ASH 2018 INVESTOR UPDATE

Monday, December 3

GBT

ASH 2018 INVESTOR UPDATE AGENDA

Presentation	Speaker	Timing
Opening Remarks & Introductions	Dr. Ted W. Love President & CEO Global Blood Therapeutics, Inc.	5 min
Low Hemoglobin Risk: A Systematic Literature Review and Meta-Analysis	Dr. Victor Gordeuk Professor of Medicine University of Illinois at Chicago	15 min
Q&A		5 min
Physiology of Tissue Oxygen Delivery	Dr. Elizabeth Klings Associate Professor of Medicine Director, Center for Excellence in SCD, Boston University School of Medicine	15 min
Q&A		5 min
HOPE-KIDS 1 Phase 2a Study (GBT440-007): 1500 mg Clinical Data Update	Dr. Clark Brown Clinical Director, Children's Healthcare of Atlanta	15 min
Phase 3 HOPE (GBT440-031) Study: Part A Data Update	Dr. Elliott Vichinsky Director of Hematology/Oncology, UCSF Benioff Children’s Hospital	15 min
2018 GBT Corporate Milestones/Q&A/Closing Remarks	Dr. Ted W. Love	15 min

SAFE HARBOR STATEMENT

Statements we make in this presentation may include statements that are not historical facts and are considered forward-looking within the meaning of Section 27A of the Securities Act of 1933, as amended and Section 21E of the Securities Exchange Act of 1934, as amended. We intend these forward-looking statements, including statements regarding the therapeutic potential and safety profile of voxelotor, including the potential impact of voxelotor on TCD and stroke risk, our ability to implement and complete our clinical development plans for voxelotor, our ability to engage in continued discussions with the FDA and the outcome of those discussions, the availability of, and the sufficiency of our data to support, accelerated regulatory approval, our ability to generate and report data from our ongoing and potential future studies of voxelotor (including our ability to generate additional data from patients enrolled in our ongoing Phase 3 Hope Study), the potential commercial opportunity for voxelotor, the expected size of the potential sales force for voxelotor, regulatory review and actions relating to voxelotor, our ability to adequately obtain and protect our intellectual property rights, and the timing of these events, to be covered by the safe harbor provisions for forward-looking statements contained in Section 27A of the Securities Act and Section 21E of the Securities Exchange Act and are making this statement for purposes of complying with those safe harbor provisions. These forward-looking statements reflect our current views about our plans, intentions, expectations, strategies and prospects, which are based on the information currently available to us and on assumptions we have made. We can give no assurance that the plans, intentions, expectations or strategies will be attained or achieved, and furthermore, actual results may differ materially from those described in the forward-looking statements and will be affected by a variety of risks and factors that are beyond our control including, without limitation, the risks that our clinical and preclinical development activities may be delayed or terminated for a variety of reasons, that results of clinical trials may be subject to differing interpretations, that regulatory authorities may disagree with our clinical development plans, including the sufficiency of our clinical data and of our primary and other key endpoints in our Phase 3 HOPE Study of voxelotor to support approval, or require additional studies or data to support further clinical investigation of our product candidates, that drug-related adverse events may be observed in clinical development, and that data and results may not meet regulatory requirements or otherwise be sufficient for further development, regulatory review or approval, along with those risks set forth in our Annual Report on Form 10-K for the fiscal year ended December 31, 2017, and in our Quarterly Report on Form 10-Q for the quarter ended September 30, 2018, as well as discussions of potential risks, uncertainties and other important factors in our subsequent filings with the U.S. Securities and Exchange Commission. Except as required by law, we assume no obligation to update publicly any forward-looking statements, whether as a result of new information, future events or otherwise.

REACHED AGREEMENT W/ FDA ON ACCELERATED APPROVAL PATHWAY FOR VOXELOTOR

- Food and Drug Administration (FDA) has agreed with our proposal related to an accelerated approval pathway for voxelotor for the treatment of sickle cell disease or SCD.
  - GBT plans to submit an NDA for voxelotor under this pathway.
- GBT proposed that by raising hemoglobin, voxelotor is reasonably likely to reduce strokes in SCD patients.
- FDA agreed that transcranial doppler (TCD) flow velocity would be an acceptable primary endpoint in a post-approval confirmatory study to demonstrate stroke risk reduction.
- Pre-NDA meeting requested for Q1 ’19.
  - Will provide further details regarding plans and timing for NDA submission following this meeting.

Low Hemoglobin Risk: A Systematic Literature Review and Meta-Analysis

Dr. Victor Gordeuk
Professor of Medicine
University of Illinois at Chicago

GBT

DISCLOSURES

Clinical Advisory Board/Consultant:

- CSL Behring
- Global Blood Therapeutics

INTRODUCTION

Hemolysis and anemia contribute to the pathogenesis of multiple organ dysfunction in sickle cell disease (SCD)

Cumulative end-organ damage is a major cause of death in SCD

Multiple cohort studies highlight the detrimental impact of chronic anemia on clinical outcomes in SCD

Quantifying the burden of anemia on morbidity & mortality is needed to better understand how interventions may mitigate risk

STUDY OBJECTIVE

Perform meta-analysis to evaluate the association of hemoglobin & measures of hemolysis with clinical complications in SCD

Focus on hemoglobin as the key outcome of interest

METHODS

Systematic literature review of relevant peer-reviewed publications from 1998 - 2017

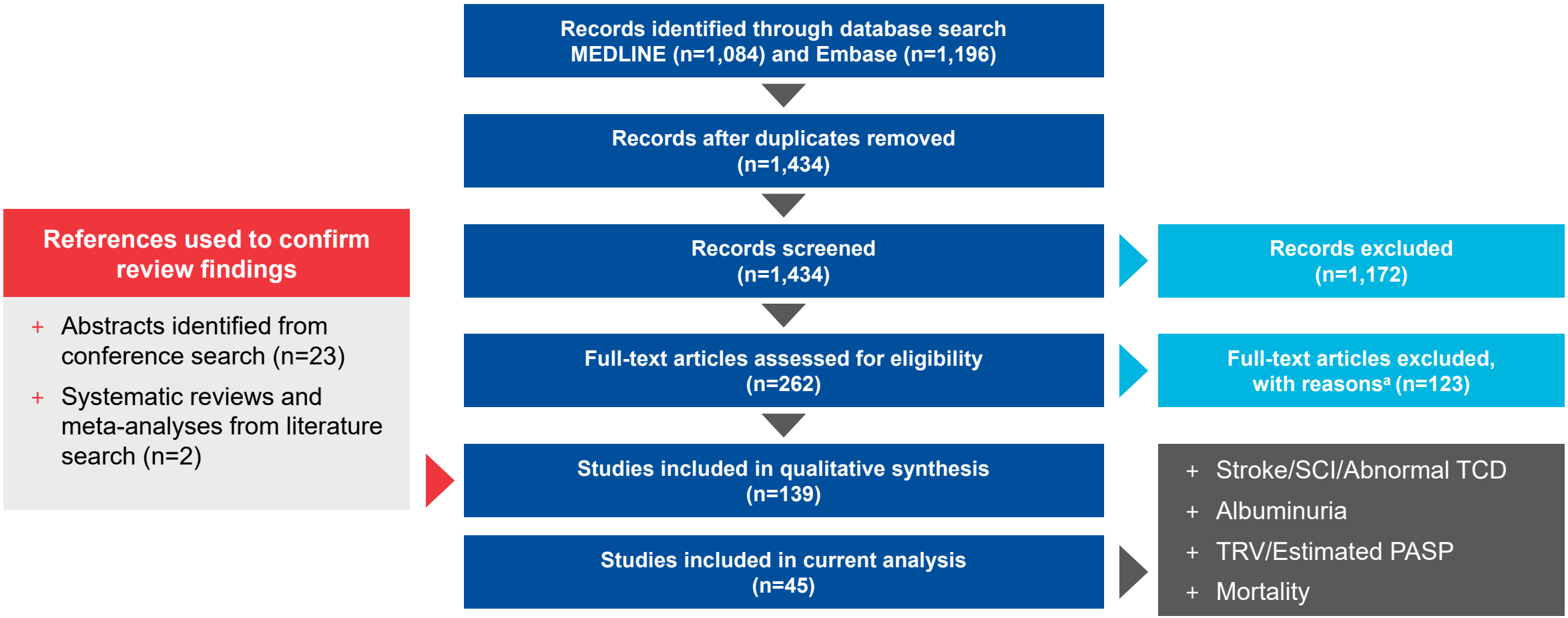
- Decisions regarding a priori eligibility criteria resulted in a rigorous selection process, title/abstract, and full-text review phases
- Studies without specific qualifying information were excluded

Meta-analyses to quantify the difference in hemoglobin between those with and without negative clinical outcomes

Modeled the reduction in risk that could be achieved with ↑ hemoglobin

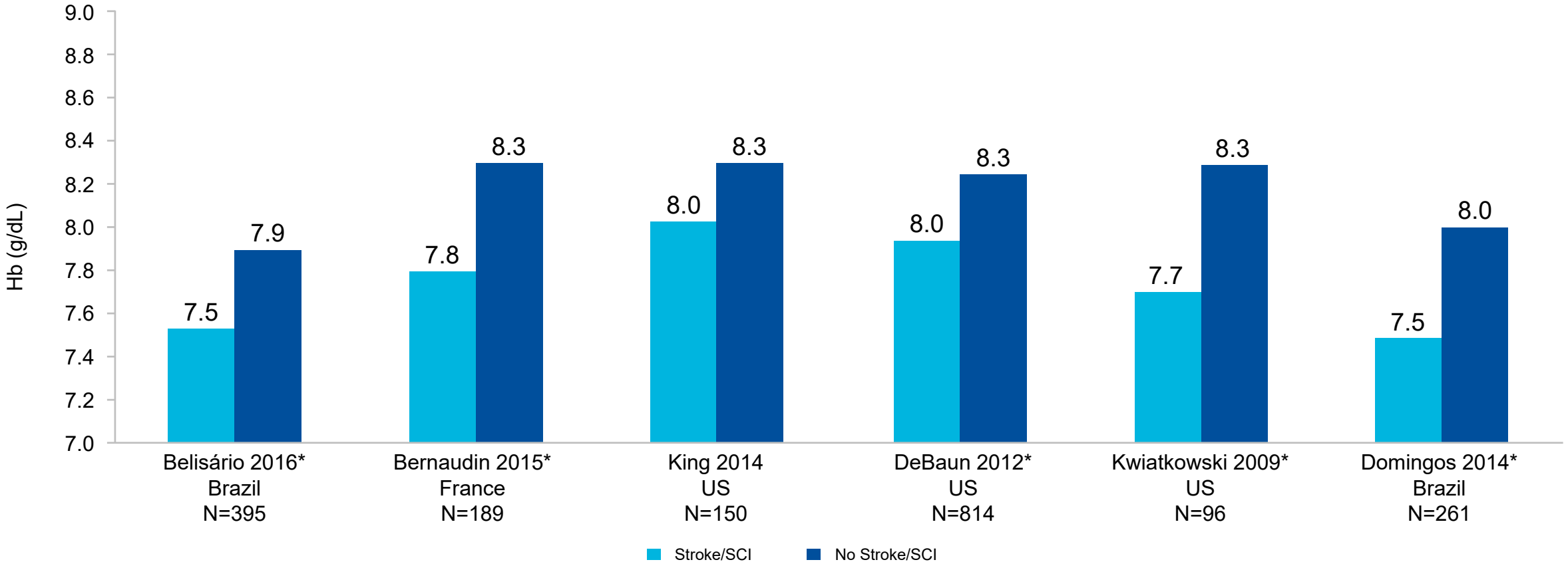
See Abstract #12 for additional details

LITERATURE SELECTION AND REVIEW PROCESS - PRISMA DIAGRAM



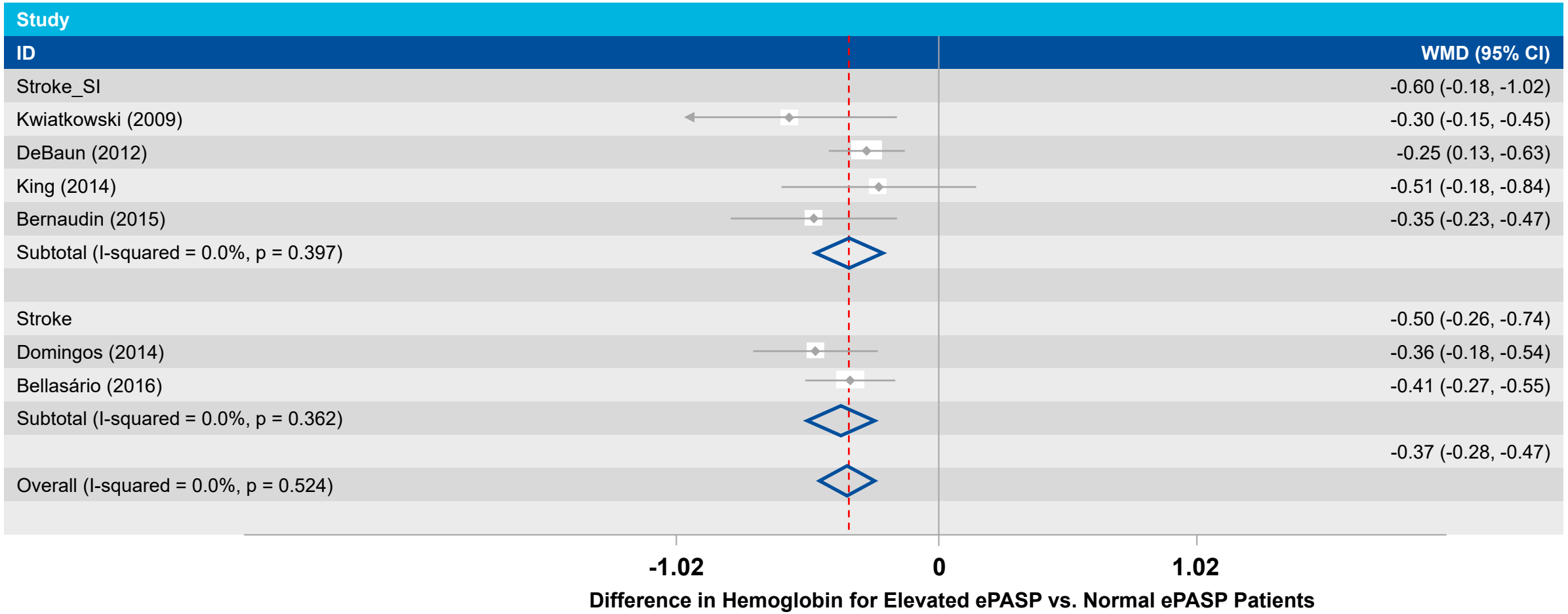
[a] Duplicates, n=2; no access, n=4; foreign language, n=2; not a population of interest, n=3; no outcomes of interest, n=14; not a study design of interest, n=7; no measures/markers of interest, n=91.
Key: PRISMA – Preferred Reporting Items for Systematic Reviews and Meta-Analyses; SLR – systematic literature review.

