Enhancing the Lives of Patients with Hematologic Malignancies

Corporate Presentation

February 2024

Forward-Looking Statements and Safe Harbor

Except for the historical information contained herein, this presentation contains forward-looking statements made pursuant to the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. Investors are cautioned that such statements, include, without limitation, those regarding: (i) that the Company is on target for successful transition to a commercial company in 2024; (ii) plans for approval and a potential launch of imetelstat in TD LR-MDS in the U.S. by the end of the first half of 2024 and for the MAA review to be completed in early 2025, with potential EU approval and launch in 2025; (iii) that imetelstat has showed unprecedented durability of transfusion independence across multiple MDS patient subgroups that are not addressed by currently available products, and is a differentiated first-in-class investigational telomerase inhibitor; (iv) that for the Phase 3 IMpactMF in R/R MF, Geron expects to conduct an interim analysis in the first half of 2025 and the final analysis in the first half of 2026, together with the assumptions used in making these estimates; (v) that the Company believes imetelstat has a potential total addressable market (TAM) in the US/EU of greater than $3.5B in TD LR-MDS and greater than $3.5B in R/R MF in 2031; (vi) the status, plans and expected timing of the Company's clinical programs on its pipeline chart; (vii) that imetelstat has the potential to have disease-modifying activity in patients; (viii) the Company's estimates and assumptions used in the calculations of percentages and numbers of patients in the treatment landscape for LR-MDS; (ix) that the Company expects imetelstat to be a highly differentiated product in the TD LR-MDS commercial marketplace; (x) that there are unmet needs in TD LR-MDS and R/R MF potentially addressed with imetelstat treatment; (xi) the Company's market research used to obtain the views of practicing hematologists of the IMerge Phase 3 data and the opportunity in TD LR-MDS patients, including the characteristics of imetelstat and the Phase 3 data that support the expectation that imetelstat can become a compelling treatment option and standard of care with a significant market opportunity; (xii) that the Company is well-positioned for a successful launch of imetelstat, if approved, and the Company's plans and expectations regarding launch preparations; (xiii) the Company's assumptions and expectations regarding the expected opportunity for imetelstat in R/R MF; (xiv) the Company's projections of operating expenses in 2024; (xv) the Company's projections and expectations regarding the sufficiency of its cash resources and expected available resources to fund its projected operating requirements into Q3 2025, and the assumptions underlying such projections and expectations; (xvi) the Company's estimates and assumptions used in the calculations of total addressable market (TAM); and (xvii) other statements that are not historical facts, constitute forward-looking statements. These forward-looking statements involve risks and uncertainties that can cause actual results to differ materially from those in such forward-looking statements. These risks and uncertainties, include, without limitation, risks and uncertainties related to: (a) whether the FDA and EMA may have issues with the NDA or MAA for imetelstat for TD LR-MDS that delay or prevent approval and a potential commercial launch; (b) whether we will be able to continue to develop imetelstat or advance imetelstat to subsequent clinical trials, or that we will be able to receive regulatory approval for or successfully commercialize imetelstat, on a timely basis or at all; (c) whether imetelstat may cause, or have attributed to it, adverse events that could further delay or prevent the commencement and/or completion of clinical trials, delay or prevent its regulatory approval, or limit its commercial potential; (d) whether the IMpactMF Phase 3 trial for R/R MF has a positive outcome and demonstrates safety and effectiveness to the satisfaction of the FDA and international regulatory authorities, and whether our projected rates for enrollment and death events differ from actual rates, which may cause the interim and final analyses to occur later than anticipated; (e) whether we overcome all of the enrollment, clinical, safety, efficacy, technical, scientific, intellectual property, manufacturing and regulatory challenges in order to have the financial resources for, and to meet the expected timelines and planned milestones; (f) if imetelstat is approved for marketing and commercialization, whether we are able to establish and maintain effective sales, marketing and distribution capabilities, obtain adequate coverage and third-party payor reimbursement, and achieve adequate acceptance in the marketplace; (g) whether imetelstat actually demonstrates disease-modifying activity in patients; (h) whether there are failures in manufacturing or supplying sufficient quantities of imetelstat that would delay, or not permit, the anticipated commercial launch or not enable ongoing or planned clinical trials; (i) whether we are able to obtain and maintain the exclusivity terms and scopes provided by patent and patent term extensions, regulatory exclusivity, and have freedom to operate; (j) that we may be unable to successfully commercialize imetelstat due to competitive products, or otherwise; (k) that we may decide to partner and not to commercialize independently in the U.S. or in Europe and other international markets; (l) whether we have sufficient resources to satisfy our debt service obligations and to fund our planned operations; (m) that we may seek to raise substantial additional capital in order to complete the development and commercialization of imetelstat and to meet all of the expected timelines and planned milestones, and that we may have difficulty in or be unable to do so; and (n) the impact of general economic, industry or political climate in the U.S. or internationally and the effects of macroeconomic conditions on our business and business prospects, financial condition and results of operations. Additional information on the above risks and uncertainties and additional risks, uncertainties and factors that could cause actual results to differ materially from those in the forward-looking statements are contained under the heading "Risk Factors" or other similar headings found in documents Geron files from time to time with the Securities and Exchange Commission (the "SEC"), including the Company's Report on Form 10-Q for the quarter ended September 30, 2023 and subsequent filings. Undue reliance should not be placed on forward-looking statements, which speak only as of the date they are made, and the facts and assumptions underlying the forward-looking statements may change. Except as required by law, Geron disclaims any obligation to update these forward-looking statements to reflect future information, events or circumstances.

Geron is on Target for a Successful Transition to Commercial Company in 2024

PDUFA date of June 16, 2024, for imetelstat in transfusion-dependent (TD) LR-MDS*
ODAC scheduled for March 14, 2024
MAA review completion expected in early 2025

Imetelstat Ph3 data showed unprecedented durability of red blood cell transfusion independence (RBC-TI) across multiple MDS patient subgroups, addressing areas of high unmet need#

Additional Ph3 trial of imetelstat ongoing in relapsed/refractory myelofibrosis (R/R MF) with an interim analysis expected first half of 2025

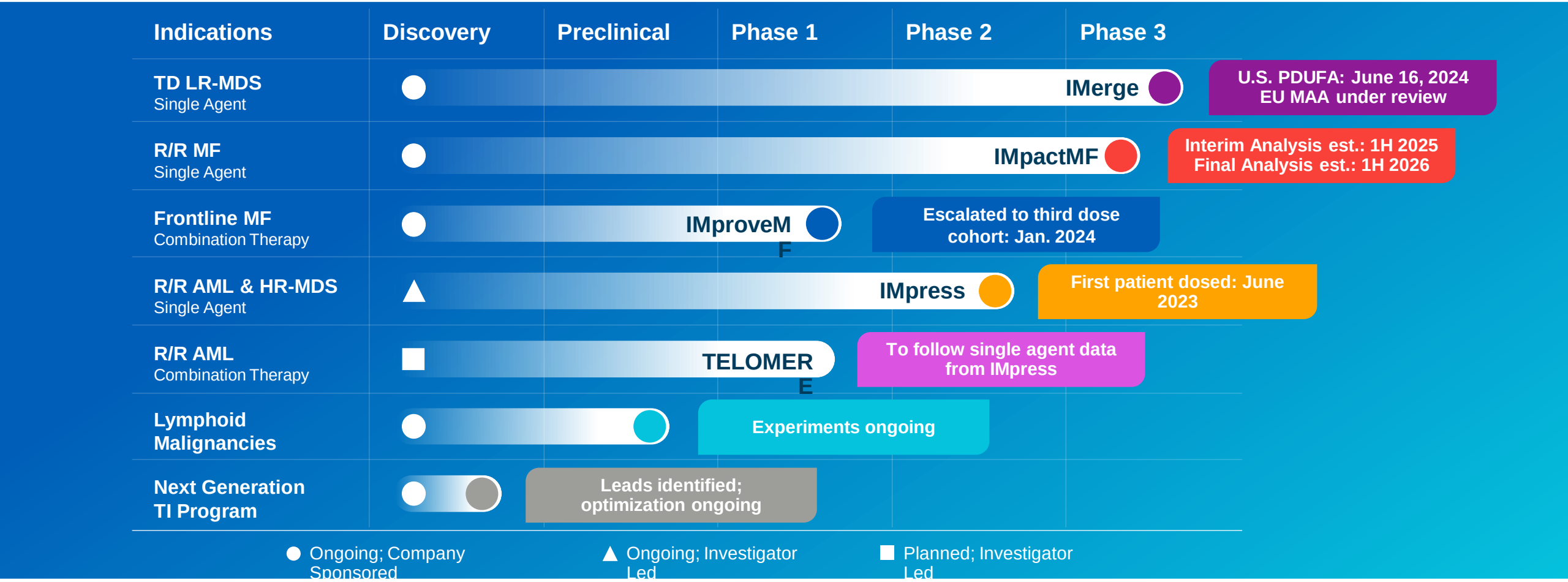
Significant commercial opportunities with total addressable market (TAM) for TD LR-MDS >$3.5B and R/R MF >$3.5B in 2031 (U.S./EU)^

*Imetelstat is currently under regulatory review by FDA and EMA for the treatment of transfusion-dependent anemia in adult patients with low- to intermediate-1 risk myelodysplastic syndromes (LR-MDS) who have failed to respond or have lost response to or are ineligible for erythropoiesis-stimulating agents (ESAs).

