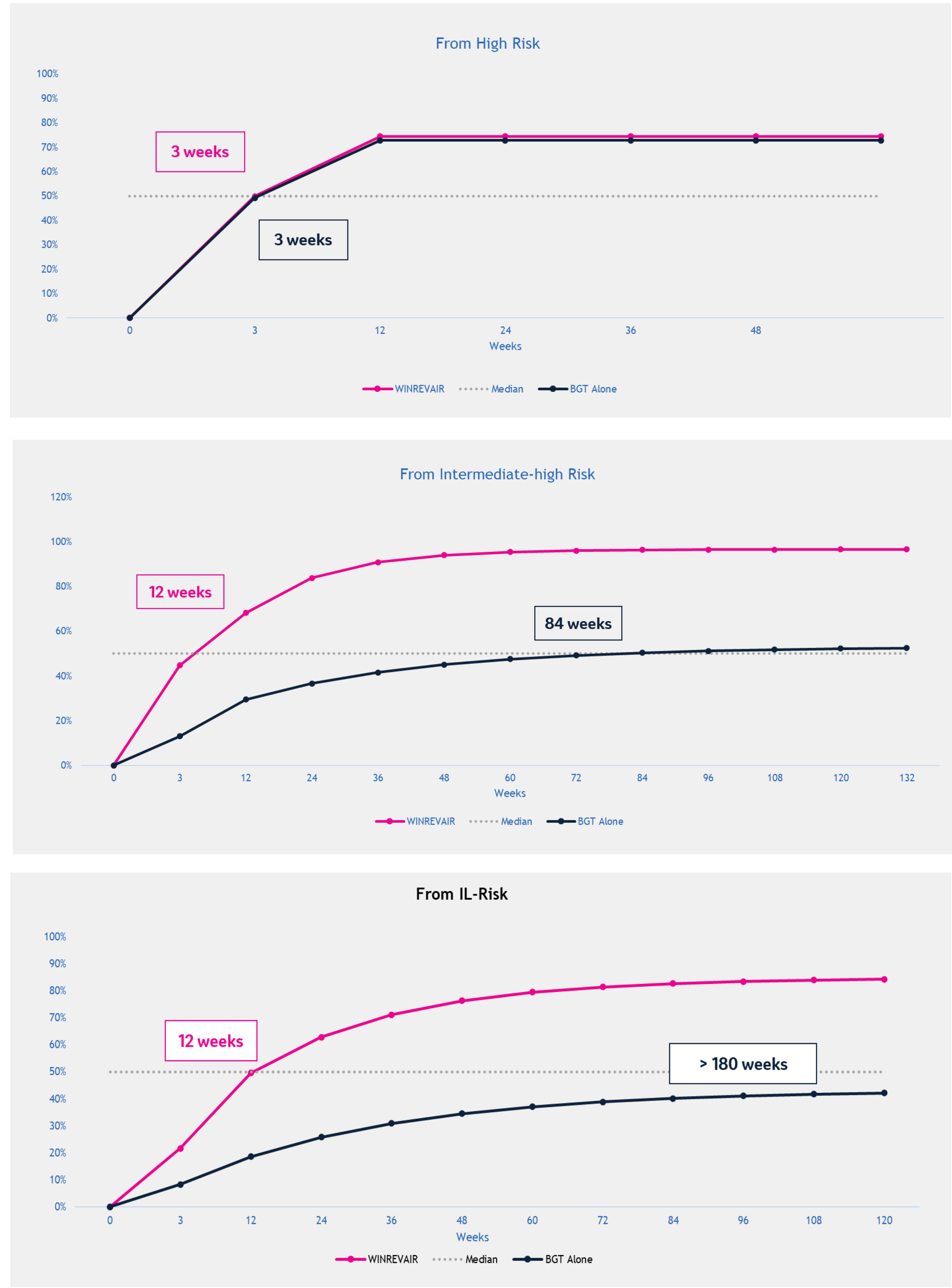
Conclusions

- Sotatercept provides significant long-term benefits for patients with pulmonary arterial hypertension (PAH) by notably increasing the duration patients remain in better or not worse health states
- These sustained improvements in health status contribute to enhanced quality of life (QoL) for patients and also help reduce the physical and emotional burden on caregivers, allowing families more time together in better health and less time managing advanced disease complications
- By prolonging periods of improved health and delaying the onset of worse health states, sotatercept not only defers the significant costs associated with advanced PAH management but also reinforces its value for both patients and the broader healthcare system

References

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Contact information
aristeidis.draganigos@msd.com