LOWER HEMOGLOBIN IS ASSOCIATED WITH CEREBROVASCULAR DISEASE - OVERT STROKE, SILENT CEREBRAL INFARCT



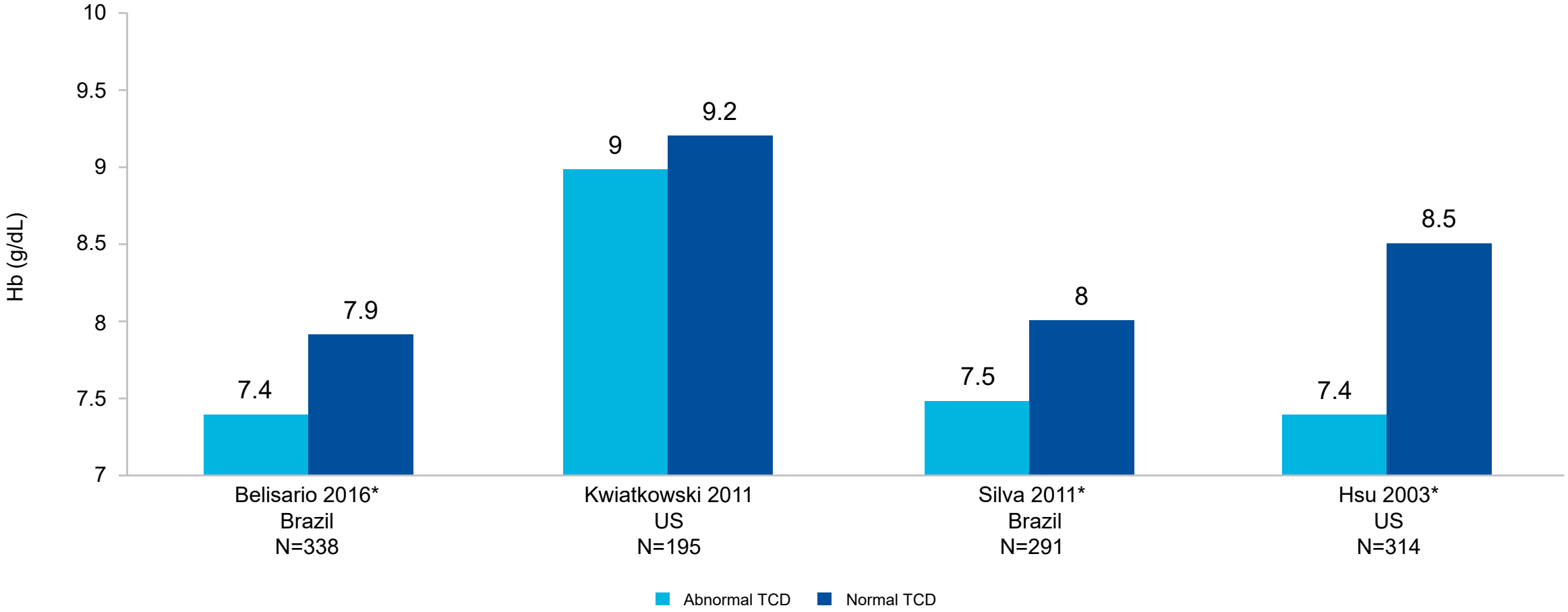
Note: Ohene-Frempong et al. (1998) and Meier et al. (2014), included in the review, are not represented in these graphical results.

LOWER HEMOGLOBIN IS ASSOCIATED WITH CEREBROVASCULAR DISEASE - OVERT STROKE, SILENT CEREBRAL INFARCT



CI, confidence interval; SI, silent ischemia; WMD, weighted mean difference.

LOWER HEMOGLOBIN IS ASSOCIATED WITH ABNORMAL TRANSCRANIAL DOPPLER-MEASURED VELOCITY IN CEREBRAL ARTERIES



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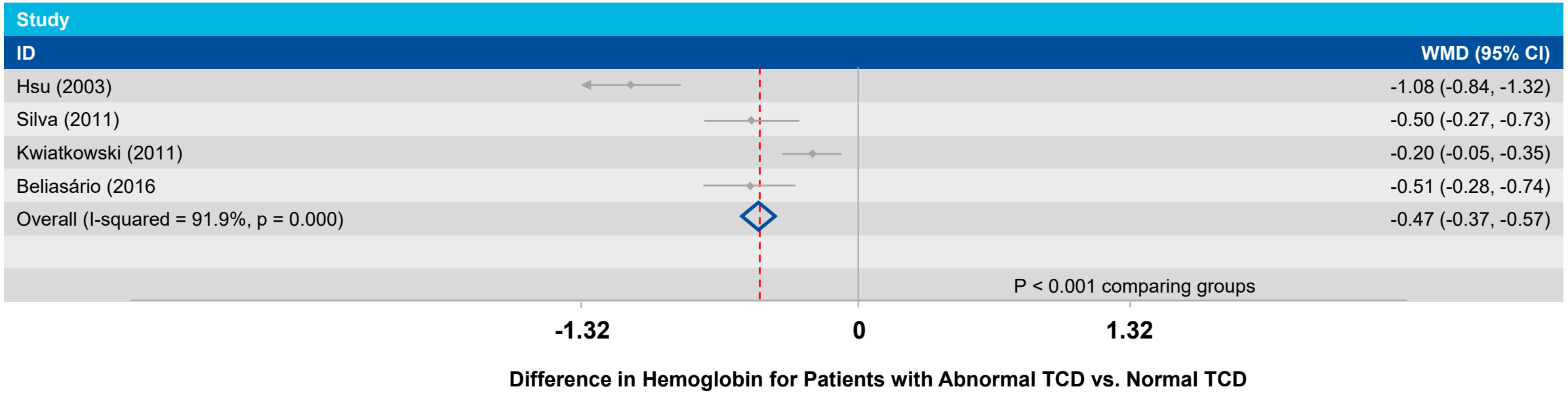
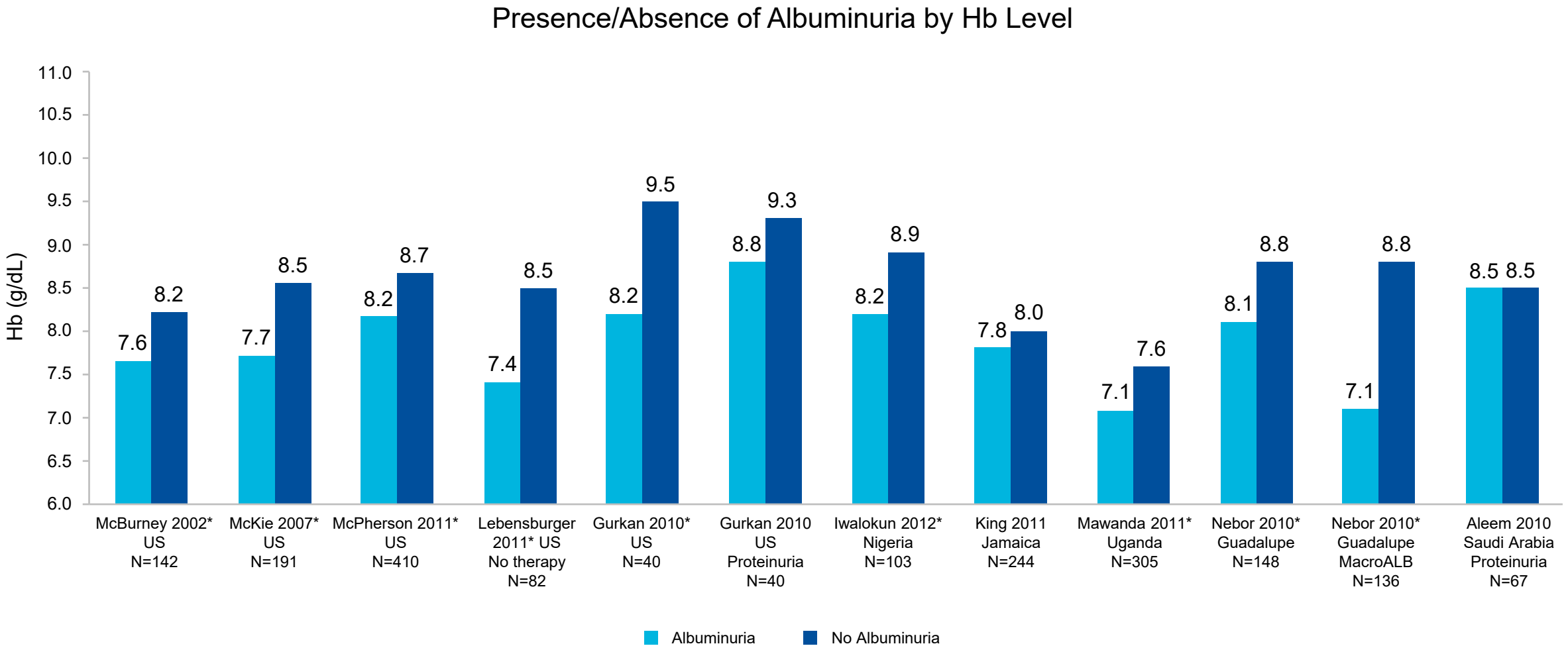


CI, confidence interval; TCD, Transcranial Doppler; WMD, weighted mean difference.

LOWER HEMOGLOBIN IS ASSOCIATED WITH PRESENCE OF ALBUMINURIA



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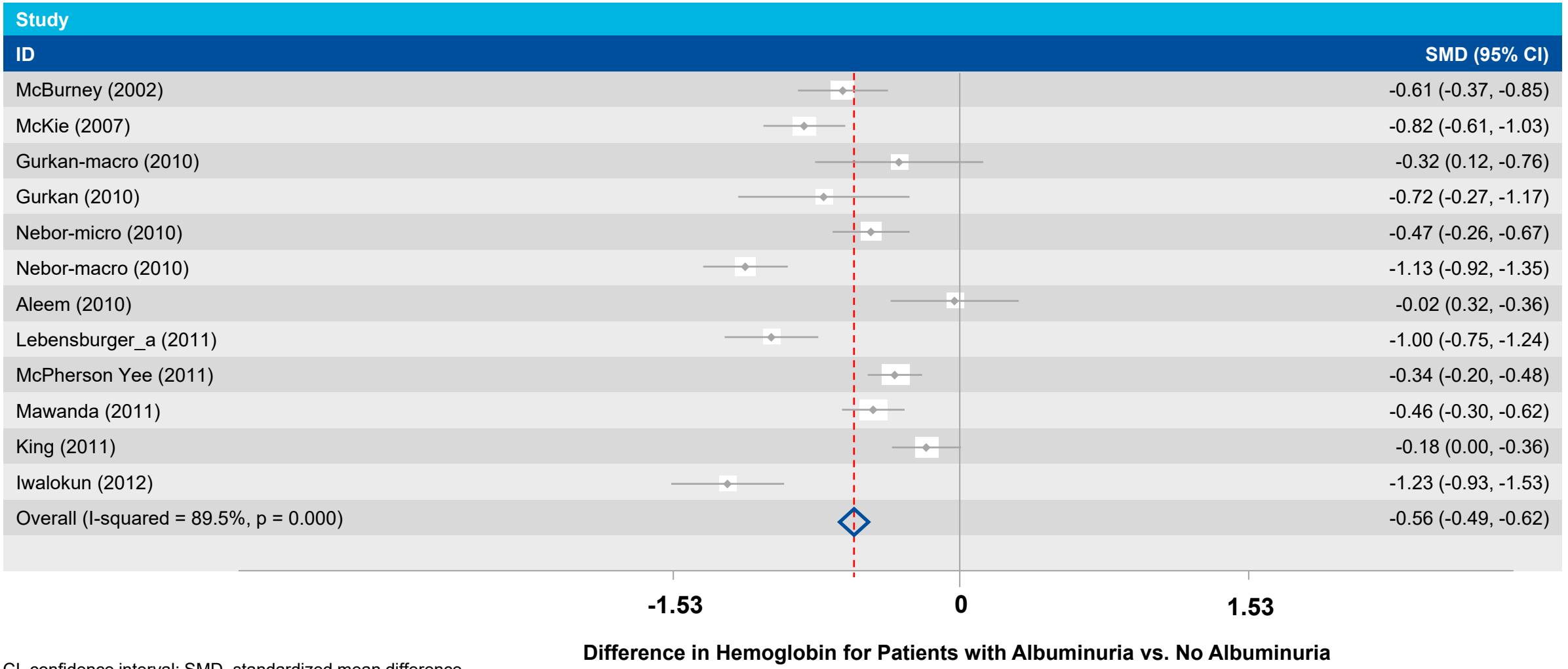
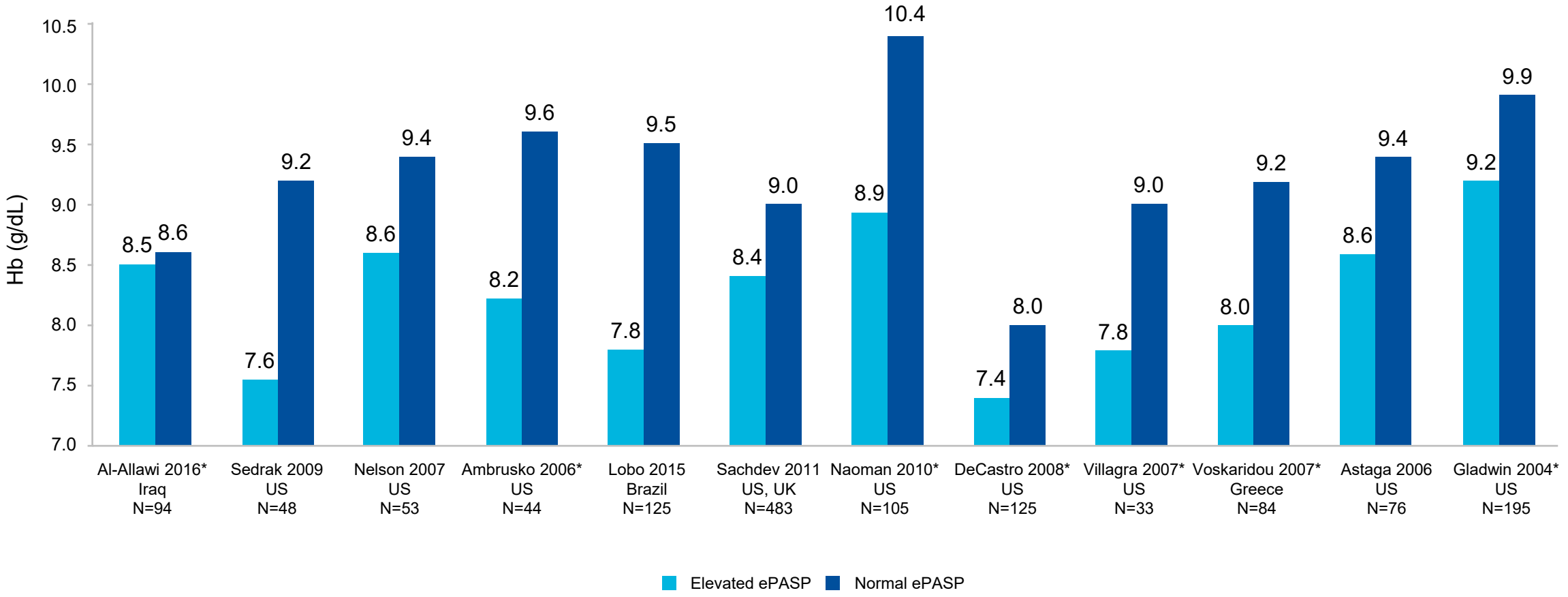
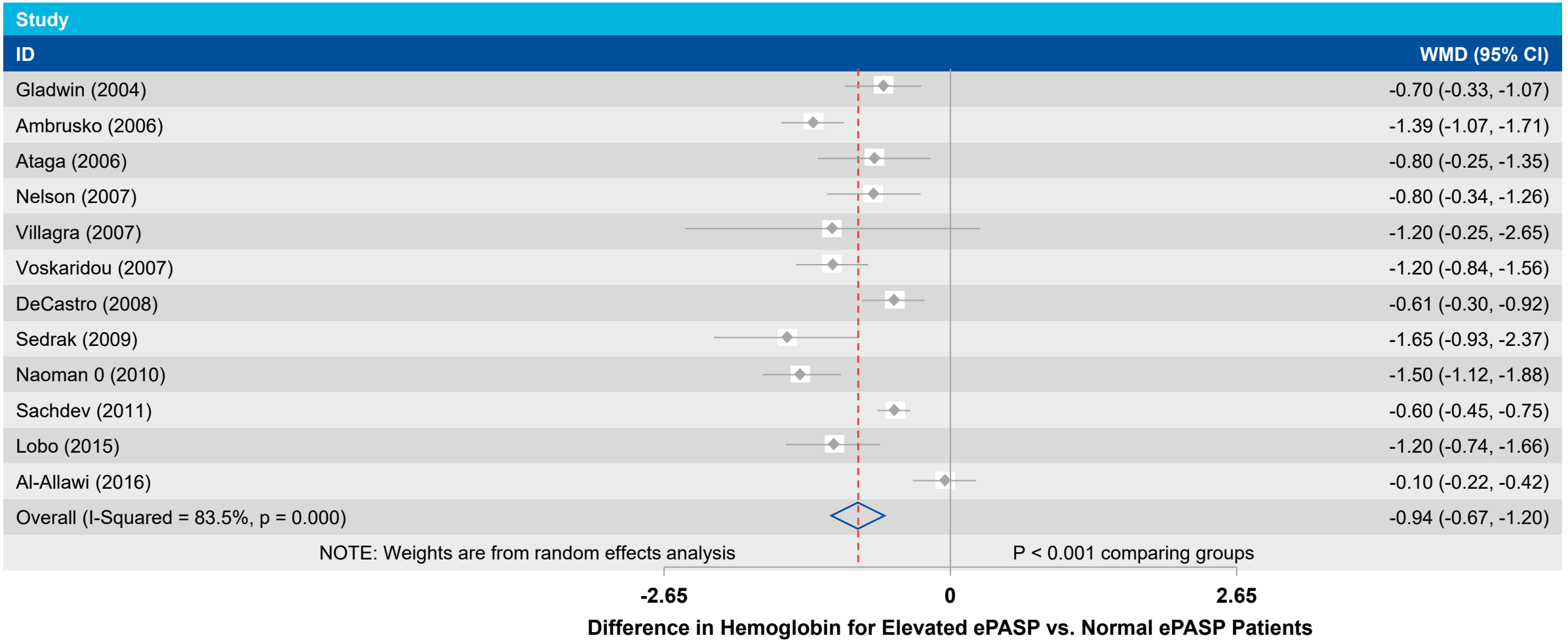