#Platzbecker, Santini et al. The Lancet 2023

^see slide 33 for more information on TAM and patient numbers

Exploring the Broad Potential of Imetelstat and Telomerase Inhibition



TD LR-MDS: transfusion-dependent lower-risk myelodysplastic syndromes; R/R MF: relapsed/refractory myelofibrosis; MF: myelofibrosis; R/R AML: relapsed/refractory acute myeloid leukemia; HR-MDS: higher-risk myelodysplastic syndromes; TI: telomerase inhibitor; PDUFA: Prescription Drug User Fee Act; MAA: marketing authorization application

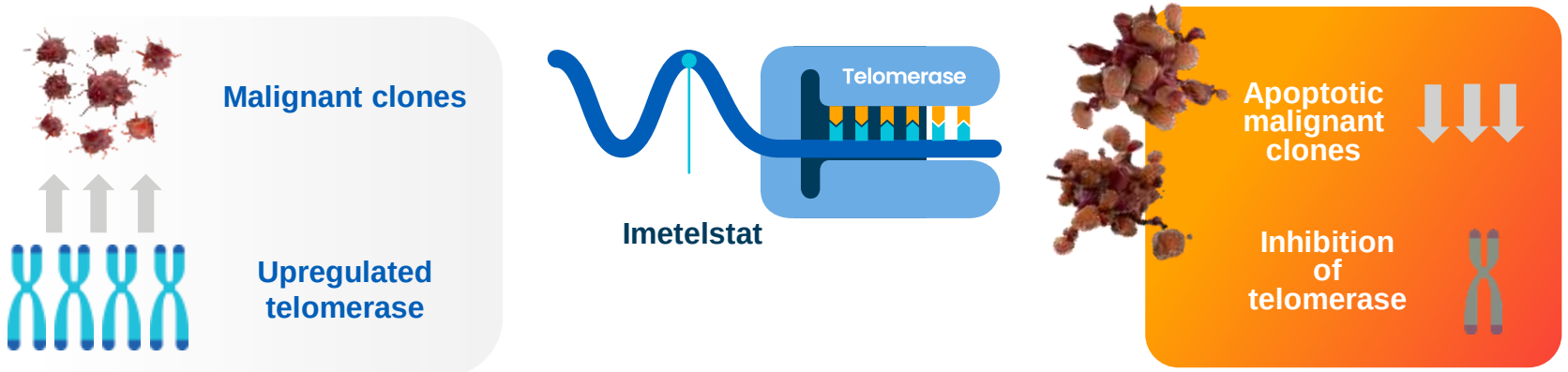
Imetelstat is a First-in-Class Telomerase Inhibitor Based on Nobel-Prize Winning Science

Potentially powerful mechanism for treating hematologic malignancies

Telomerase is continually upregulated in malignant cells

Imetelstat binds to telomerase, inhibiting its activity

Apoptosis of malignant cells and recovery of effective hematopoiesis



Imetelstat is designed to target malignant clones at their source and enable recovery of healthy blood cell production

Evidence for potential disease modification

- **Clinical efficacy**: durable TI (TD LR-MDS Ph3); improved overall survival (R/R MF Ph2)
- **Molecular data**: reductions in variant allele frequency (VAF) and depletion of mutated abnormal cells associated with disease

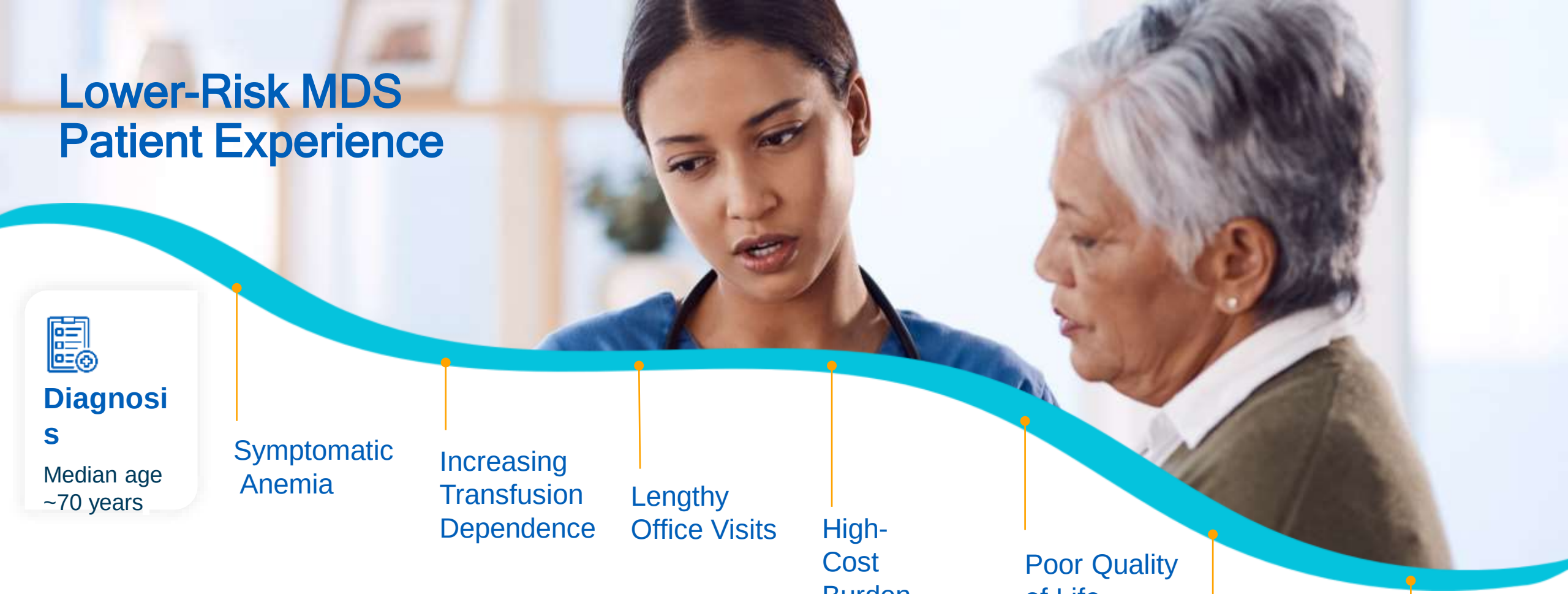
Murati et al, BMC Cancer 2012; Shih et al, Rev Cancer 2012; Ntziachristos et al, Adv Immunol 2013; Vardiman et al, Blood 2009; Kittur et al, Cancer 2007; Anastasi J Hematol Oncol Clin North Am, 2009; Hiyama et al, J Immunol 1995; Hiyama et al, Br J Cancer 2007; Bruedigam et al, Cell Stem Cell 2014; Mosoyan et al, Leukemia 2017; Wang et al, Blood Adv 2018; Steensma et al, JCO 2020; Platzbecker et al, ASH 2020; Mascarenhas et al, JCO 2021; Mascarenhas et al, ASH 2018 and 2020 and EHA 2021; Platzbecker, Santini et al, The Lancet 2023.

Transfusion-Dependent Lower-Risk MDS

PDUFA date of June 16, 2024*

*Imetelstat is currently under regulatory review in the U.S. and EU for the treatment of transfusion-dependent anemia in adult patients with low- to intermediate-1 risk myelodysplastic syndromes (MDS) who have failed to respond or have lost response to or are ineligible for erythropoiesis-stimulating agents (ESAs).

Lower-Risk MDS Patient Experience



Diagnosis

Median age ~70 years

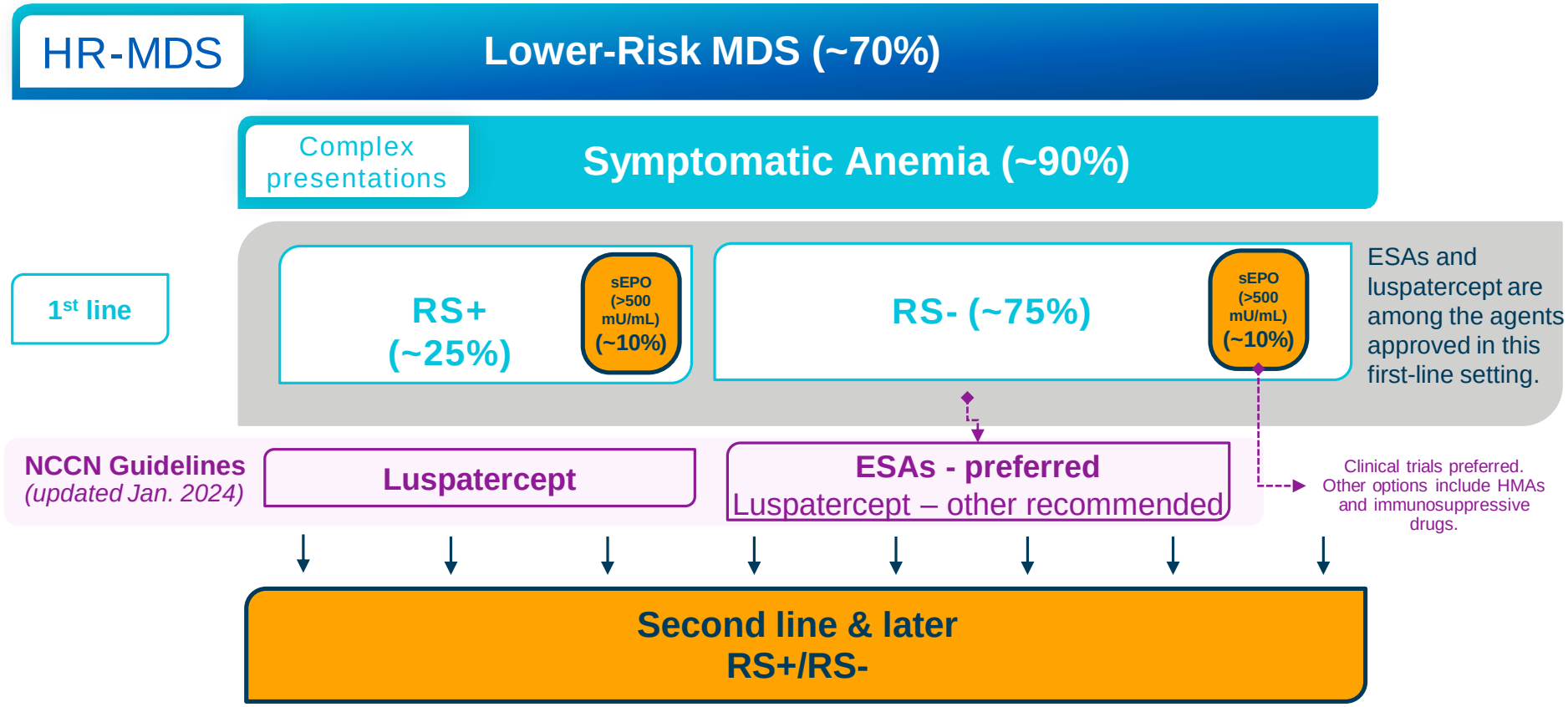
- Symptomatic Anemia
- Increasing Transfusion Dependence
- Lengthy Office Visits
- High-Cost Burden
- Poor Quality of Life
- Higher Risk of Progression to AML
- Shortened Survival