CI, confidence interval; SMD, standardized mean difference.

LOWER HEMOGLOBIN IS ASSOCIATED WITH ELEVATED ESTIMATED PASP

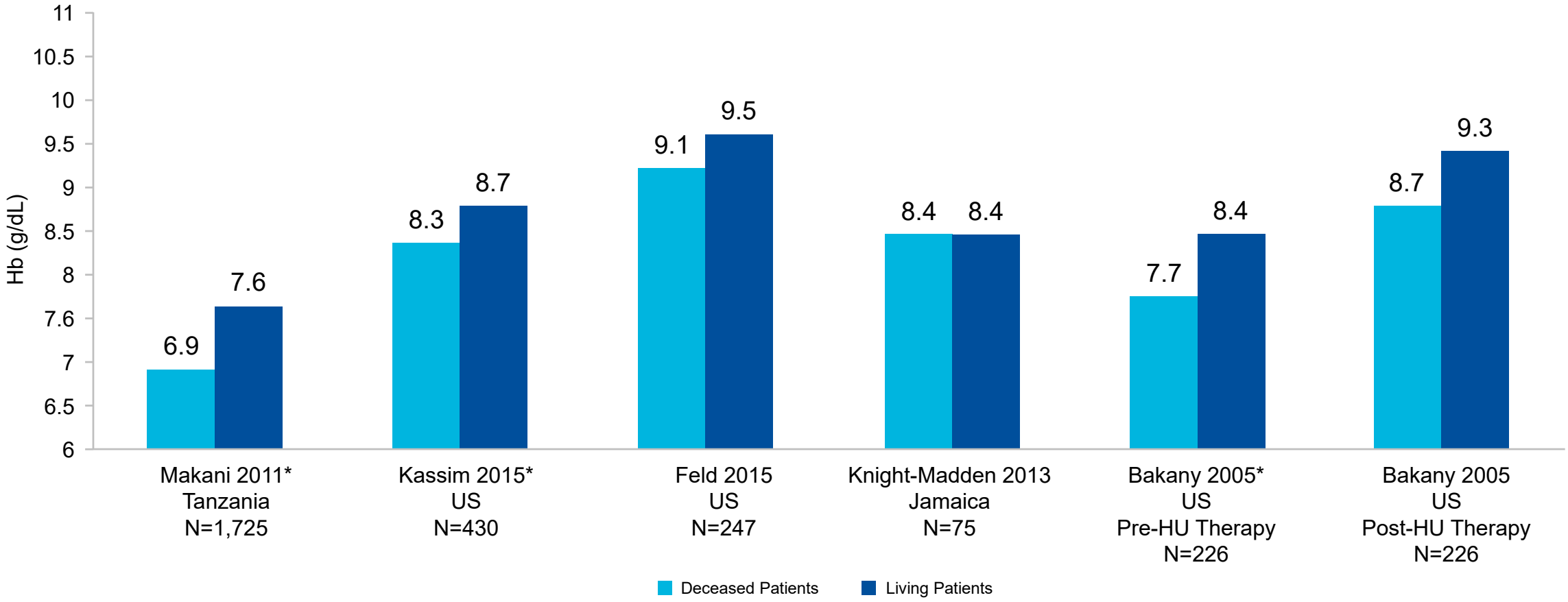


HEMOGLOBIN IS SIGNIFICANTLY LOWER IN PATIENTS WITH ELEVATED ESTIMATED PASP

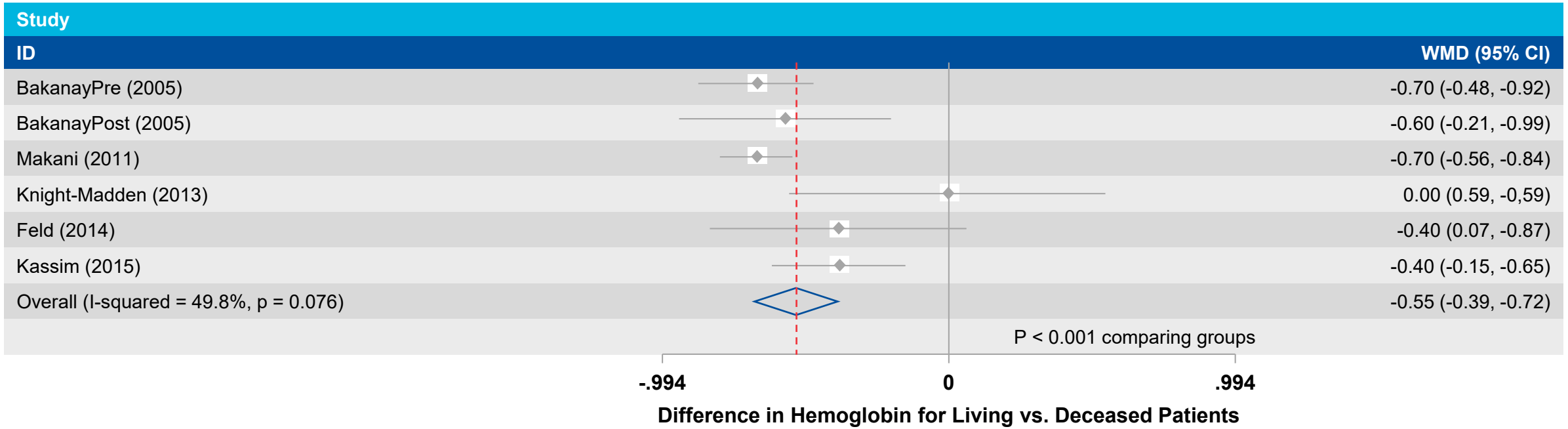


CI, confidence interval; ePASP, estimated pulmonary artery systolic pressure; WMD, weighted mean difference.

LOWER HEMOGLOBIN IS ASSOCIATED WITH INCREASED MORTALITY

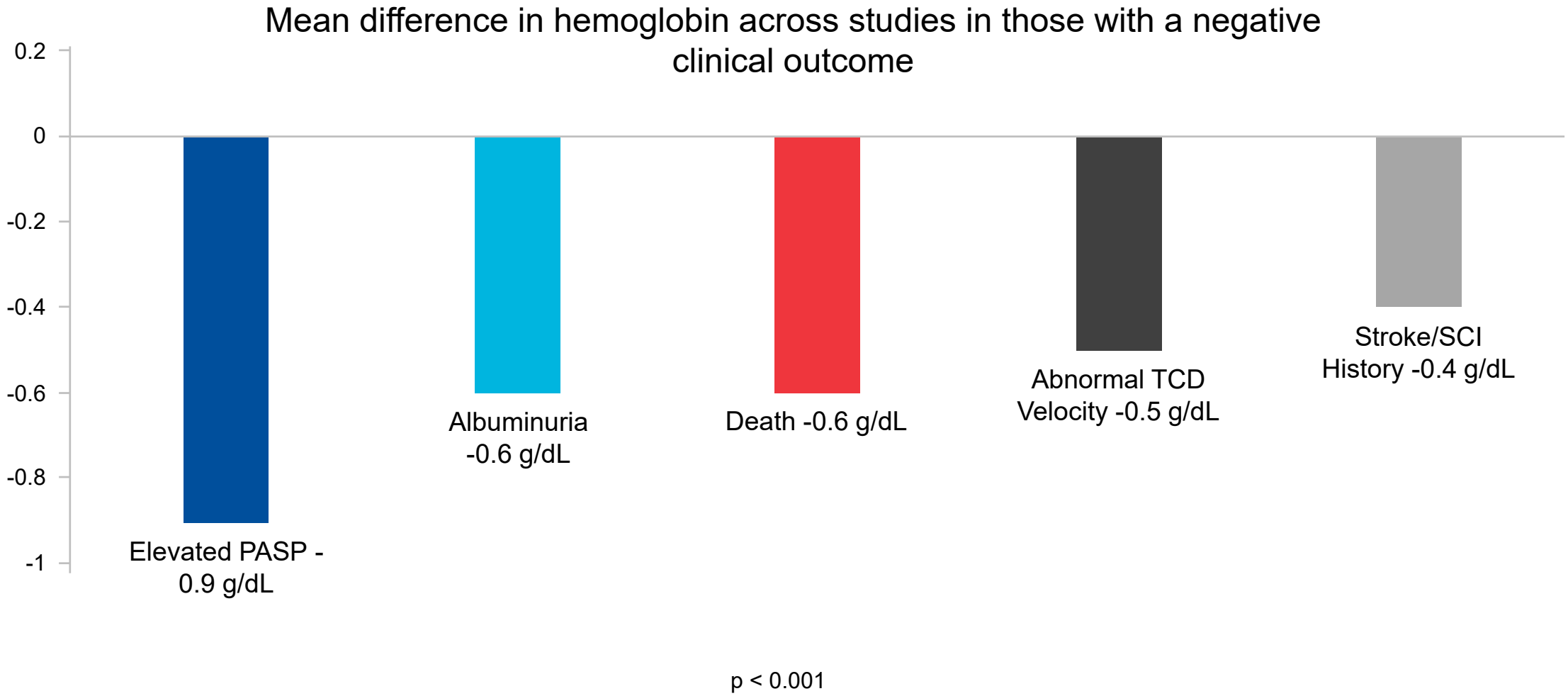


LOWER HEMOGLOBIN IS ASSOCIATED WITH INCREASED MORTALITY



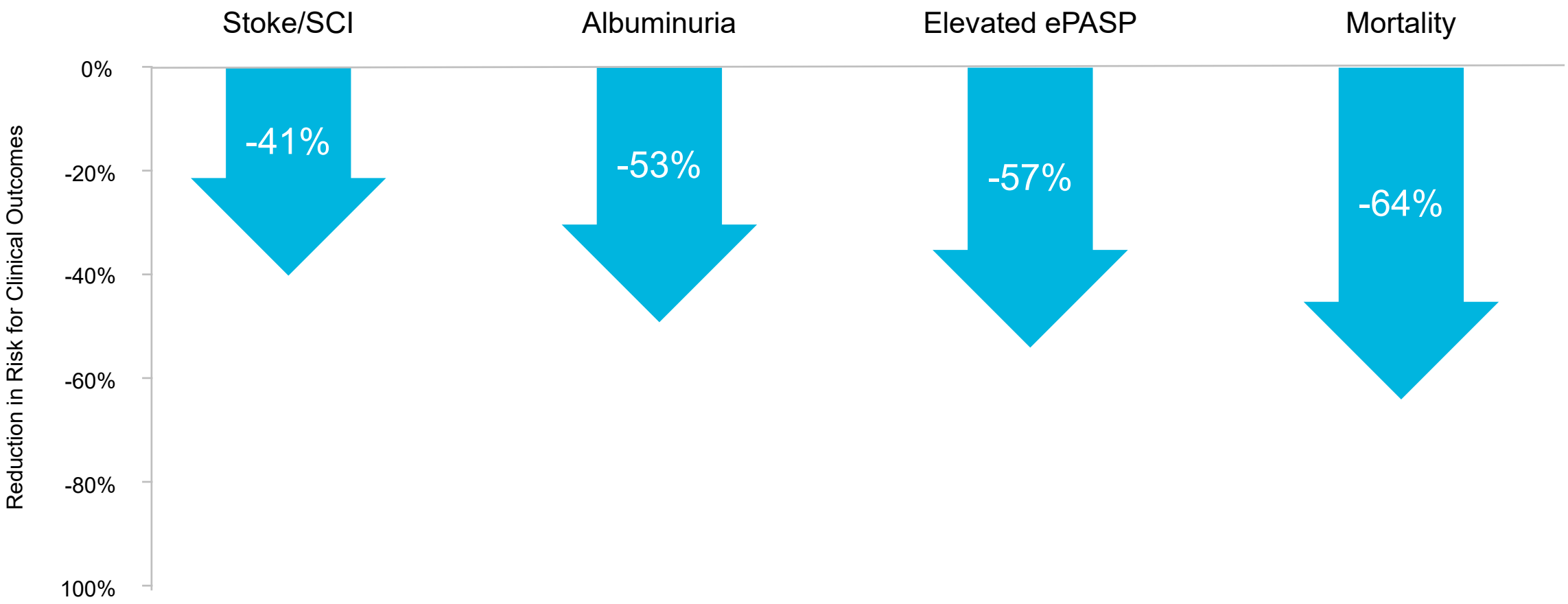
CI, confidence interval; WMD, weighted mean difference.

SUMMARY - HEMOGLOBIN IS SIGNIFICANTLY LOWER IN SELECTED CLINICAL COMPLICATIONS OF SCD



$p < 0.001$

↑ HEMOGLOBIN OF ≥ 1 G/DL PREDICTS REDUCED RISK OF STROKE, ALBUMINURIA, ELEVATED EPASP, & MORTALITY



ePASP, estimated pulmonary artery systolic pressure; SCI, silent cerebral infarction.

LIMITATIONS

Despite rigorous selection process, some relevant studies may have been excluded

Individual patients may have been represented in more than 1 cohort or publication

CONCLUSIONS

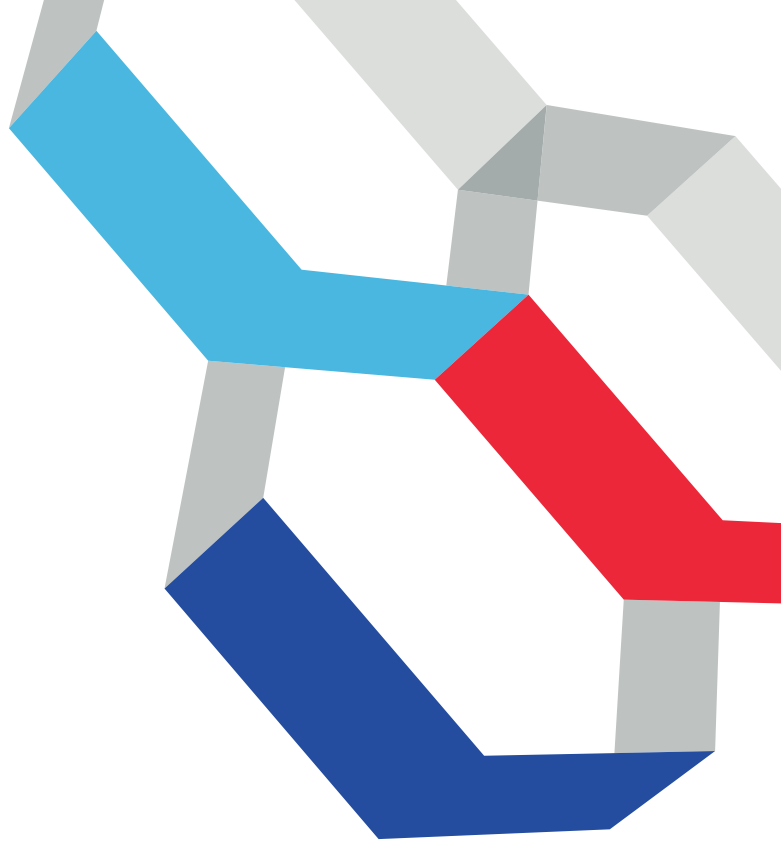
Comprehensive evaluation of peer-reviewed literature shows significant relationship between hemoglobin and selected clinical outcomes in SCD

+ ↓ Hb is associated with ↑ risk of cerebrovascular disease, albuminuria, ↑ ePASP and mortality

Relatively modest differences in hemoglobin may be clinically meaningful

Interventions to reduce anemia and hemolysis may confer clinical benefit in SCD

Q&A



Physiology of Tissue Oxygen Delivery

Dr. Elizabeth Klings
Associate Professor of Medicine
Director, Center for Excellence in SCD, Boston University School of Medicine

GBT

DISCLOSURES

Clinical Advisory Board/Consultant:

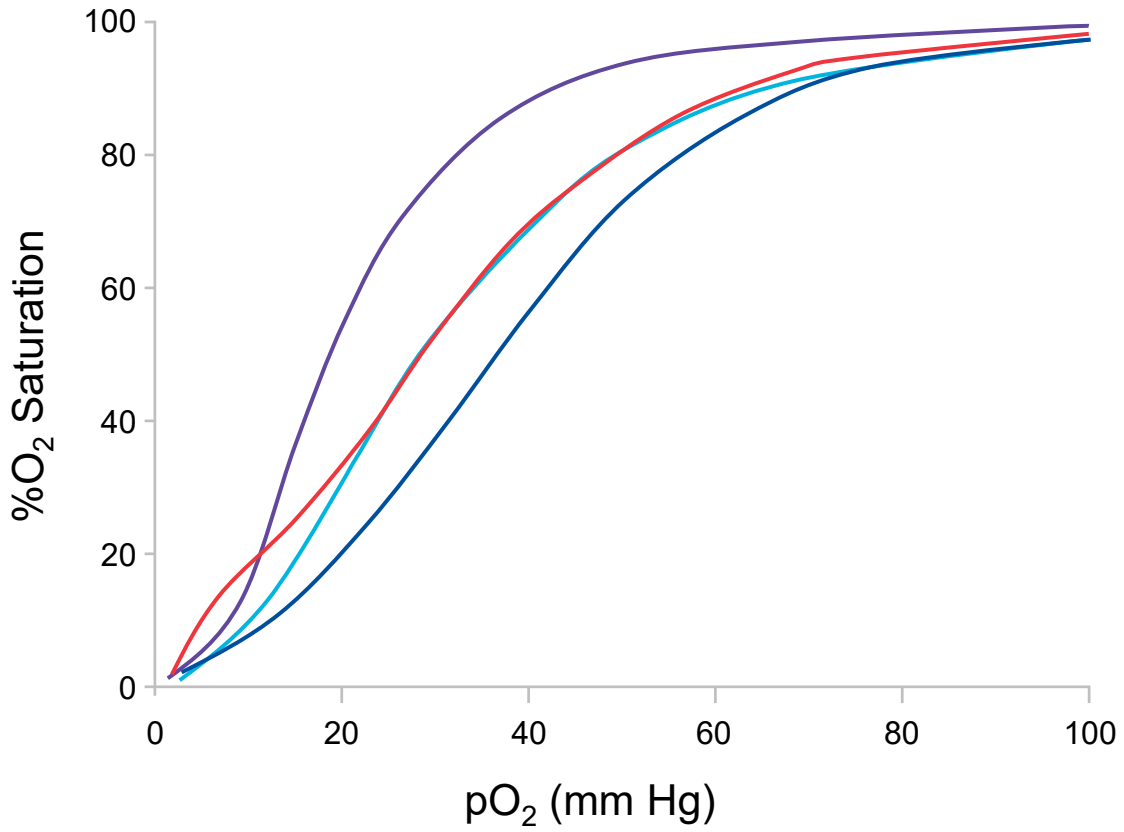
+ Global Blood Therapeutics
+ Pfizer – ACS adjudication committee for Phase III trial of Rivipansel

Research Support:

+ Bayer
+ Reata Pharmaceuticals
+ Actelion Pharmaceuticals
+ Arena Pharmaceuticals

VOXELOTOR INCREASES HEMOGLOBIN OXYGEN AFFINITY

Is This safe?

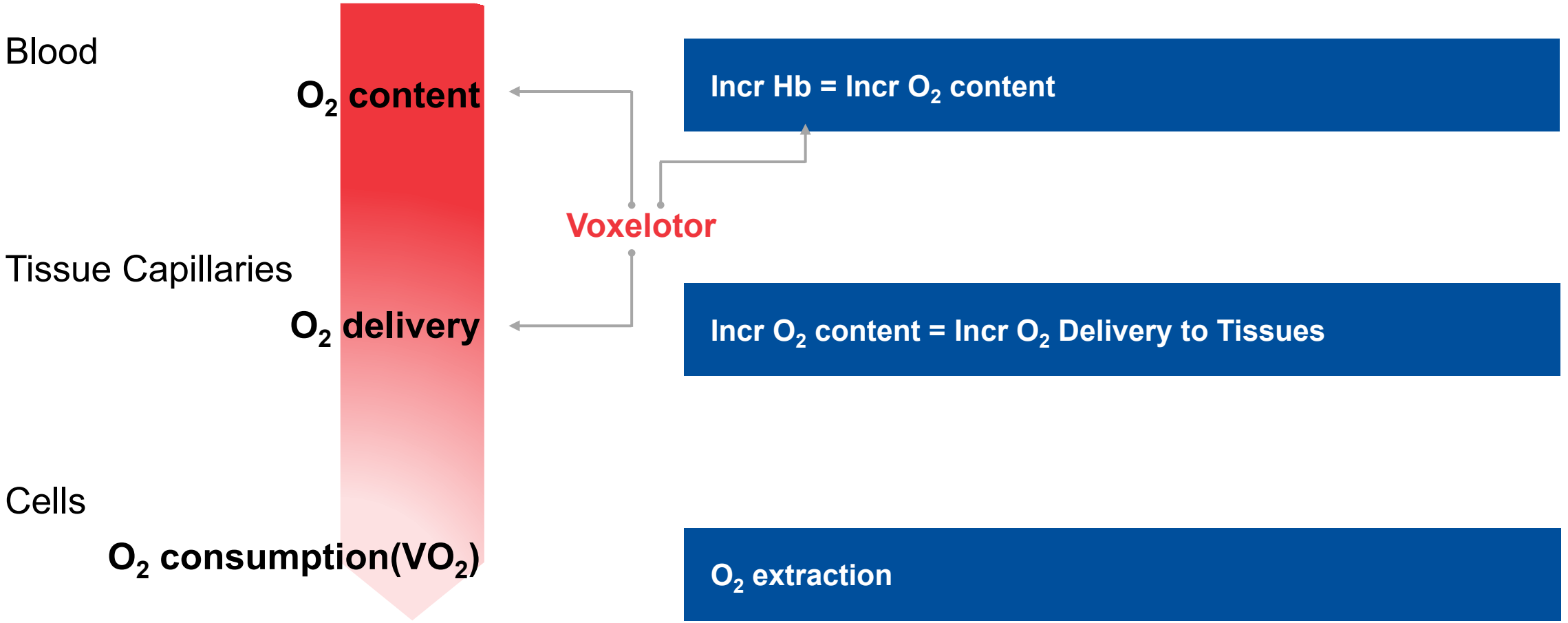


	AA	SS	SS 30% Hb mod	Cord blood, >80% HbF
p50	28.2	36.2	28.2	18

- Sickle hemoglobin oxygen affinity is abnormally low
- Voxelotor “left-shifts” the Hb Oxygen Dissociation Curve (ODC)
- This modestly increases sickle Hb oxygen affinity towards normal
- If hemoglobin oxygen affinity is too high, this could theoretically decrease tissue oxygen extraction
- ***Clinical relevance is meaningfully assessed through evaluating human and animal physiology, not through in vitro or theoretical models***

S. CHARACHE, J. B., et al., British Journal of Hematology, 1976, 34, 527 / Lehrer-Graiwer, et al. ASH 2016. Poster/Abstract #2488

TISSUE OXYGEN UTILIZATION IS THE NET EFFECT OF OXYGEN DELIVERY TO TISSUES AND OXYGEN EXTRACTION IN TISSUES



Ward J Surgery 2006;24:354

EXPECTED CONSEQUENCES OF IMPAIRED OXYGEN EXTRACTION BY TISSUES

Tachycardia, shortness of breath, fatigue, confusion

Compensatory increase in cardiac output to increase O_2 delivery to the tissues

Decreased exercise capacity (achieve less workload, exercise time & O_2 consumption (VO_2)

Tissue hypoxia, anaerobic metabolism (increased lactate levels)

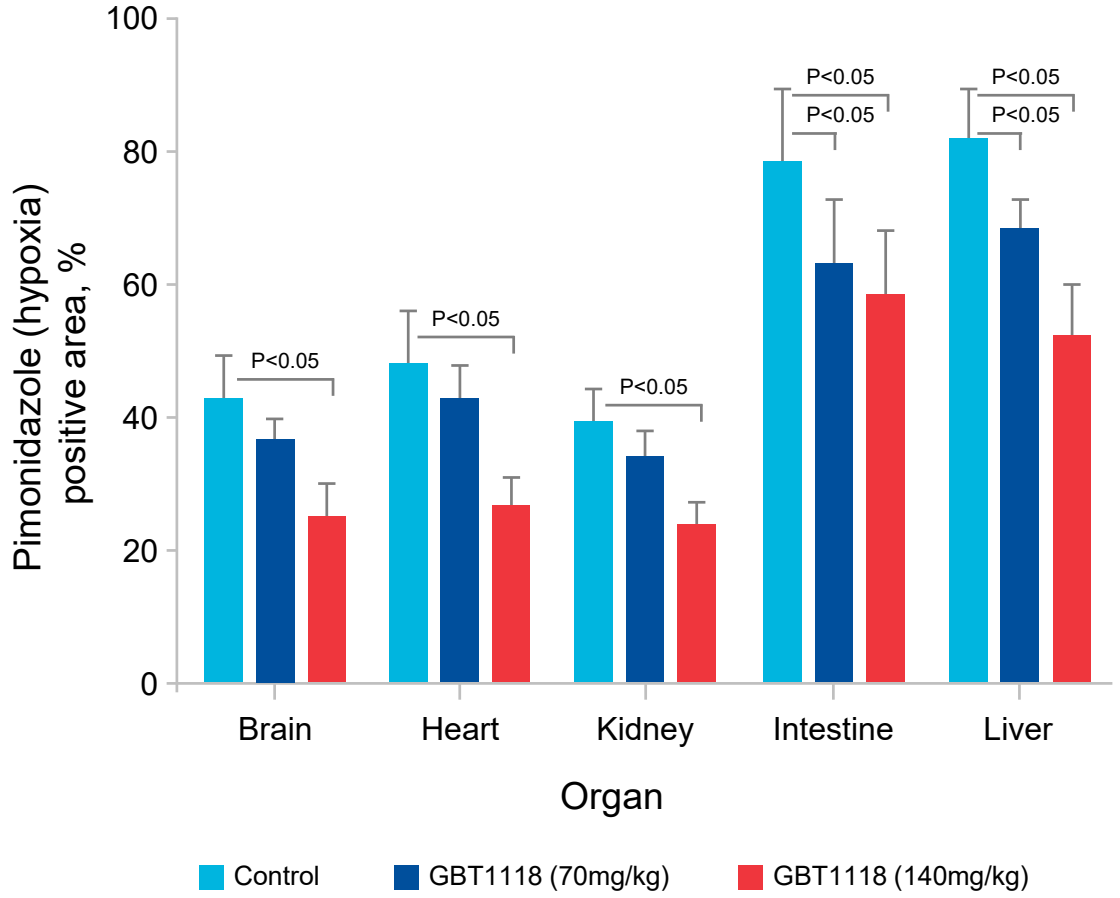
Organ ischemia and infarction (end organ damage: heart, kidneys, brain)