Symptomatic anemia and transfusion dependence are key drivers of patient burden and poor quality of life

DRG MDS Landscape & Forecast 2022, Mangaonkar, et al., Blood Cancer Journal 2018; Giagounidis, et al. Clinical Cancer Research 2016; Incidence and Outcomes for Low Risk MDS, ASH 2012; Greenberg et al, Blood 2012; Feneaux et al, JCO 2017; Platzbecker et al, Blood 2019; Cogle et al, Curr Hematol Malig Rep 2015; Greenberg et al Blood 1997; Greenberg et al, Blood 1997.

Treatment Landscape for LR-MDS

Continuing unmet need presents significant opportunity for imetelstat; ~$3.5B TAM in 2031 (U.S./EU)^



Significant potential opportunity for imetelstat:

- Frontline ESA ineligible (~4k)^
- ESA-failed, RS+ (~8k)^
- ESA-failed, RS- (~24k)^

Adapted from LR MDS NCCN Guidelines Jan. 2024; Ring sideroblasts present in ~23%–33% of patients with MDS and are associated with anemia (references: 2. Papaemmanuil E, Gerstung M, Malcovati L, et al. Clinical and biological implications of driver mutations in myelodysplastic syndromes. Blood. 2013;122(22):3616-3627. 3. Malcovati L, Cazzola M. Recent advances in the understanding of myelodysplastic syndromes with ring sideroblasts. Br J Haematol. 2016;174(6):847-858.

^see slide 33 for more information on TAM and patient numbers

Differentiated Imetelstat Profile in IMerge Phase 3

Robust and Durable Response

40% ≥ 8-wk RBC-TI response rate; **3.6 g/dL** median Hgb rise → **1-year median TI duration**

18% ≥ 1-yr RBC-TI response rate; **5.2 g/dL** median Hgb rise → **2.4-years median TI duration**

60% transfusion reduction by ≥4U/8 wks; **1.4 g/dL** median Hgb rise → **1.3-years duration**

Additional Attributes

50% of imetelstat-treated patients
reported less fatigue (PRO data)

≥50% VAF reduction
in commonly mutated MDS genes experienced by more imetelstat-treated patients vs placebo

Broad Response across MDS Subgroups

- RS+ and RS-
- High and very high transfusion burden
- sEPO level greater than or less than 500 mU/mL
- Low or intermediate-1 IPSS risk category

Well-Characterized Safety Profile

The most common adverse events were thrombocytopenia and neutropenia that were manageable and of short duration

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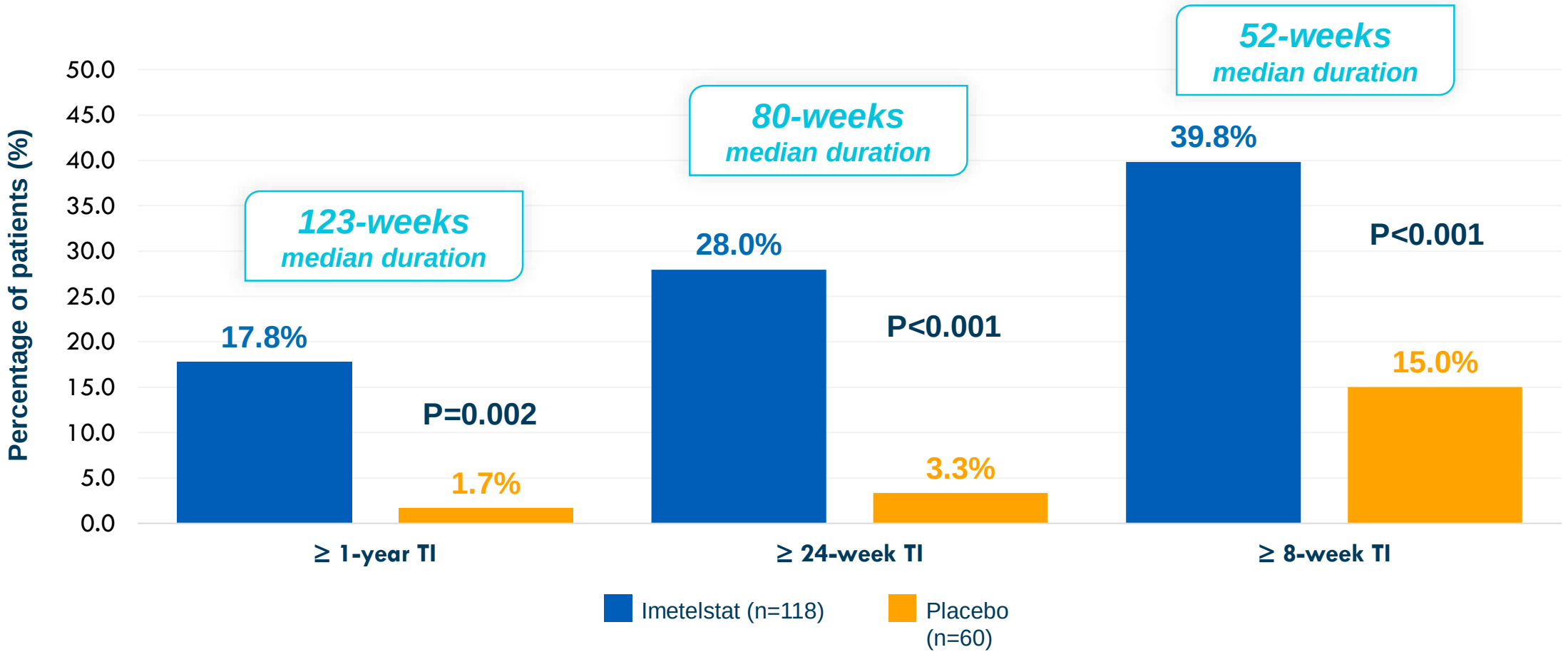
Additional IMerge data including placebo comparisons included on slides 10-17

Durable Transfusion Independence and Significant Response Rates Observed with Imetelstat



8, 16, 24-week data cut off was October 2022; 1-year represents 3 additional months of data (cut off January 2023)

P-value is based on Cochran Mantel Haenszel test stratified for prior RBC transfusion burden (≤6 units or >6 units of RBCs/8 weeks) and baseline IPSS risk score (Low or Intermediate-1)

8-week TI = proportion of patients without any RBC transfusion for at least eight consecutive weeks since entry to the trial; 16-week TI = proportion of patients without any RBC transfusion for at least 16 consecutive weeks since entry to the trial; 24-week TI = proportion of patients without any RBC transfusion for at least 24 consecutive weeks since entry to the trial; 1-year TI = proportion of patients without any RBC transfusion for at least 52 consecutive weeks since entry to the trial

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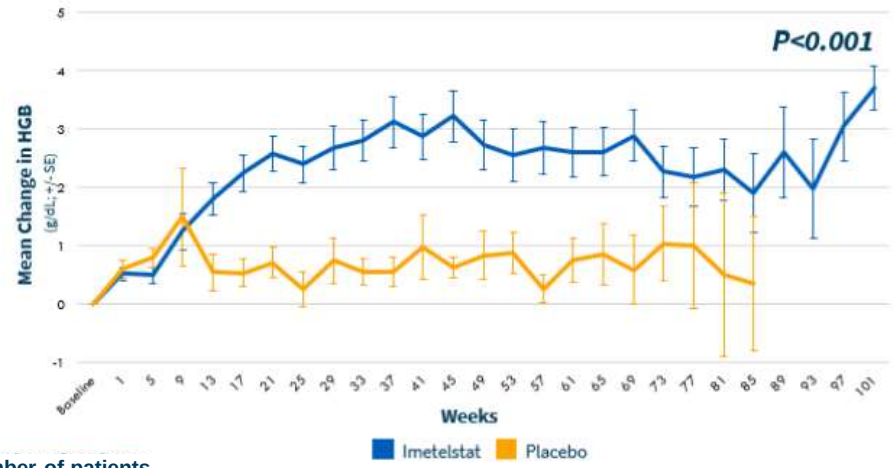
Significant Hemoglobin Rises and Reduction in Transfusions Observed with Imetelstat