Death

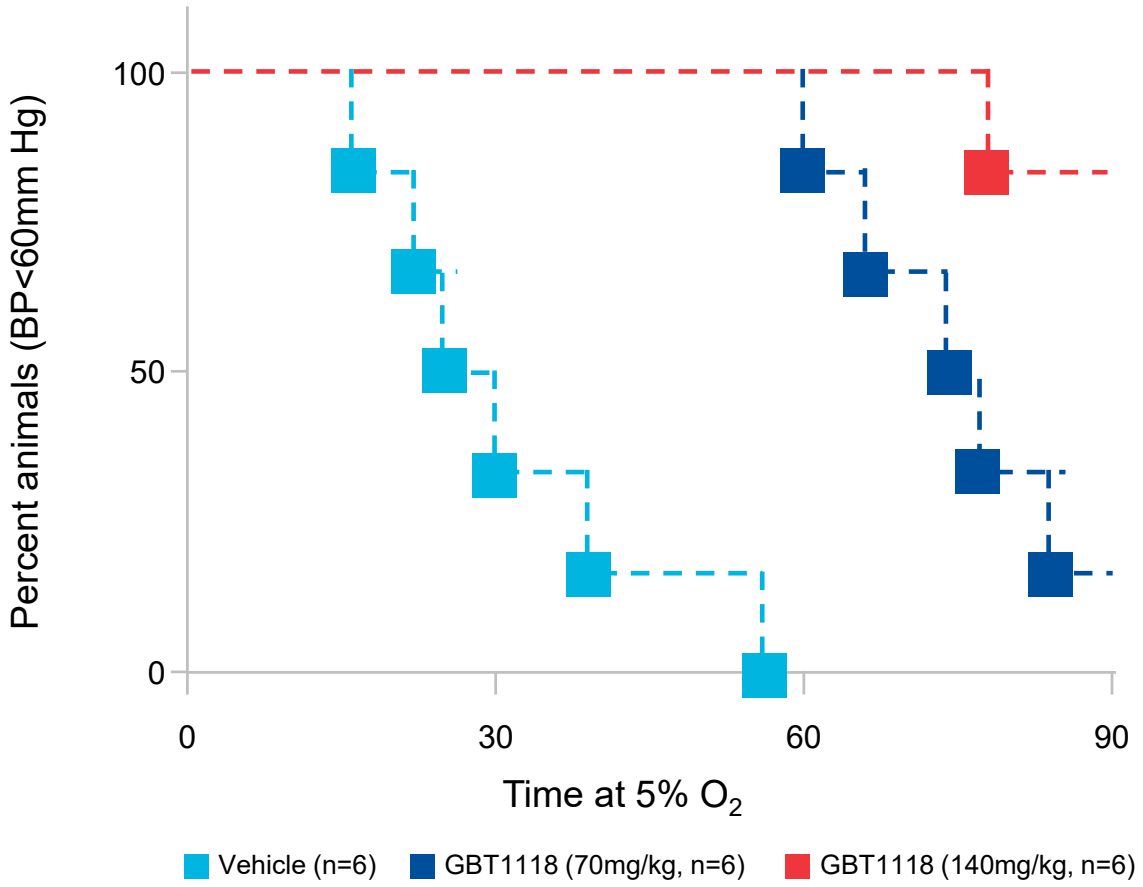
Ward J Surgery 2006;24:354

GBT1118, A VOXELOTOR ANALOGUE, REDUCED TISSUE HYPOXIA AND IMPROVED SURVIVAL IN VIVO

A) **Positive staining for hypoxia**



B) **Survival proportions**



Dufu, 2017 Am J Physiol Heart Circ Physiol 2017

VOXELOTOR DID NOT DECREASE VO_2 IN SCD PATIENTS

Administered for 90 Days (GBT440-001: Phase 1/2 Clinical Study)

		900mg (n=6)	Placebo (n=4)
VO_2 Peak exercise *(mL/kg/min)*	Baseline	21.2 (17.1:23.4)	23.3 (15.7:23.8)
	Change at Day 90	-1.9 (-5.0:0.4)	-2.4 (-7.5:0.3)
Heart rate *(bpm)*	Baseline	171 (146:184)	162 (160:162)
	Change at Day 91	1 (-7:8)	-12(-28:4)

No difference in Borg dyspnea scores
No difference in workload achieved

Lehrer-Graiwer, et al. ASH 2016. Poster/Abstract #2488.

EVEN UNDER HIGH STRESS CONDITIONS, NO EVIDENCE OF IMPAIRED TISSUE O_2 EXTRACTION WITH VOXELOTOR

Maximum Exercise During Hypoxia (12.5% O_2)

Parameter	Day 1	Day 15
p50 (mm Hg)	28.3	26.0
Heart Rate (bpm)	171	173
Cardiac Output (L/min)	23	24
Workload (watts)	208	208
Oxygen Consumption (mL/min)	2596	2480
Lactate (mmol/L)	15.6	14.3

Healthy volunteers 14 days of voxelotor 900mg, n=8

No difference in Borg dyspnea and perceived exertion scores

Smith G, et al. ATS 2018. Poster

SUMMARY

- In vitro ODC curves show that voxelotor produces a modest effect, moving oxygen affinity towards normal
- This could theoretically decrease tissue oxygenation at excessive doses
- In vivo, a voxelotor analogue improved survival and reduced tissue hypoxia
- The impact of increased oxygen affinity at the therapeutic dose can be assessed through exercise physiology
- A concerning decrease in oxygen extraction would produce a decrease in tissue oxygen consumption and exercise capacity
- Maximal exercise testing in both SCD patients and healthy volunteers show no reduction in exercise physiology and no evidence of impaired tissue oxygen extraction

Q&A

HOPE-KIDS 1 Phase 2a Study (GBT440-007): 1500 mg Clinical Data Update

Dr. Clark Brown
Clinical Director, Children's Healthcare of Atlanta

DISCLOSURES

Consultant/research funding:

+ CSL-Behring
+ Global Blood Therapeutics
+ Novartis
+ Pfizer

VOXELOTOR, A NOVEL INHIBITOR OF HbS POLYMERIZATION

Novel mechanism that inhibits HbS polymerization and RBC sickling, the underlying pathophysiologic mechanism of SCD

Preclinical and clinical studies to date demonstrated

+ Improved red blood cell deformability and decreased blood viscosity[1]
+ Rapid, sustained, and clinically meaningful increases in Hb and reduction of hemolysis[2,3]
+ Favorable safety profile with once-daily oral dosing[2,3]
+ Improved blood oxygen carrying capacity and tissue oxygen delivery[4,5]

Potential to modify morbidity and mortality by improving anemia and hemolysis

Hb, hemoglobin; HbS, sickled hemoglobin; RBC, red blood cell; SCD, sickle cell disease.

1. Dufu K, et al. *Clin Hemorheol Microcirc.* 2018;70(1):95-105. 2. Lehrer-Graiwer J, et al. ASH 2016. Poster/Abstract #2488. 3. Brown C, et al. EHA 2018. Poster/Abstract #PF709. 4. Smith G, et al. ATS 2018. Poster (hypoxic maximal conditions). 5. Smith G, et al. ATS 2018. Poster (submaximal hypoxic conditions).

GBT440-007: OBJECTIVES AND STUDY DESIGN

KEY ELIGIBILITY CRITERIA:

+ Children (aged 6 to 11 years) and adolescents (aged 12 to 17 years) with sickle cell disease (HbSS or HbSβ0-thalassemia)
+ Screening hemoglobin ≤10.5 g/dL
+ Concurrent use of hydroxyurea was allowed, if stable dose for 3 months prior to entry
+ No VOC, acute chest syndrome, or splenic sequestration crisis within 14 days prior to consent/assent
+ No chronic transfusion therapy or transfusion within 30 days before consent
+ No history of stroke or history of 2 TCD measurements ≥200 cm/s

PART A	PART B
Single Oral Dose	Multiple Oral Doses (Daily for 24 Weeks)
Voxelotor 600 mg in children (6-11 years)	**Voxelotor 900 mg daily in adolescents (12-17 years)**
Voxelotor 600 mg in adolescents (12-17 years)	**Voxelotor 1500 mg daily in adolescents (12-17 years)**
PRIMARY OBJECTIVE To evaluate pharmacokinetics of voxelotor **SECONDARY OBJECTIVE** To assess safety profile of voxelotor	**PRIMARY OBJECTIVE** To assess the efficacy of voxelotor on improving anemia (>1g/dL increase) **SECONDARY OBJECTIVES** To evaluate the effect of voxelotor on clinical measures of hemolysis

TCD, transcranial Doppler; VOC, vaso-occlusive crisis.

GBT440-007: OBJECTIVES AND STUDY DESIGN

KEY ELIGIBILITY CRITERIA:

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Voxelotor 600 mg in adolescents (12-17 years)	**Voxelotor 1500 mg daily in adolescents (12-17 years)**

Data as of October 9, 2018

PK/Safety:
ALL patients who received at least one dose (n=15)

Efficacy:
ALL patients who completed week 16 (n=11)

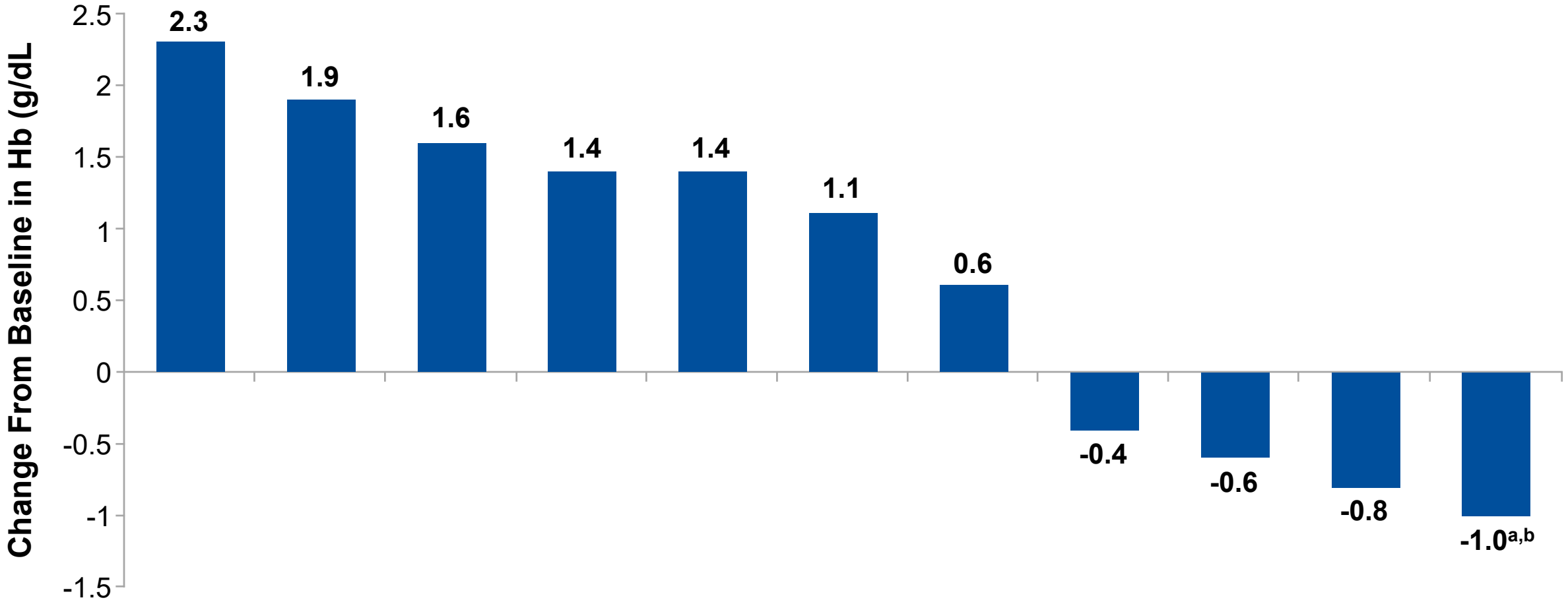
PK, pharmacokinetics; TCD, transcranial Doppler; VOC, vaso-occlusive crisis.

BASELINE CHARACTERISTICS FOR PATIENTS TREATED AT 1500 MG

Baseline Characteristics	Voxelotor Safety Population (N=15)[b]
Male n (%)	5 (33)
Age (years, median, range)	14 (12-17)
HbSS, n (%)	12 (80)
HbSβ^0-thalassemia, n (%)	3 (20)
Number of VOCs in prior year, n (%)	
0	5 (33)
1-4	6 (40)
>4	4 (27)
Baseline[a] Hb (g/dL, median, range)	8.8 (6.2-10.6)[c]
Current hydroxyurea use, n (%)	15 (100)
Baseline HbF (%, median, range)	14.0 (4.7-25.6)
Baseline* TAMM by TCD (cm/sec, median, range)	112 (92-177)
Normal (<170 cm/sec)[d]	14 patients
Conditional (≥170 cm/sec to <200 cm/sec)	1 patient

HbF, fetal hemoglobin; TAMM, time-averaged mean of maximum velocity; TCD, transcranial Doppler; VOC, vaso-occlusive crisis.
[a]Baseline is the average of the values prior to the first dose. bSafety population includes all patients who receive at least one dose of study medication.
[c]All patients were eligible for the study with screening Hb ≤10.5 g/dL; one subject had screening Hb = 10.5 g/dL and day 1 Hb = 10.6 g/dL.
[d]All 14 patients with normal TCD velocity were <135 cm/sec. Data as of October 9, 2018.

55% OF PATIENTS ACHIEVED >1 G/DL INCREASE IN HEMOGLOBIN AT WEEK 16



[a]Low PK exposure.
[b]Previous Hb change from baseline at week 12 was 1.7 g/dL, acute Hb decrease temporally associated with concomitant viral infection.
Data as of October 9, 2018.

IMPROVEMENT IN ANEMIA AND HEMOLYSIS

Parameter	Voxelotor 1500 mg Median Change From Baseline N=11	25th, 75th Percentile
Hemoglobin (g/dL)	1.1	-0.6, 1.6
Percent reticulocytes (% change)	-5.8	-42.1, 14.7
Unconjugated bilirubin (% change)	-36.9a	-58.5, -5.9
LDH (% change)	-23.1	-33.2, 10.9

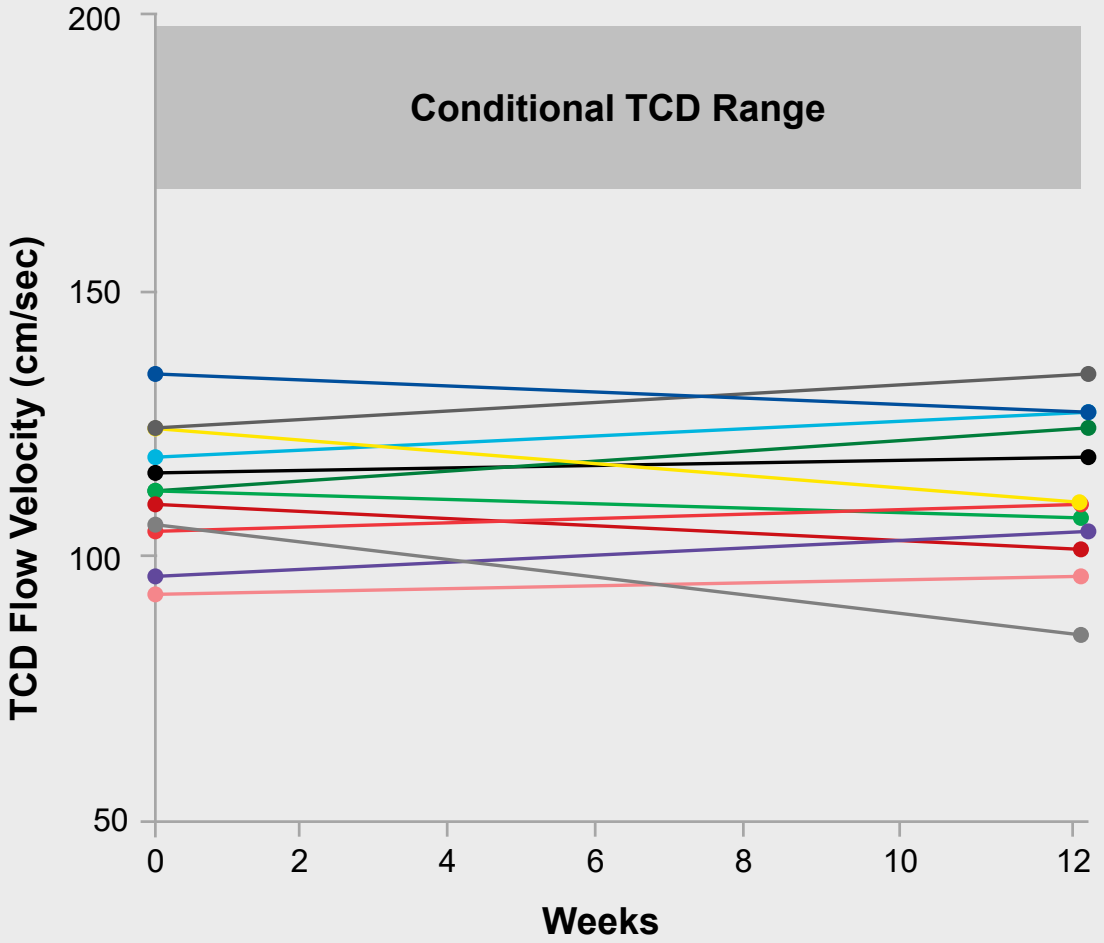
LDH, lactate dehydrogenase.
[a]n=10.
Data as of October 9, 2018.

TCD REMAINED NORMAL AT MIDPOINT

13 patients had data at week 12

12 with normal baseline TCD
+ <135 cm/s at baseline
+ All 12 remained normal at midpoint

1 patient with conditional baseline TCD

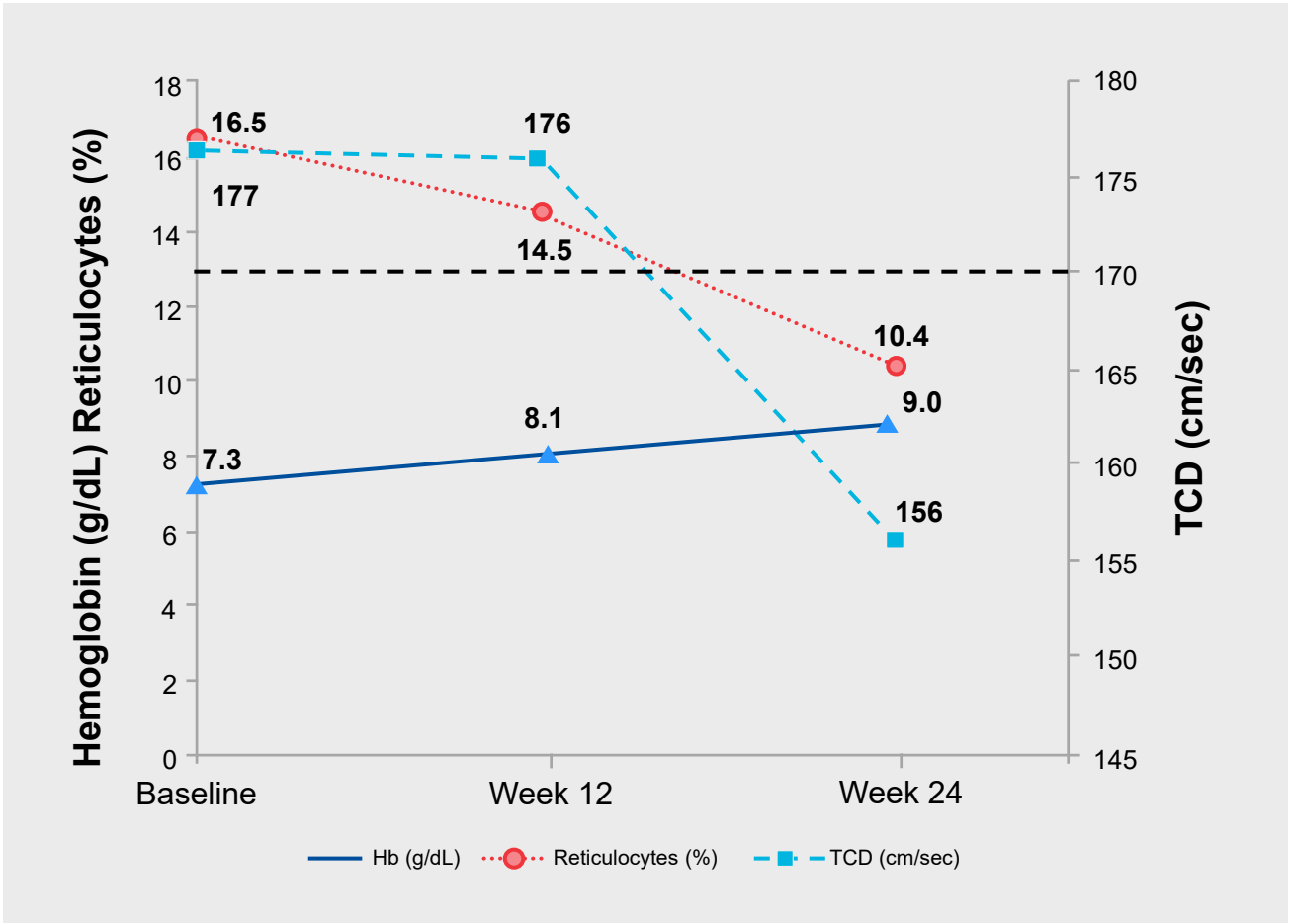


Data as of October 9, 2018.

CASE STUDY OF ONE PATIENT WITH CONDITIONAL TCD VELOCITY

One patient had conditional TCD despite hydroxyurea at MTD

TCD normalized at week 24 with concordant improvements in Hb and reticulocytes



MTD, maximum tolerated dose.
Data as of October 9, 2018.

SAFETY AND TOLERABILITY IN ADOLESCENTS TREATED AT 1500 MG

- Voxelotor 1500 mg was well tolerated
- The majority of drug-related AEs related to voxelotor were Grade 1 or 2
  - One Grade 3 event (rash[a])
- No drug discontinuations due to AEs

Drug-related AEs occurring in ≥2 patients

Adverse Event	Voxelotor 1500 mg n (%) N=15
Nausea	3 (20)
Diarrhea	2 (13)

AEs, adverse events.
[a]Did not recur with continued dosing.
Data as of October 9, 2018.

DECREASE IN ERYTHROPOIETIN

Erythropoietin (mU/mL)	Voxelotor 1500 mg Median N=11	25th, 75th Percentile
Baseline	139	86, 187
Week 12	91	43, 196
% Change from baseline to week 12	-15.3	-46.8, 0.5

Data as of October 9, 2018.

ADOLESCENT PK AS PREDICTED AND SIMILAR TO ADULTS: TARGET HB OCCUPANCY ACHIEVED AT 1500 MG

	Adolescents (GBT440-007)[a]
Number of patients	14[b]
C_{max}, µg/mL, geometric mean (%CV)	175 (30)
AUC, h*µg/mL, geometric mean (%CV)	3740 (31)
Half-life, h, geometric mean (%CV)	33.6 (24)
% Hb occupancy based on C_{min} geometric mean (%CV)	25.7 (44)

AUC, area under the curve.
[a]Exposures simulated based on individual PK parameters from models estimated for pooled dataset from GBT440-001, GBT440-031, and GBT440-007.
[b]GBT440-007: One patient was excluded from the PK analysis for whole blood due to potential PK timepoint error.
Data as of October 9, 2018.

CONCLUSIONS

- Majority of adolescents receiving voxelotor 1500 mg achieved robust and sustained improvement in hemoglobin and reduced hemolysis consistent with results from HOPE in both adolescents and adults
  - 55% (6 of 11) of patients achieved >1 g/dL response in Hb
- Voxelotor was safe and well tolerated, consistent with results from HOPE
- Patients with normal TCD velocity at baseline remained within the normal range at week 12; one patient with conditional TCD normalized at week 24

Since anemia is a strong predictor of stroke, these results support the potential for voxelotor to reduce stroke risk and warrants further investigation

Phase 3 HOPE (GBT440-031) Study: Part A Data Update

Dr. Elliott Vichinsky
Director of Hematology/Oncology, UCSF Benioff Children's Hospital

DISCLOSURES

Consultant/advisory boards:

+ Global Blood Therapeutics
+ Bluebird Bio
+ Protagonist

VOXELOTOR, A NOVEL INHIBITOR OF HbS POLYMERIZATION

Novel mechanism that inhibits HbS polymerization and RBC sickling, the underlying pathophysiologic mechanism of SCD

Preclinical and clinical studies to date demonstrated

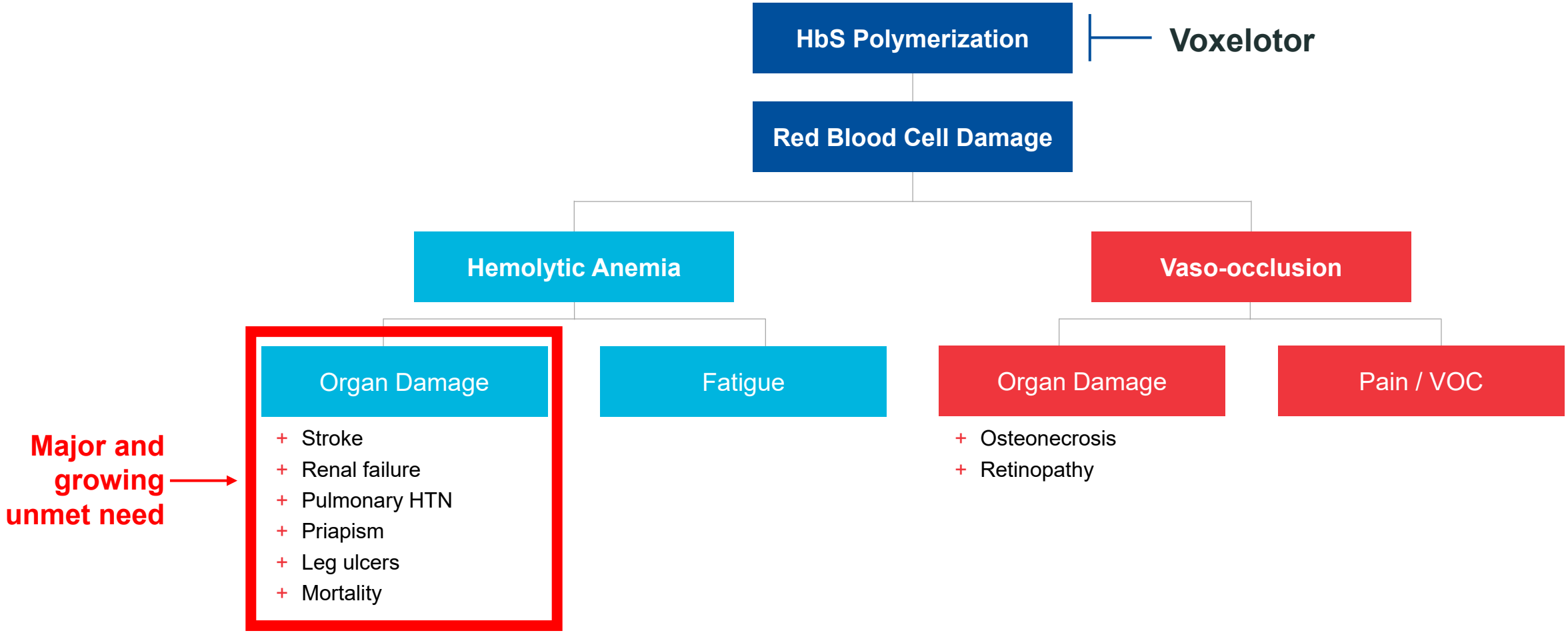
+ Improved red blood cell deformability and decreased blood viscosity[1]
+ Rapid, sustained, and clinically meaningful increases in Hb and reduction of hemolysis[2,3]
+ Favorable safety profile with once-daily oral dosing[2,3]
+ Improved blood oxygen carrying capacity and tissue oxygen delivery[4,5]

Potential to modify morbidity and mortality by improving anemia and hemolysis

Hb, hemoglobin; HbS, sickle hemoglobin; RBC, red blood cell; SCD, sickle cell disease.

1. Dufu K, et al. *Clin Hemorheol Microcirc*. 2018;70(1):95-105. 2. Lehrer-Graiwer, et al. ASH 2016. Poster/Abstract #2488. 3. Brown C, et al. EHA 2018. Poster/Abstract #PF709.
4. Smith G, et al. ATS 2018. Poster (hypoxic maximal conditions). 5. Smith G, et al. ATS 2018. Poster (submaximal hypoxic conditions).

VOXELOTOR ACTS UPSTREAM: POTENTIAL TO BE DISEASE MODIFYING



HTN, hypertension; VOC, vaso-occlusive crisis.
Adapted from Eaton WA, Bunn HF. *Blood* 2017;129(20):2719-2726.