3.6 g/dL median Hgb rise in 8-wk RBC-TI responders

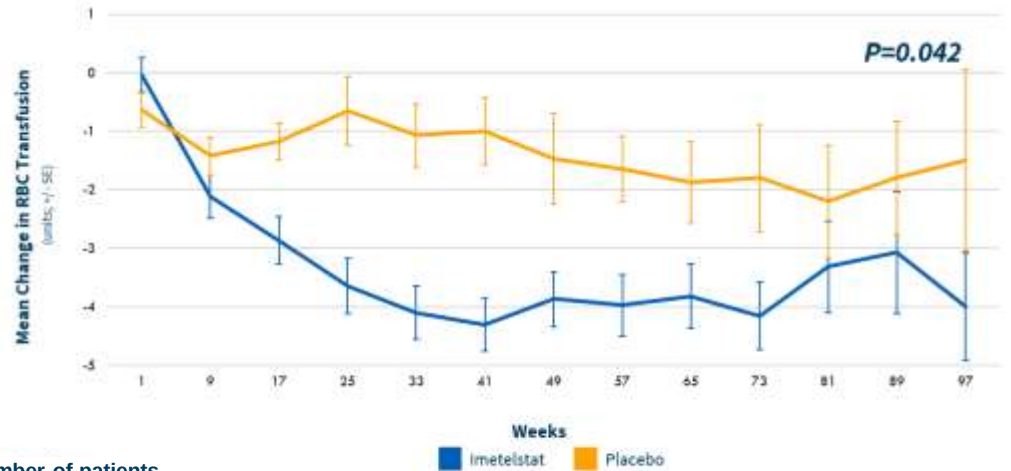


Number of patients

Imetelstat	118	59	53	54	47	42	48	48	43	43	31	37	31	35	32	25	26	24	23	21	19	18	11	11	9	9	5
Placebo	60	37	29	17	16	18	15	8	10	10	11	7	3	9	8	9	7	7	5	5	4	2	4				

The mean changes from the minimum Hgb of the values that were after 14 days of transfusions in the eight weeks prior to the first. Data points that have fewer than four patients are not shown.
P-value is based on a mixed model for repeated measures with Hgb change as the dependent variable, week, stratification factors, dose date, and treatment arm as the independent variables with autoregressive moving average (ARMA(1,1) covariance structure.

≥4U/8 wks transfusion reduction in ~60% of imetelstat-treated patients



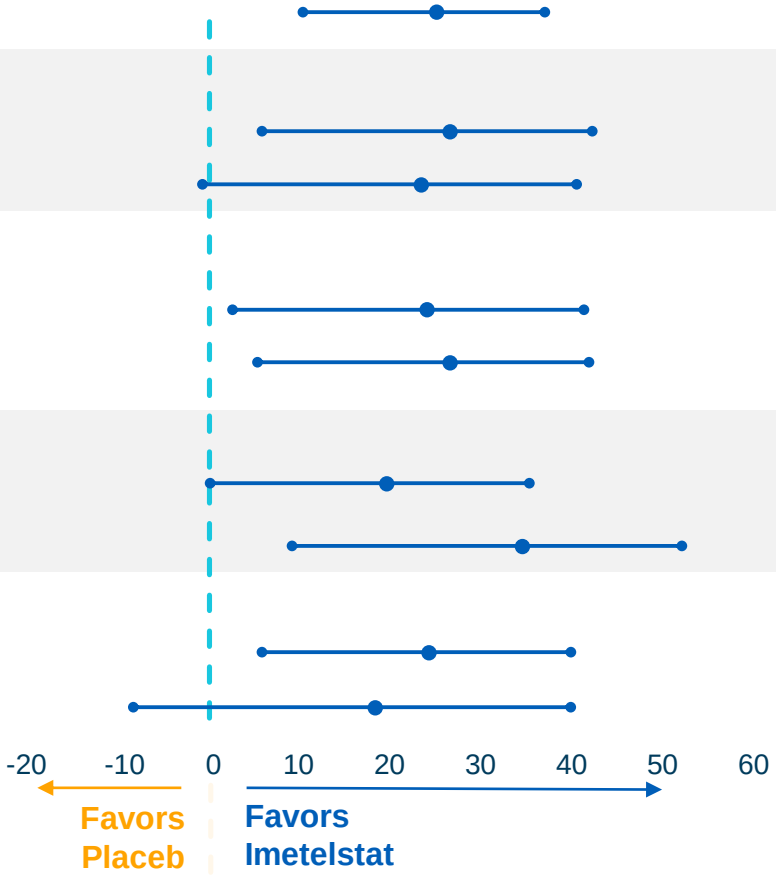
Number of patients

Imetelstat	115	104	95	76	60	55	45	43	33	26	22	14	10
Placebo	58	53	48	32	27	22	15	14	8	5	5	5	4

P-value is based on a mixed model for repeated measures with change in RBC transfusion as the dependent variable, week, stratification factors, prior transfusion burden, and treatment arm as the independent variables with autoregressive moving average (ARMA(1,1) covariance structure.
NOTE: graph starts at week 1-8 with the number of the patients with transfusion follow-up data available at least eight weeks on study for imetelstat and placebo arms

Consistent Responses Observed across MDS Subgroups with Imetelstat (≥ 8-wk RBC-TI Responses)

	Imetelstat, n/N (%)	Placebo, n/N (%)	% Difference (95% CI)	p-value
Overall	47/118 (39·8)	9/60 (15·0)	24·8 (9·9–36·9)	**<0·001**
WHO category^				
RS+	33/73 (45·2)	7/37 (18·9)	26·3 (5·9–42·2)	**0·016**
RS-	14/44 (31·8)	2/23 (8·7)	23·1 (-1·3 to 40·6)	**0·038**
Prior RBC transfusion burden per IWG 2006				
4-6 U/8 wk	28/62 (45·2)	7/33 (21·2)	23·9 (1·9–41·4)	**0·027**
>6 U/8 wk	19/56 (33·9)	2/27 (7·4)	26·5 (4·7–41·8)	**0·023**
IPSS risk category				
Low	32/80 (40·0)	8/39 (20.5)	19·5 (-0·1 to 35·2)	**0·034**
Intermediate-1	15/38 (39·5)	1/21 (4·8)	34·7 (8·8–52·4)	**0·004**
Baseline sEPO				
≤500 mU/mL	39/87 (44·8)	7/36 (19·4)	25·4 (5·27–40·70)	**0·011**
>500 mU/mL	7/26 (26·9)	2/22 (9·1)	17·8 (-8·17 to 40·25)	**0·107**



- Cochran Mantel Haenszel test stratified for prior RBC transfusion burden (≤6 units or >6 units of RBCs/8 weeks) and baseline IPSS risk score (Low or Intermediate-1)

^ One patient on imetelstat arm missing RS category

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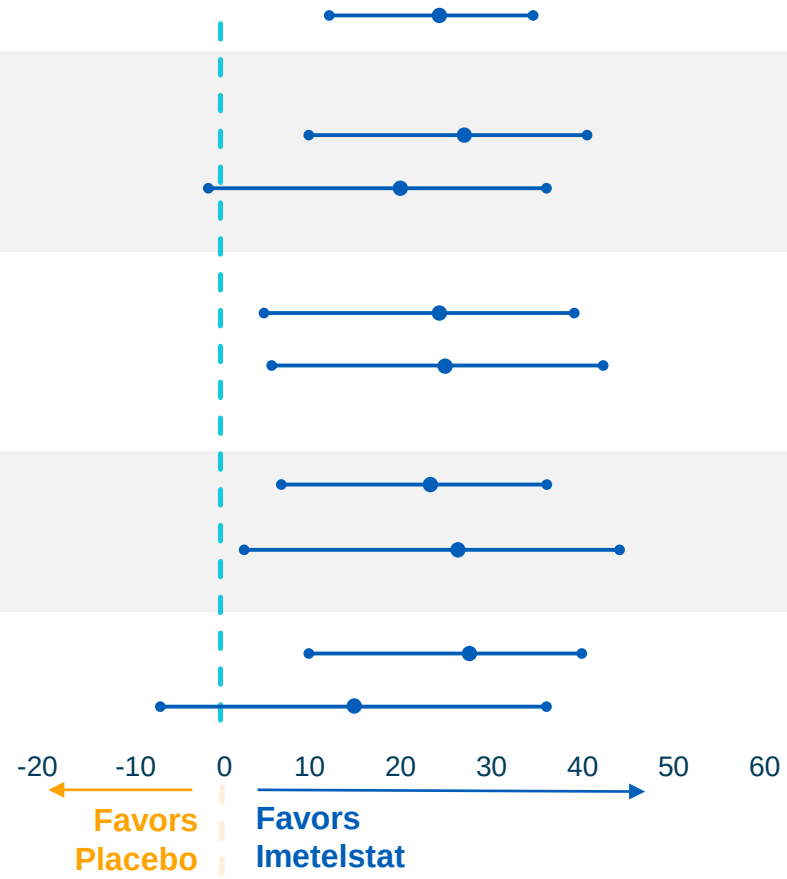
Consistent Responses Observed across MDS Subgroups with Imetelstat (≥ 24-wk RBC-TI Responses)



	Imetelstat, n/N (%)	Placebo, n/N (%)	% Difference (95% CI)	p-value
Overall	33/118 (28·0)	2/60 (3·3)	24·6 (12·64–34·18)	**<0·001**
WHO category^				
RS+	24/73 (32·9)	2/37 (5·4)	27·5 (10·0–40·37)	**0·003**
RS-	9/44 (20·5)	0/23 (0·0)	20·5 (-0·03 to 35·75)	**0·019**
Prior RBC transfusion burden per IWG 2006				
4-6 U/8 wk	19/62 (30·6)	2/33 (6·1)	24·0 (5·68–38·66)	**0·006**
>6 U/8 wk	14/56 (25·0)	0/27 (0·0)	26·5 (6·44–38·65)	**0·001**
IPSS risk category				
Low	23/80 (28·8)	2/39 (5·1)	23·6 (7·23–35·75)	**0·003**
Intermediate-1	10/38 (26·3)	0/21 (0·0)	26·3 (3·46–43·9)	**0·009**
Baseline sEPO				
≤500 mU/mL	29/87 (33·3)	2/36 (5·6)	27.8 (10.46–39.1)	**0.002**
>500 mU/mL	4/26 (15·4)	0/22 (0·0)	15.4 (-5.81 to 35.73)	**0.050**