HOPE STUDY DESIGN—PART A

Key Eligibility Criteria

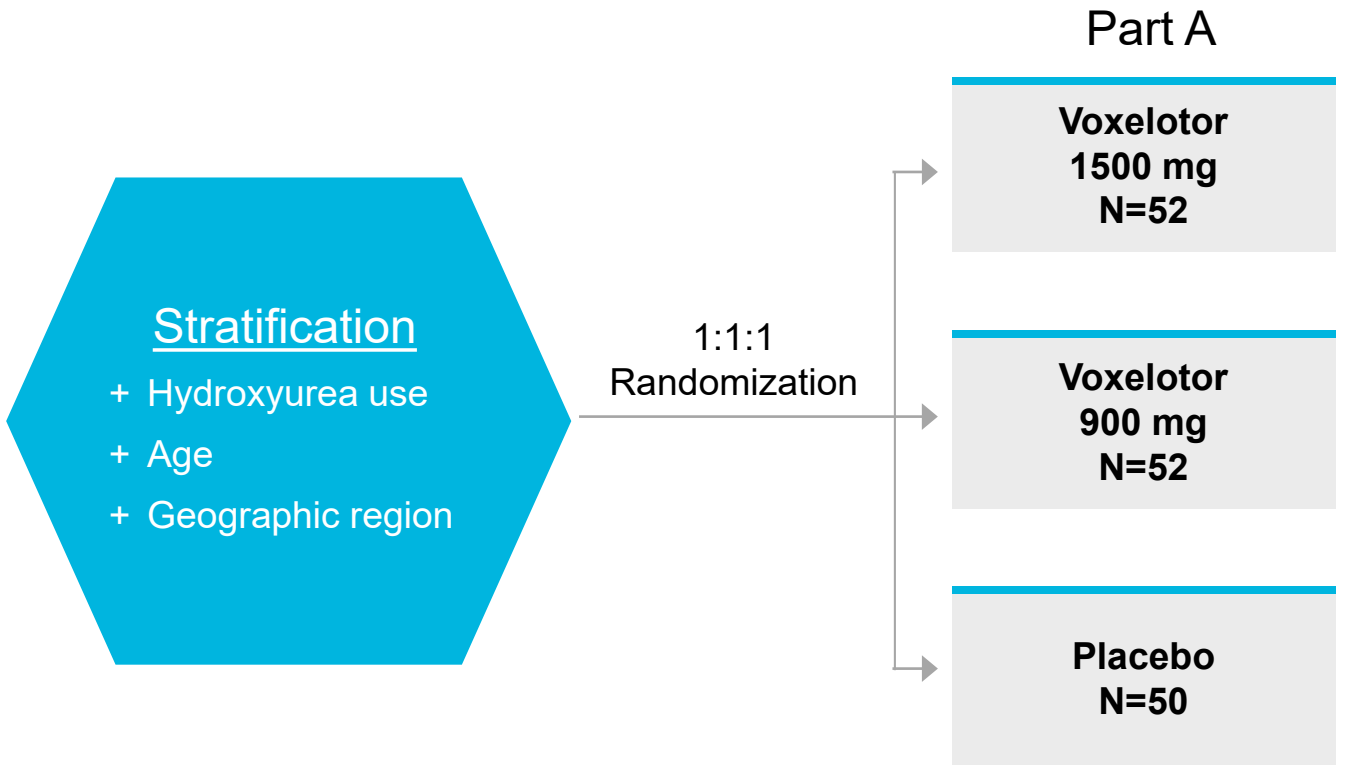
+ 1-10 VOCs in prior year
+ Hb ≥5.5 to ≤10.5 g/dL
+ ≥12 years old
+ Concomitant hydroxyurea allowed

Primary Endpoints

+ Proportion of patients who achieve a >1 g/dL Hb improvement
+ Safety

Key Secondary Endpoints

+ Hemolysis measures
+ VOC
+ Patient-reported outcome



+ Part A included 154 treated patients through Week 24
+ Primary analysis of all patients (n=271) is planned in early 2019

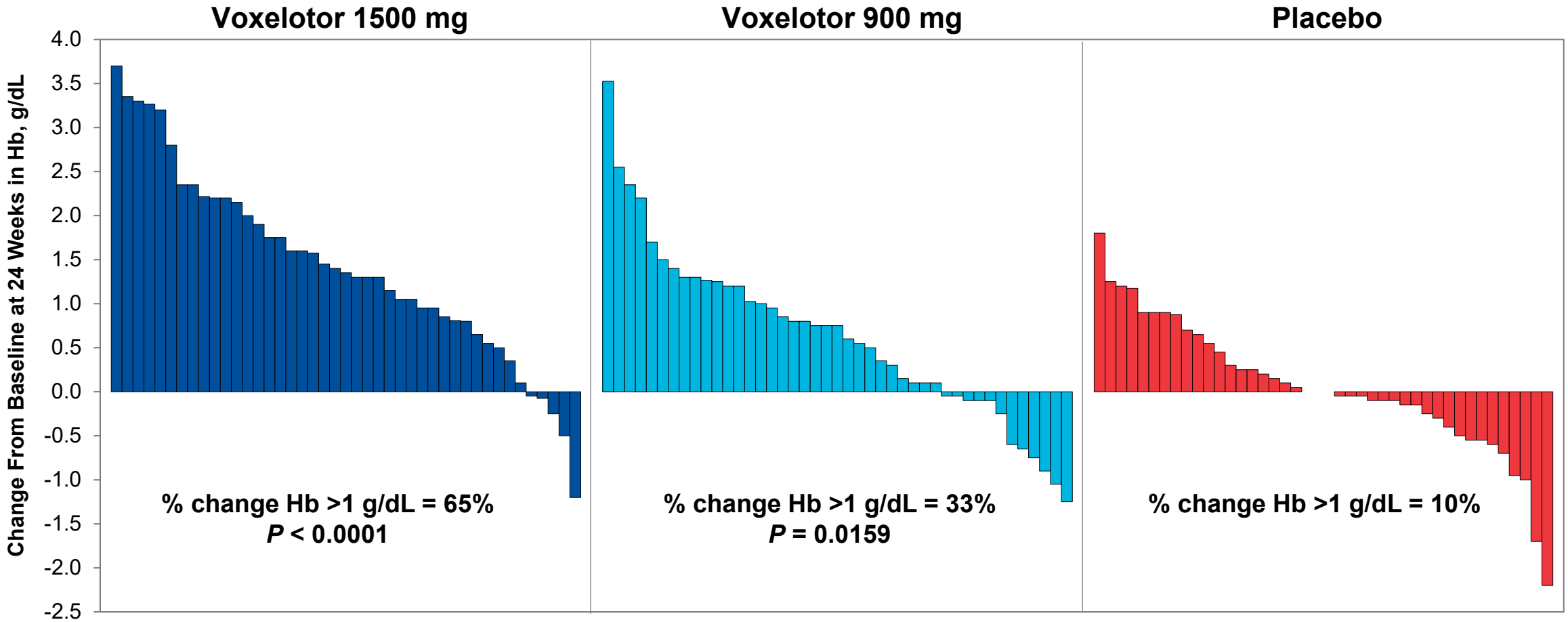
Data as of September 10, 2018.

BASELINE CHARACTERISTICS

Treatment	Voxelotor 1500 mg N=52	Voxelotor 900 mg N=52	Placebo N=50
Median age, years (range)	23 (12, 59)	26 (13, 59)	26 (12, 52)
12 to < 18 years, n (%)	8 (15)	7 (13)	6 (12)
18 to 65 years, n (%)	44 (85)	45 (87)	44 (88)
Male, n (%)	16 (31)	24 (46)	25 (50)
Region, n (%)			
North America	21 (40)	22 (42)	20 (40)
Europe	7 (13)	6 (12)	7 (14)
Other[a]	24 (46)	24 (46)	23 (46)
Genotype, n (%)			
HbSS/HbSβ^0 thalassemia	48 (92)	49 (94)	45 (90)
HbSC	1 (2)	1 (2)	2 (4)
Other[b]	3 (6)	2 (4)	3 (6)
Current hydroxyurea use, n (%)	32 (62)	35 (67)	32 (64)
Median baseline hemoglobin, g/dL (range)	8.6 (5.9, 10.8)	8.3 (6.3, 10.8)	8.5 (6.1, 10.4)
VOC episodes in previous 12 months,[c] n (%)			
1	23 (44)	21 (40)	22 (44)
2-5	25 (48)	27 (52)	24 (48)
6-10	4 (8)	4 (8)	4(8)

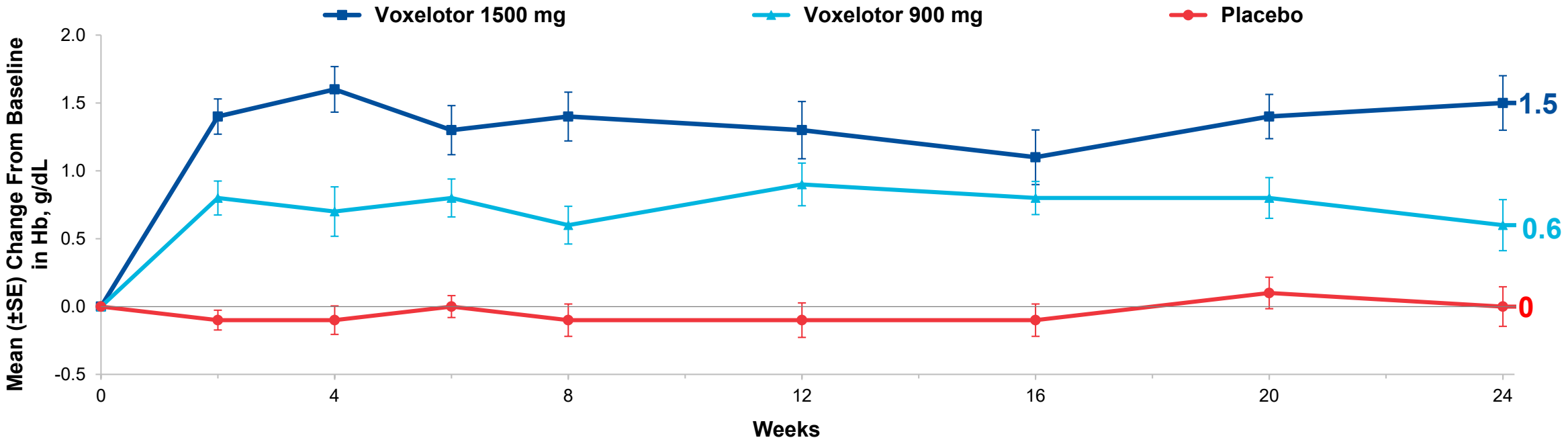
[a]Other regions: Lebanon, Turkey, Oman, Egypt, Kenya, Jamaica.
[b]Other genotypes include: HbSβ$^+$ thalassemia, other sickle cell syndrome variant.
[c]Baseline VOC defined as document episode of ACS or acute painful crisis that required prescription or healthcare professional-instructed use of analgesics for moderate to severe pain.

65% OF PATIENTS RECEIVING VOXELOTOR 1500 MG ACHIEVED >1 G/DL INCREASE IN HEMOGLOBIN



Baseline = average of screening and Day 1; 24 Weeks = average of Weeks 20 and 24. *P* values are based on comparison with placebo.

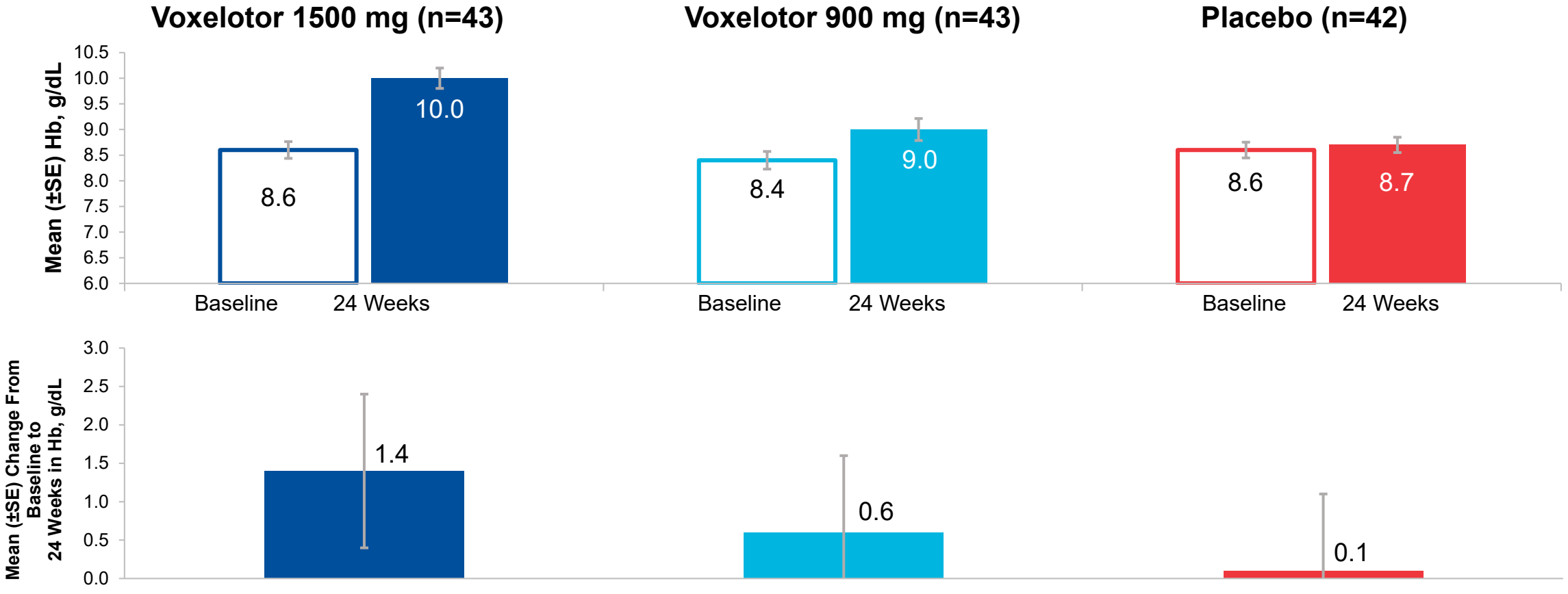
VOXELOTOR DEMONSTRATES A RAPID, ROBUST, AND SUSTAINED IMPROVEMENT IN ANEMIA AT TARGET HEMOGLOBIN OCCUPANCY



Value	Voxelotor 900 mg	Voxelotor 1500 mg
% Hb occupancy[a] (C_{min})	13.8% (46.5)	25.3% (32.8)

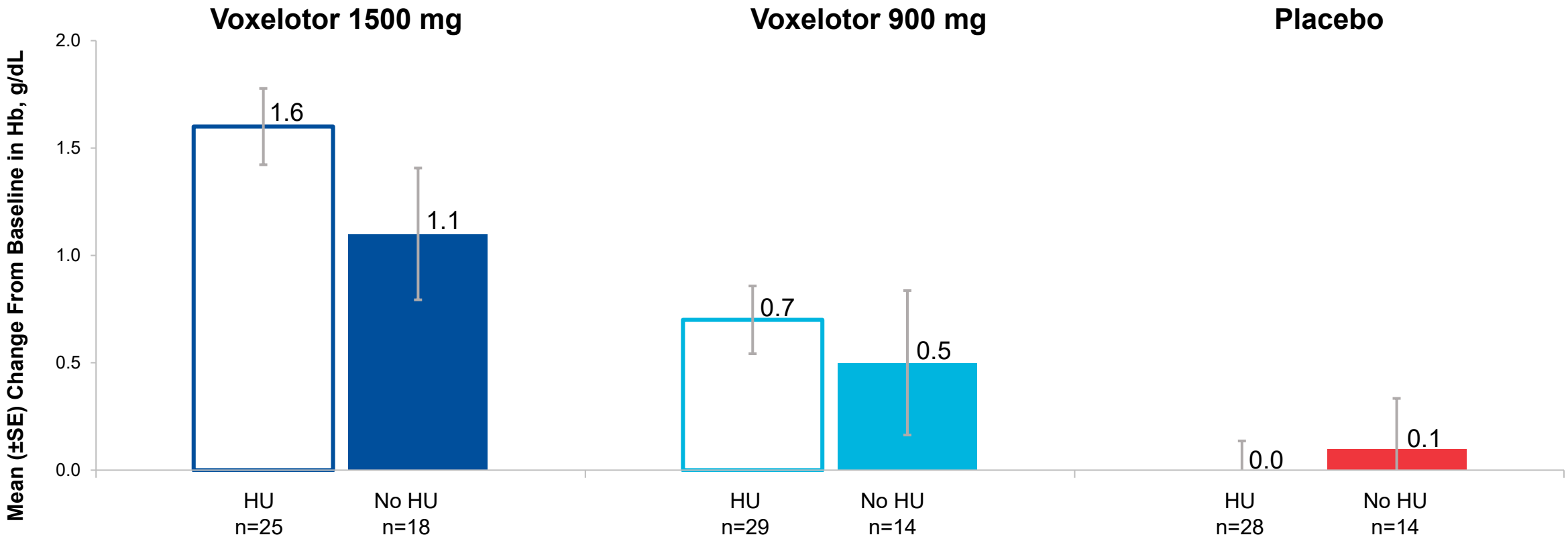
SE, standard error
[a]Hb occupancy geometric mean (%CV) = calculated % of RBC Hb bound by voxelotor.