- Cochran Mantel Haenszel test stratified for prior RBC transfusion burden (≤6 units or >6 units of RBCs/8 weeks) and baseline IPSS risk score (Low or Intermediate-1)

^ One patient on imetelstat arm missing RS category

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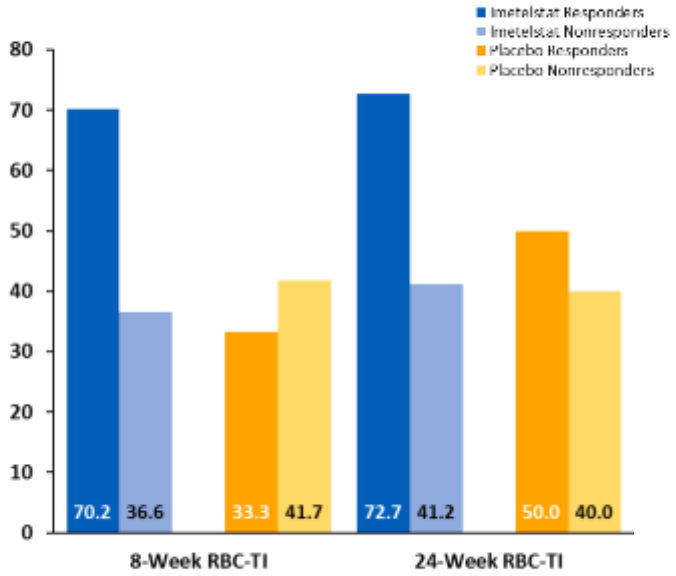
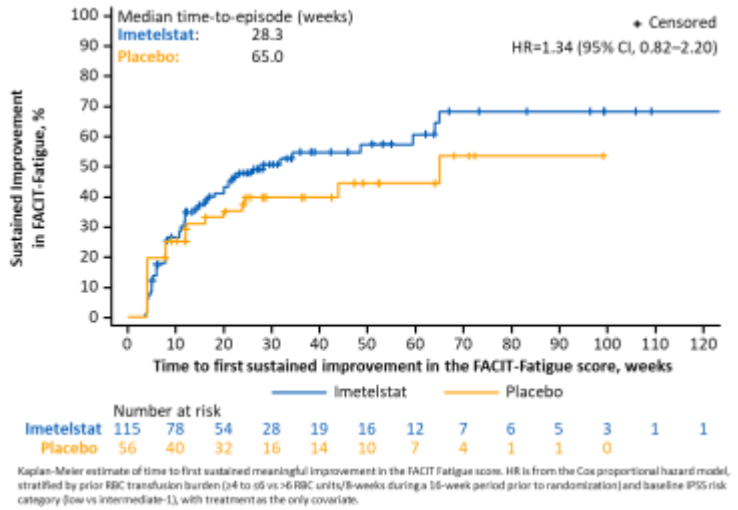
Improvement in Patient-Reported Fatigue Associated with Clinical Responses with Imetelstat

Significant patient-reported fatigue improvements in 8-wk and 24-wk RBC-TI responders

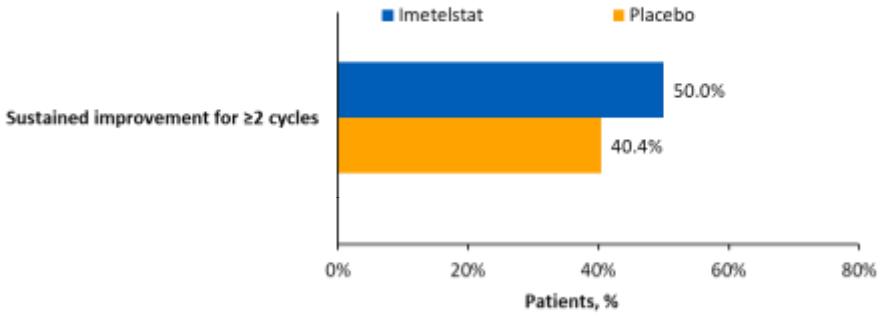


Patients, n/N				
Responders	33/47	3/9	24/33	1/2
Nonresponders	26/71	20/48	35/85	22/55

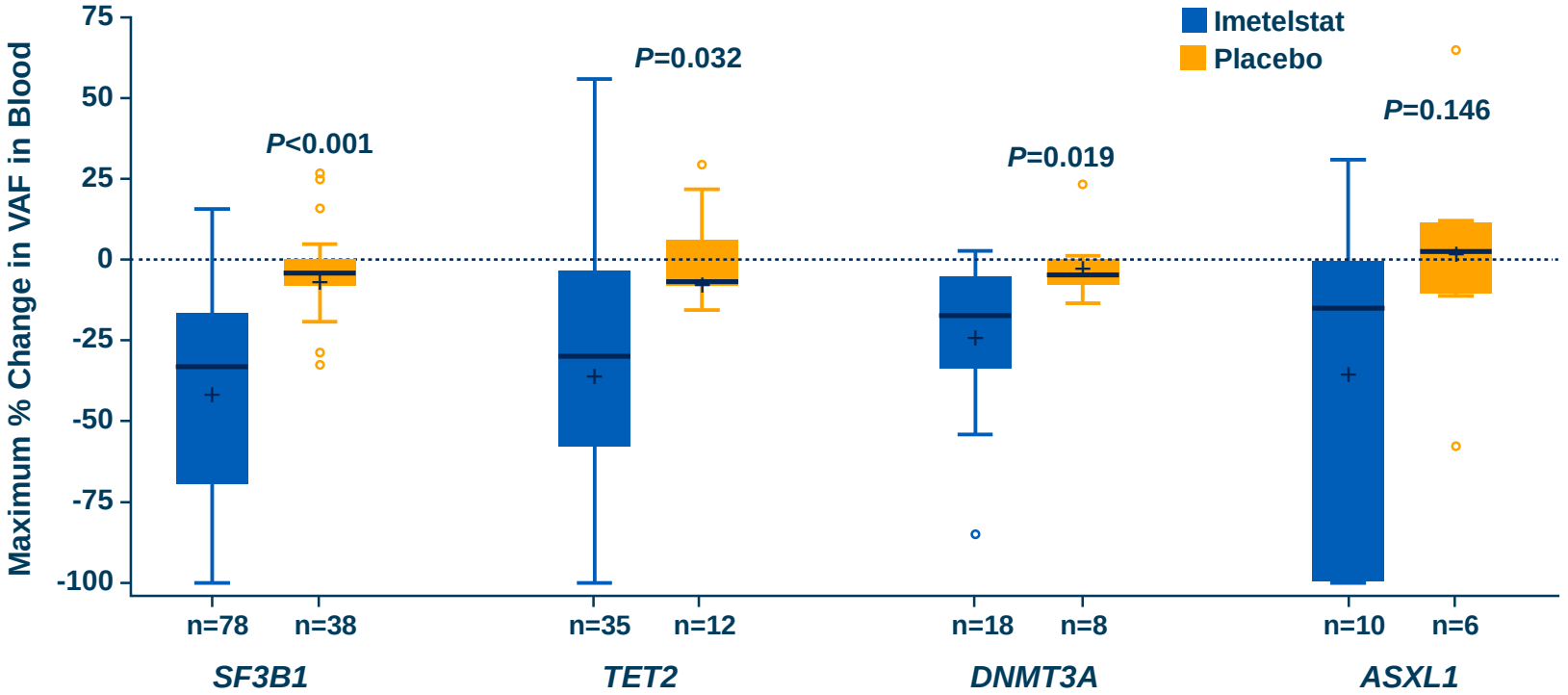
Sustained meaningful improvement in fatigue reported in imetelstat-treated patients



Kaplan-Meier estimate of time to first sustained meaningful improvement in the FACIT Fatigue score. HR is from the Cox proportional hazard model, stratified by prior RBC transfusion burden (≥4 to ≤6 vs >6 RBC units/8-weeks during a 16-week period prior to randomization) and baseline IPSS risk category (low vs intermediate-1), with treatment as the only covariate.



Significant Reductions in Variant Allele Frequency (VAF) of Genes Frequently Mutated in MDS with Imetelstat



- Among patients with evaluable mutation data, the maximum reductions in VAF of the *SF3B1*, *TET2*, *DNMT3A* and *ASXL1* genes were greater with imetelstat than placebo
- VAF reduction correlated with longer RBC-TI duration and increases in hemoglobin levels in patients treated with imetelstat

Note: Analyses included patients in the intent-to-treat population with a detectable mutant allele for the indicated gene (≥5%) prior to treatment and ≥1 postbaseline mutation assessment and had postbaseline Hgb assessment, excluding assessments within 14 days post-RBC transfusion. Fitted lines and *P* value based on linear regression with maximum increase in RBC-TI duration or maximum increase in Hgb from pretreatment as the dependent variable and the maximum percentage reduction from baseline in each gene VAF as independent variable.
DNMT3A: DNA (cytosine-5)-methyltransferase 3A; RBC: red blood cell; Hgb: hemoglobin; TET2,: Tet methylcytosine dioxygenase 2; SF3B1: splicing factor 3b subunit 1.

Platzbecker, Santini et al. The Lancet 2023

The Most Common AEs were Manageable, Short-Lived Thrombocytopenia and Neutropenia

Consistent with prior clinical experience, the most common imetelstat AEs were hematologic

AEs (≥10% of patients), n (%)	Imetelstat (N=118)		Placebo (N=59)	
	Any Grade	Grade 3–4	Any Grade	Grade 3–4
Hematologic				
Thrombocytopenia	89 (75)	73 (62)	6 (10)	5 (8)
Neutropenia	87 (74)	80 (68)	4 (7)	2 (3)
Anemia	24 (20)	23 (19)	6 (10)	4 (7)
Leukopenia	12 (10)	9 (8)	1 (2)	0

- Grade 3-4 thrombocytopenia and neutropenia most often reported during Cycles 1-3
- Non-hematologic AEs were generally low grade
- No cases of Hy's Law or drug-induced liver injury observed

Grade 3-4 cytopenias were generally of short duration and reversible

Grade 3–4 Cytopenias Per Lab Value	Imetelstat (N=118)	Placebo (N=59)
Thrombocytopenia		
Median duration, weeks (range)	1.4 (0.1–12.6)	2.0 (0.3–11.6)
Resolved within 4 weeks, %	86.3	44.4
Neutropenia		
Median duration, weeks (range)	1.9 (0–15.9)	2.2 (1.0–4.6)
Resolved within 4 weeks, %	81.0	50.0

<2-weeks median duration grade 3-4 thrombocytopenia and neutropenia

>80% of events were reversible to grade ≤ 2 within 4 weeks

Platzbecker, Santini et al. The Lancet 2023

Grade 3-4 Cytopenias were Manageable with Low Incidence of Clinical Consequences

Clinical consequences of grade 3–4 infection and bleeding were low and similar for imetelstat and placebo

Event, n (%)	Imetelstat N = 118	Placebo N = 59
Grade ≥3 bleeding events	3 (2.5)	1 (1.7)
Grade ≥3 infections	13 (11.0)	8 (13.6)
Grade 3 febrile neutropenia	1 (0.8)	0

Imetelstat AEs were manageable with supportive care and dose modifications

- Most AEs leading to dose modifications were grade 3–4 neutropenia and thrombocytopenia
- <15% of patients discontinued treatment due to TEAEs
- 74% of patients treated with imetelstat had dose modifications due to AEs
- Imetelstat discontinuation due to TEAEs generally occurred late in treatment (21.1-wks median time to treatment discontinuation; range, 2.3 to 44.0 weeks)
- 18% of imetelstat-treated patients received a median of 1 platelet transfusion per patient; 34% of imetelstat-treated patients received growth factor support

Infections were not common in the setting of grade 3-4 neutropenia and were similar for imetelstat and placebo

	Imetelstat N = 118	Placebo N = 59
Any infection AE within ± 7 days of Grade 3-4 neutropenia	9 (8%)	1 (2%)
Grade 3-4 infection AE	3 (3%)	1 (2%)
Febrile neutropenia	1 (1%)	0

Bleeding events were not reported in the setting of grade 3-4 thrombocytopenia

	Imetelstat N = 118	Placebo N = 59
Any bleeding AE within ± 7 days of Grade 3-4 thrombocytopenia	9 (8%)	0
Grade 3-4 bleeding AE	0	0

Platzbecker, Santini et al. The Lancet 2023

IMerge Phase 3 Data Received Favorably by Surveyed Practicing Hematologists Across U.S./EU Key Markets

Key attributes of imetelstat resonated strongly with community and academic hematologists

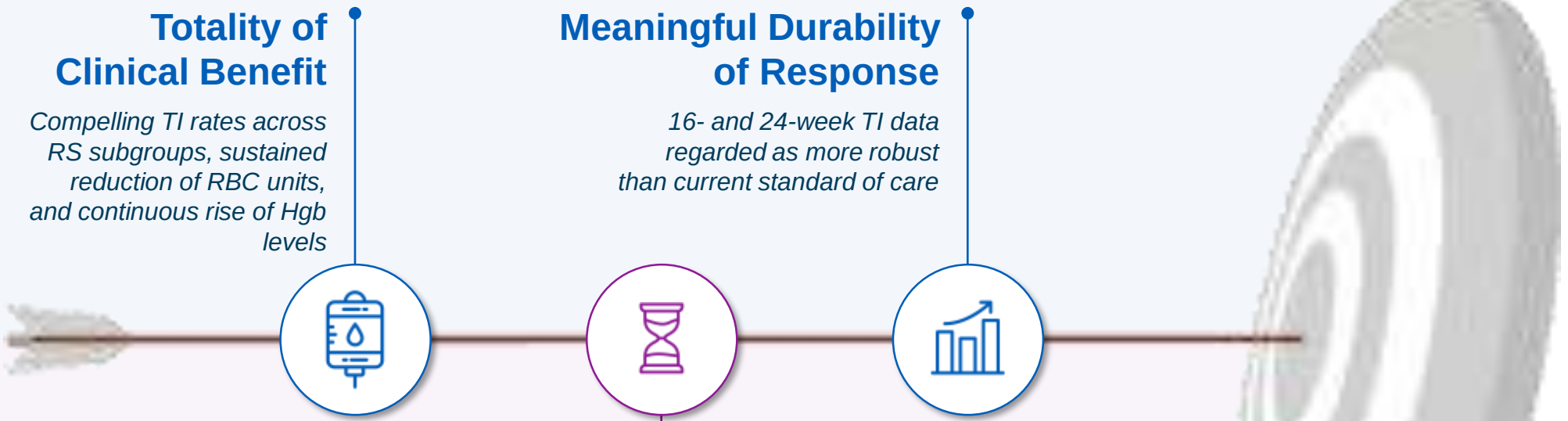
EFFICACY

Totality of Clinical Benefit

Compelling TI rates across RS subgroups, sustained reduction of RBC units, and continuous rise of Hgb levels

Meaningful Durability of Response

16- and 24-week TI data regarded as more robust than current standard of care



SAFETY

Predictable AE Profile, Manageable Cytopenias

Given the familiar AE profile with transient cytopenias, physicians expect to use imetelstat in their LR-MDS patients across both community and academic settings

Geron Market Research, U.S./EU3 Jan 2023

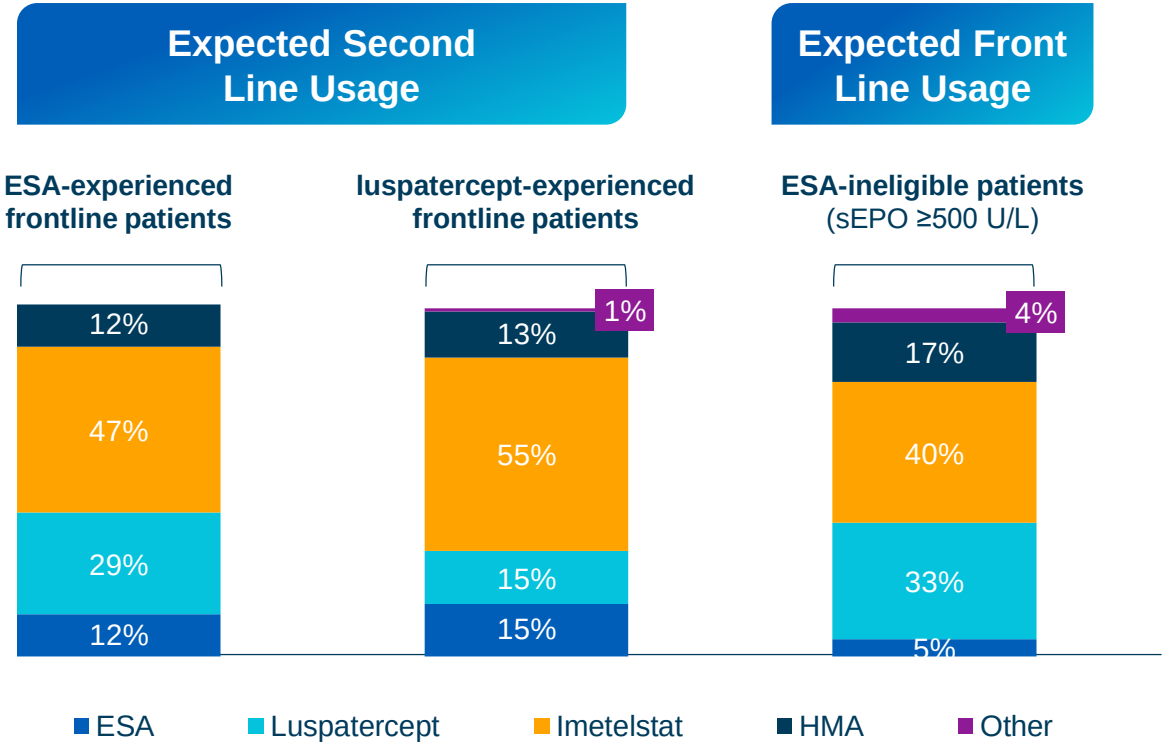
Hematologists' Feedback Confirms Imetelstat Opportunity across RS Subtypes and High Transfusion Burden Patients

Imetelstat's novel mechanism of action (MOA) is seen as a key driver for future market adoption	Physicians view imetelstat's novel/first-in-class MOA together with its durability of response **as highly compelling, differentiating** and as a foundation for imetelstat's efficacy
Imetelstat is projected to be part of the standard of care across both RS- and RS+ patient subtypes	Physicians express a **clear preference to use imetelstat first for their frontline RS-ESA-ineligible patients and across all luspatercept prior-treated patients**, given the significant efficacy shown by imetelstat and dissatisfaction with current treatments
In ESA R/R patient segment, durability of TI with imetelstat is considered compelling	Physicians note that imetelstat demonstrated **significant improvements in long-term response** (24-week TI) over available options, especially in RS- population; additional clinical experience may increase comfort to prescribe before currently available options
Imetelstat is significantly differentiated in high transfusion burden patients	Physicians believe that in **high transfusion burden patients**, imetelstat may be a **compelling option over currently approved therapies**

Geron Market Research, U.S./EU3 Jan 2023

Imetelstat Expected to Become New Standard-of-Care in Second-Line TD LR-MDS, ~32k patients by 2031 (U.S./EU)

- Imetelstat is expected to be used in the second-line regardless of frontline use with either ESAs or luspatercept
- Imetelstat is expected to be used in the frontline in the majority of patients who are ESA-ineligible (sEPO ≥500 U/L)

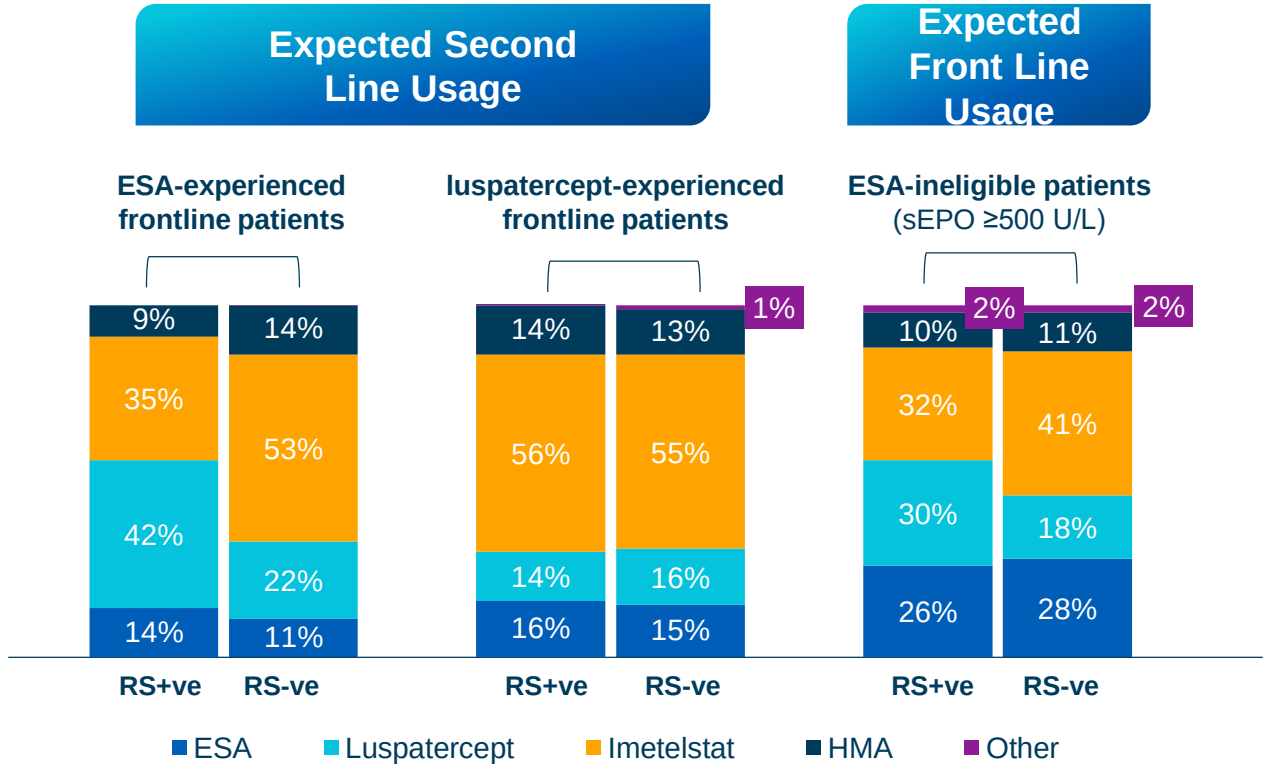


Based on U.S. market research with 50 practicing community and academic hematologists

Geron Market Research with U.S. based practicing hematologists (N=50), May 2023; share estimates represent unadjusted physician preference shares across key patient segments and are directional. Utilization percentages were calculated using a weighted average of RS+ and RS- utilization estimates (1/3 RS+ and 2/3 RS- LR-MDS segmentations were assumed). Stimuli included Imetelstat Phase 2 data, Phase 3 topline results and publicly available data on other LR-MDS therapies

Imetelstat Expected to Become Important New Option in RS- Subgroup, Comprising 75% of LR-MDS Patients

- Imetelstat is expected to be used second line following ESAs in the majority of RS- patients
- Imetelstat is expected to be used in the majority of second line patients following luspatercept regardless of RS status



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Well-Positioned for U.S. Launch upon Potential Approval

Prepare Geron

- ✓ Commercial and medical affairs teams fully integrated and preparing for launch
- ✓ Sales force hiring on track for Q1-Q2 2024
- ✓ Infrastructure development on track

Prepare Imetelstat

- ✓ Commercial supply plans, third-party logistics, and specialty distribution network finalized
- ✓ Global trademark secured
- ✓ Value proposition messaging on target

Prepare the Market

- ✓ Comprehensive market access; payor and medical stakeholder engagement plan on target (majority of U.S. patients are treated under Medicare Part B)
- ✓ Concentrated prescriber base identified
- ✓ Pivotal Ph3 IMerge data published in *The Lancet*; additional publication planning on target
- ✓ HUB system finalized; patient access and affordability solutions on target

Goal:

Ensure broad access and reimbursement and deliver a seamless customer experience to all stakeholders

Imetelstat in Relapsed/Refractory MF

Evaluating potential improved survival

Expected MF Market Evolution and Imetelstat Opportunity

Continuing unmet need in JAKi-treated patients presents significant opportunity for imetelstat; ~$3.5B TAM in 2031 (U.S./EU)^

We expect the future MF market to expand significantly with potential approvals of JAKi-based combination regimens and treatments that address anemia in MF patients. Agents in development today have primary endpoints focused on addressing spleen, symptoms and anemia

Int-2/High-Risk MF Patients

↓

Treated with JAK Inhibitors ~75% discontinuation rate after 5 years

↓

Potential Patient Population (2031): ~29,000 JAKi-treated MF patients

Almost all JAKi-treated patients expected to become unresponsive to JAKis and eligible for imetelstat

Unresponsive to JAK Inhibitors (JAKi) median OS ~14 – 16 months per literature reviews

^see slide 33 for more information on TAM and patient numbers

First and Only Phase 3 Trial in MF with OS as Primary Endpoint

50% enrolled as of Nov. 2023

Actively enrolling global trial

- Sites across United States, South America, Europe, Australia and Asia

Planned analyses

- Interim Analysis expected in 1H 2025 when ~35% of the planned enrolled patients have died; alpha spend ~0.01
- Final Analysis expected in 1H 2026 when >50% of the planned enrolled patients have died

Statistically well-powered trial

- Designed with >85% power to detect a 40% reduction in the risk of death in the imetelstat arm compared to best available therapy (BAT; hazard ratio=0.60; one-sided alpha=0.025)
- Conservative powering assumptions
  - Median OS: 14 mos for BAT vs 23 mos for imetelstat

IMpactMF

ClincialTrials.gov
(NCT0457615)

Primary Endpoint:

- Overall survival (OS)

Key Secondary Endpoints:

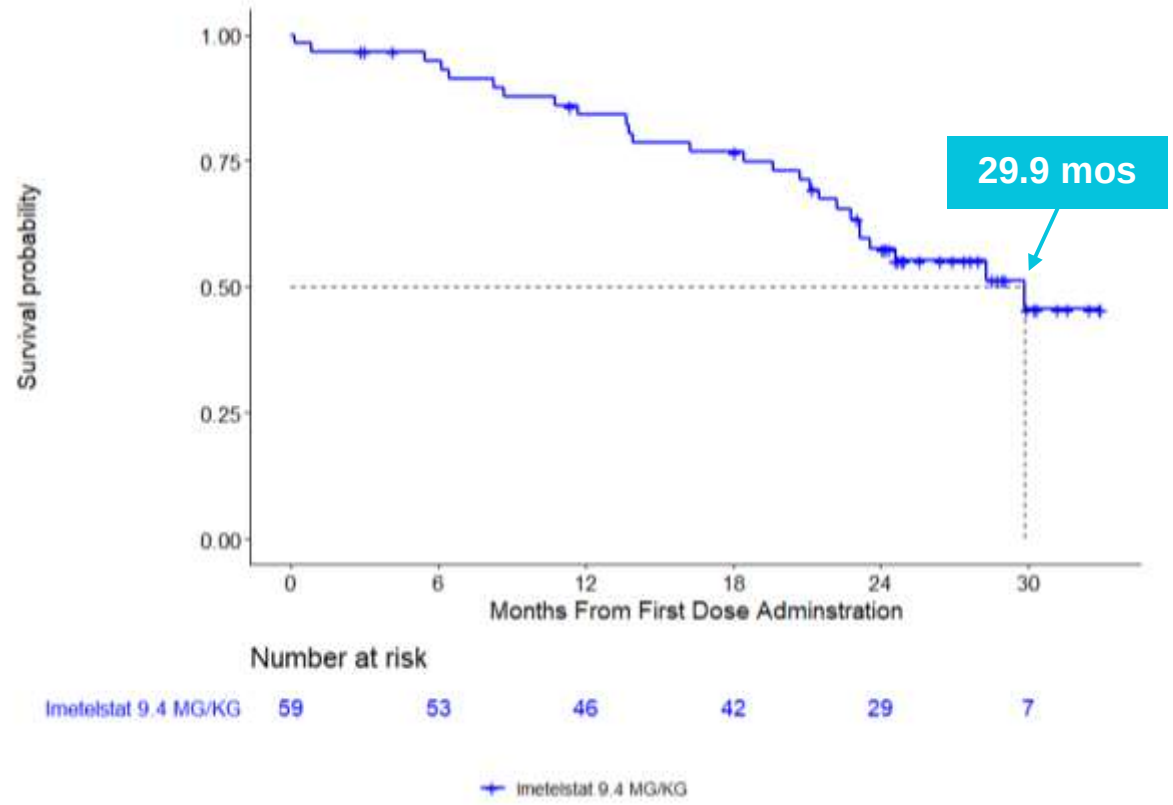
- Symptom response
- Spleen response
- Patient Reported Outcomes (PROs)

Median OS in IMbark Phase 2 Compared Favorably to Historical Controls

Improvement in overall survival (OS) observed for JAKi relapsed/refractory MF patients in IMbark Phase 2

- 14 – 16 mos median OS for historical controls for JAKi relapsed/refractory MF patients
- 29.9 mos median OS in imetelstat 9.4 mg/kg arm

Imetelstat 9.4 mg/kg

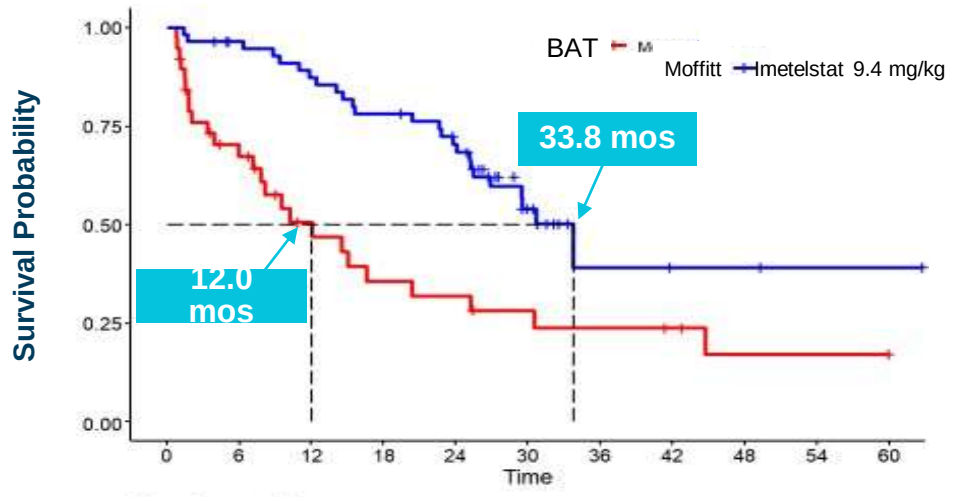


Mascarenhas et al, JCO 2021; Mascarenhas et al, ASH 2018 and 2020; Mascarenhas et al, EHA 2021

Median OS More than Double vs BAT Treatment in RWD Study

IMbark Phase 2 data compared to real world data (RWD) from a closely-matched cohort of patients at the Moffitt Cancer Center who had discontinued ruxolitinib and were subsequently treated with best available therapy (BAT)

RWD BAT vs imetelstat 9.4 mg/kg



Acknowledging the limitations of such comparative analyses between RWD and clinical trial data, we believe the favorable overall survival (OS) of imetelstat treatment suggested by these comparative analyses in this very poor prognosis patient population warrants further evaluation.

Evaluating imetelstat vs BAT in JAKi relapsed/refractory MF

- Improvement in overall survival and lower risk of death for imetelstat vs BAT in RWD study
  - Imetelstat: 33.8 mos median OS
  - BAT RWD: 12.0 mos median OS
  - 65% lower risk of death with imetelstat compared to BAT from RWD
- OS improvement and lower risk of death for imetelstat vs BAT support IMpactMF Phase 3 trial design
- Same dose and schedule being used in IMpactMF Phase 3 trial

Kuykendall et al, Annals of Hematol 2021

Manageable Imetelstat Safety Results in IMbark Phase 2

n (%)	9.4 mg/kg (n=59)	
	All Grades	Grade ≥ 3
Hematologic (≥10% in either arm)[§]		
Thrombocytopenia	29 (49)	24 (41)
Anemia	26 (44)	23 (39)
Neutropenia	21 (36)	19 (32)
Non-hematologic (≥20% in either arm)		
Nausea	20 (34)	2 (3)
Diarrhea	18 (31)	0
Fatigue	16 (27)	4 (7)
Dyspnea	14 (24)	3 (5)
Abdominal Pain	14 (24)	3 (5)
Asthenia	14 (24)	6 (10)
Pyrexia	13 (22)	3 (5)
Edema peripheral	11 (19)	0

[§]Treatment emergent, per reported AEs (not laboratory values). Frequency of reported Grade 3/4 hematologic adverse events were consistent with cytopenias reported through lab values.

Limited clinical consequences of reversible, on target cytopenias

- Thrombocytopenia and neutropenia characterization:
  - Short time to onset: Median 9-weeks (~3 cycles)
  - Short duration: Median <2-weeks
  - Reversible: >70% within 4 weeks*
  - Manageable with dose hold and modifications

- Limited clinical consequences:
  - 2% Grade 3 febrile neutropenia
  - 5% Grade 3/4 hemorrhagic events
  - 10% Grade 3/4 infections

*Reversible to Grade 2 or lower

Mascarenhas et al, JCO 2021; Mascarenhas et al, ASH 2018 and 2020; Mascarenhas et al, EHA 2021

Financials & Summary

Financial Resources to Support Potential U.S. Commercial Launch of Imetelstat

~$378M	~$54M	~$194M	$270M to $280M
Cash and marketable securities as of 12/31/23	Q4 2023 operating expenses	FY 2023 operating expenses	FY 2024 expected range of operating expenses

Financial resources expected to support projected level of operations into third quarter 2025*

* Based on the Company's current operating plan and expectations regarding the timing of potential approval of imetelstat in the U.S., the Company expects that its existing cash, cash equivalents, and current and noncurrent marketable securities, together with projected revenues from U.S. sales of imetelstat, proceeds from the exercise of outstanding warrants, and funding under the Company's loan facility, will be sufficient to fund projected operating requirements into the third quarter of 2025.

Geron Positioned for Successful Imetelstat Launch, if Approved

Imetelstat TD LR-MDS PDUFA date of June 16, 2024*
MAA under review in same indication

- **Underserved TD LR-MDS and R/R MF markets with potential combined TAM >$7B in 2031 (U.S./EU)^**
- **Differentiated first-in-class investigational telomerase inhibitor**
- **U.S. commercial preparations on track for expected June 2024 launch**
- **People and financial resources to support U.S. launch**

*Imetelstat is currently under regulatory review by FDA and EMA for the treatment of transfusion-dependent anemia in adult patients with low- to intermediate-1 risk myelodysplastic syndromes (LR-MDS) who have failed to respond or have lost response to or are ineligible for erythropoiesis-stimulating agents (ESAs).

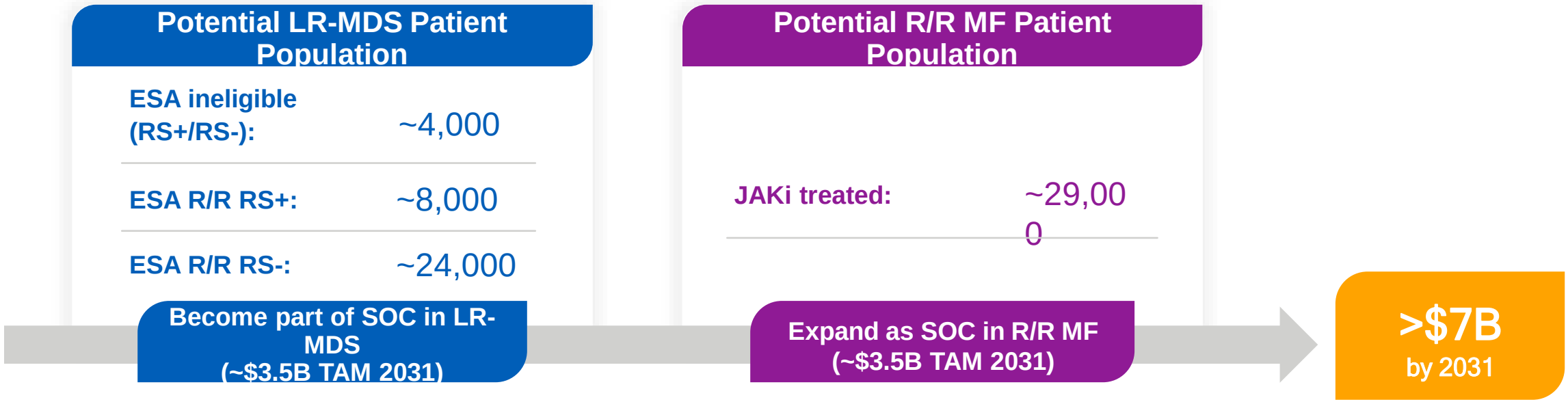
^see slide 33 for more information on TAM and patient numbers

Thank you!

Contact:

Investor Relations
investor@geron.com

Appendix: TAM (U.S./EU)



LR-MDS Patient Numbers: Company projections in 2031, based on DRG MDS Landscape and Forecast syndicated data report 2021 and 2022 and YoY growth rate assumptions for eligible patient populations in LR-MDS in the U.S. and EU. EU4/UK population as % of U.S. population in 2031: ~93%; UN Population (2019) dataset used for total European population calculations. 60% patients treated for 12 months each year; 2nd line treated prevalence adjustments (~55%); LR-MDS: ~73% of all MDS; RS+ estimated as ~25%; first line ESA in-eligible estimates ~10% (Platzbecker, Treatment of MDS, Blood 2019).

R/R MF Patient Numbers: Company projections U.S./EU (2031), based on DRG 2020 MF Niche & Rare Disease Landscape & Forecast and YoY growth rate assumptions for eligible Int-2/HR patient populations (excludes Int-1, patients with platelets <50K); Int-2/HR ~65%; platelets <50K ~14% (Al-Ali HK & Vannucchi AM, Ann Hematol 2017); JAKi treated ~90% (Geron Market Research); % with leukemic transformations (~10%, Vallapureddy et al. 2019); EU4/UK population as % of US population in 2031: ~93%; UN Population (2019) dataset used for total European population calculations.

Total Addressable Market Price Assumptions: Includes annualized 12 months of treatment @ $25K/month; EU5: annualized 12 months of treatment @ $6K/month; Rest of Europe: annualized 12 months of treatment @ $3K/month