VOXELOTOR 1500 MG INCREASED HEMOGLOBIN TO MEAN OF 10 G/DL, CONSISTENT WITH SUBSTANTIAL IMPROVEMENT IN ANEMIA



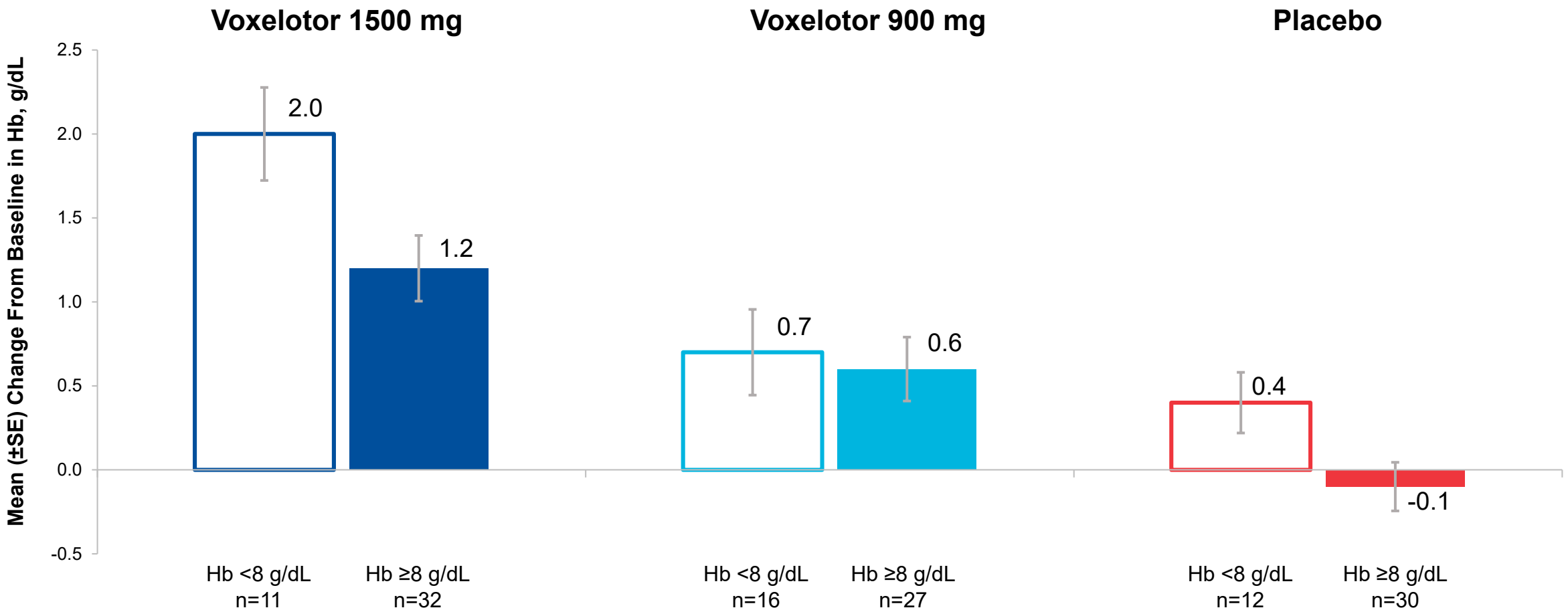
Baseline = average of screening and day of randomization; 24 Weeks = average of Weeks 20 and 24.

HEMOGLOBIN IMPROVEMENT WITH OR WITHOUT HYDROXYUREA (HU)



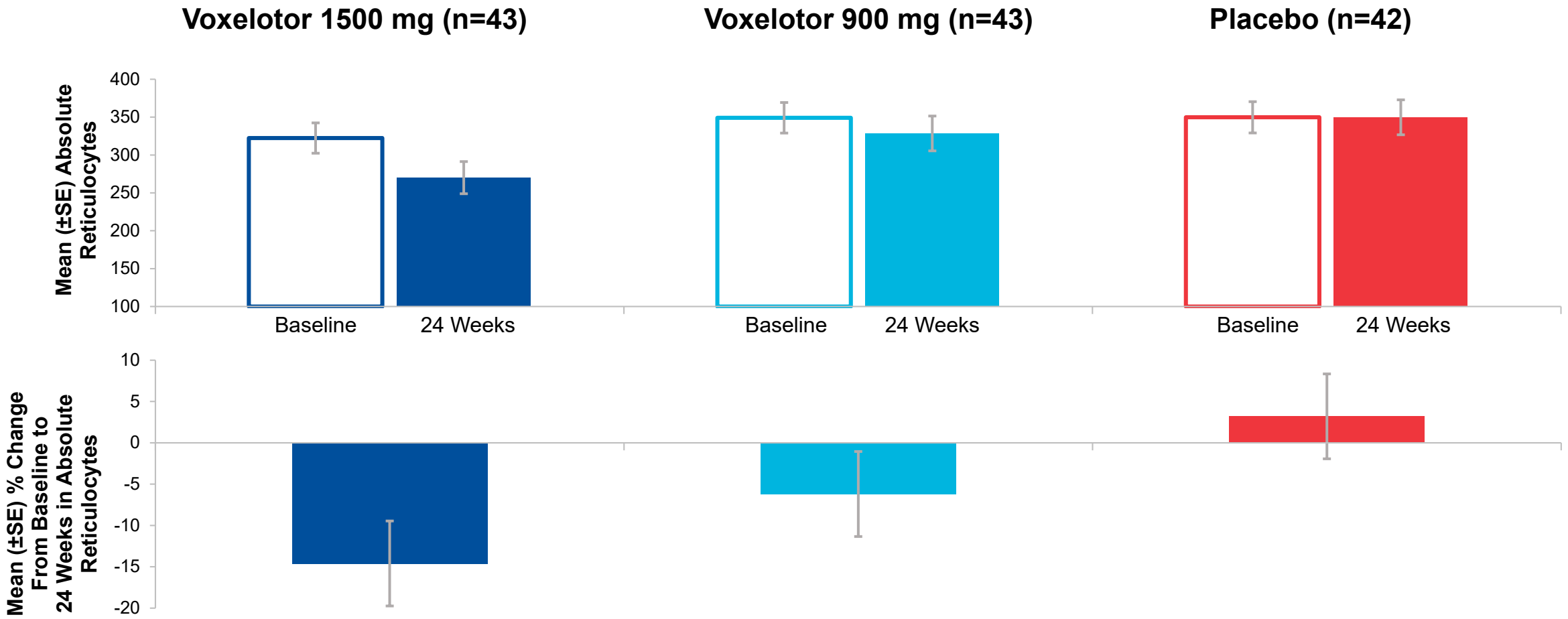
Baseline = average of screening and day of randomization; 24 Weeks = average of Weeks 20 and 24.

HEMOGLOBIN IMPROVEMENT REGARDLESS OF BASELINE ANEMIA SEVERITY



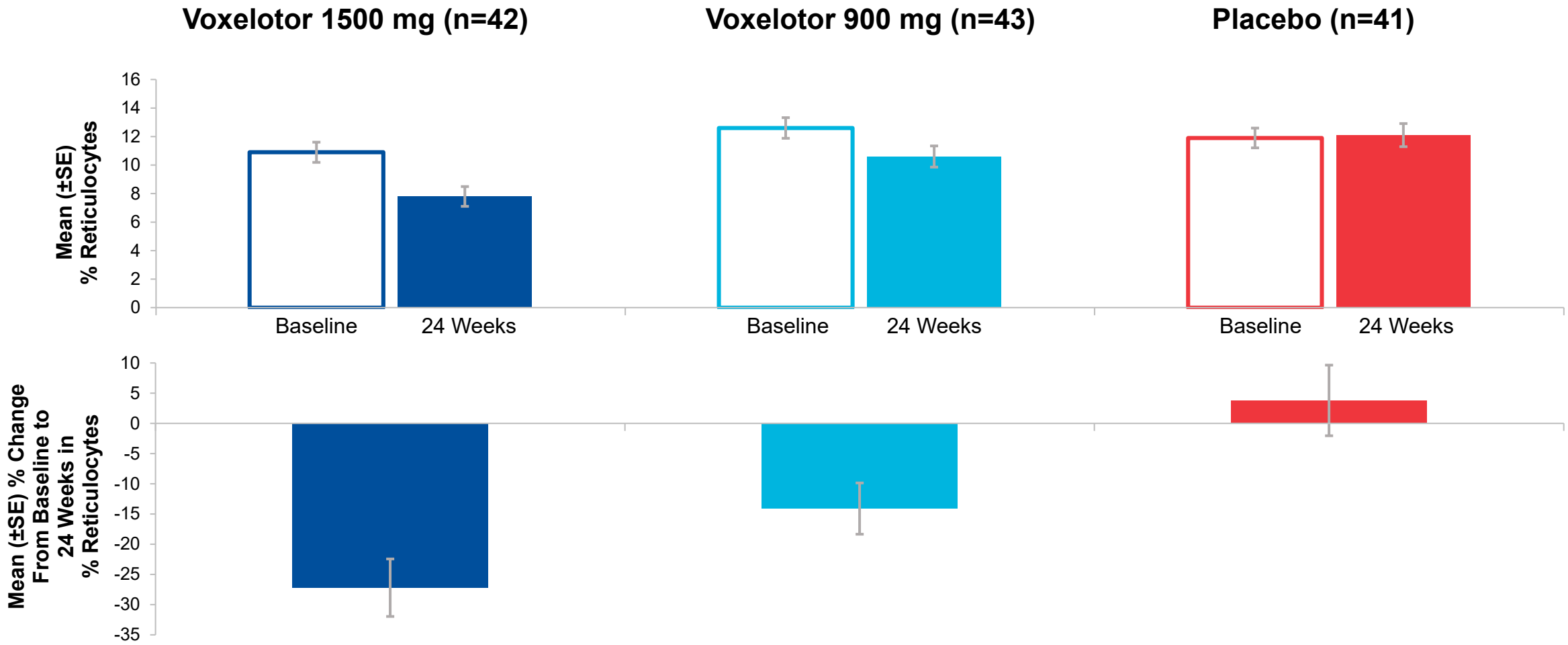
Baseline = average of screening and day of randomization; 24 Weeks = average of Weeks 20 and 24.

ABSOLUTE RETICULOCYTE COUNT IMPROVEMENT CONSISTENT WITH DECREASED HEMOLYSIS



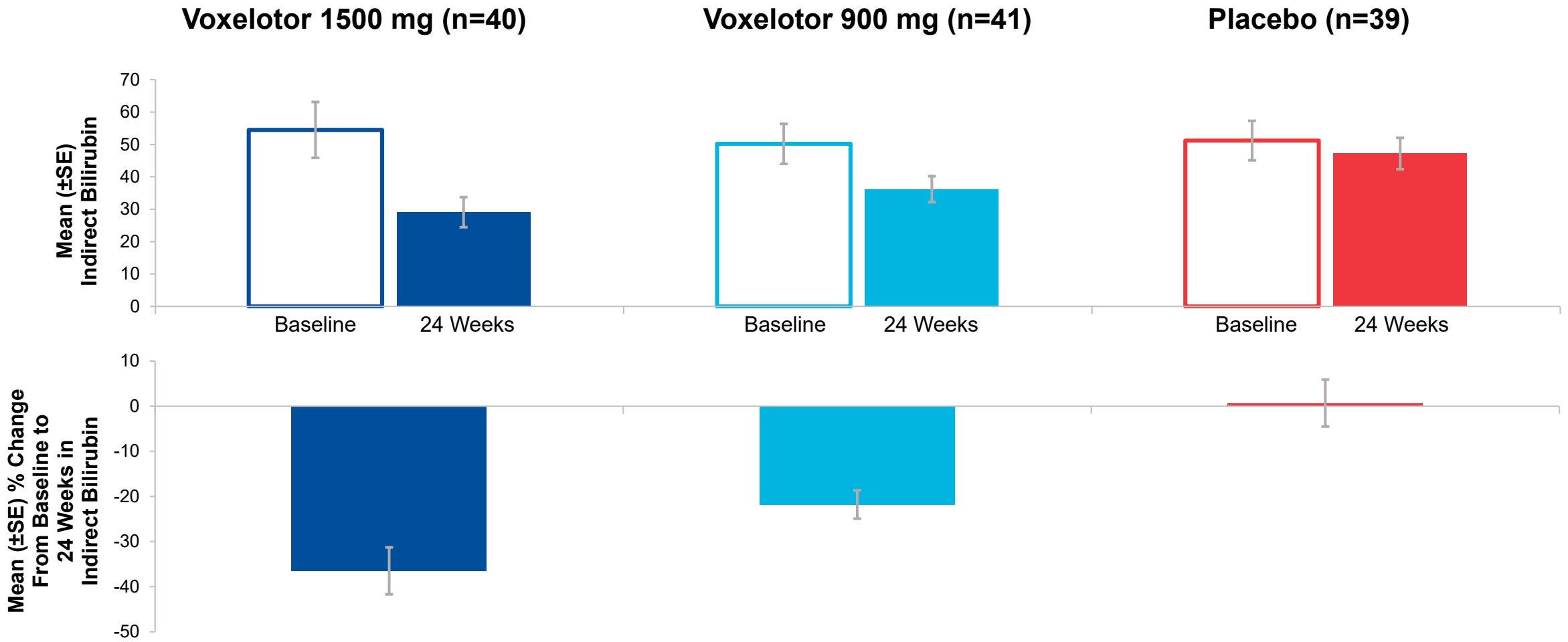
Baseline = average of screening and day of randomization; 24 Weeks = average of Weeks 20 and 24.

PERCENT RETICULOCYTE COUNT IMPROVEMENT CONSISTENT WITH DECREASED HEMOLYSIS



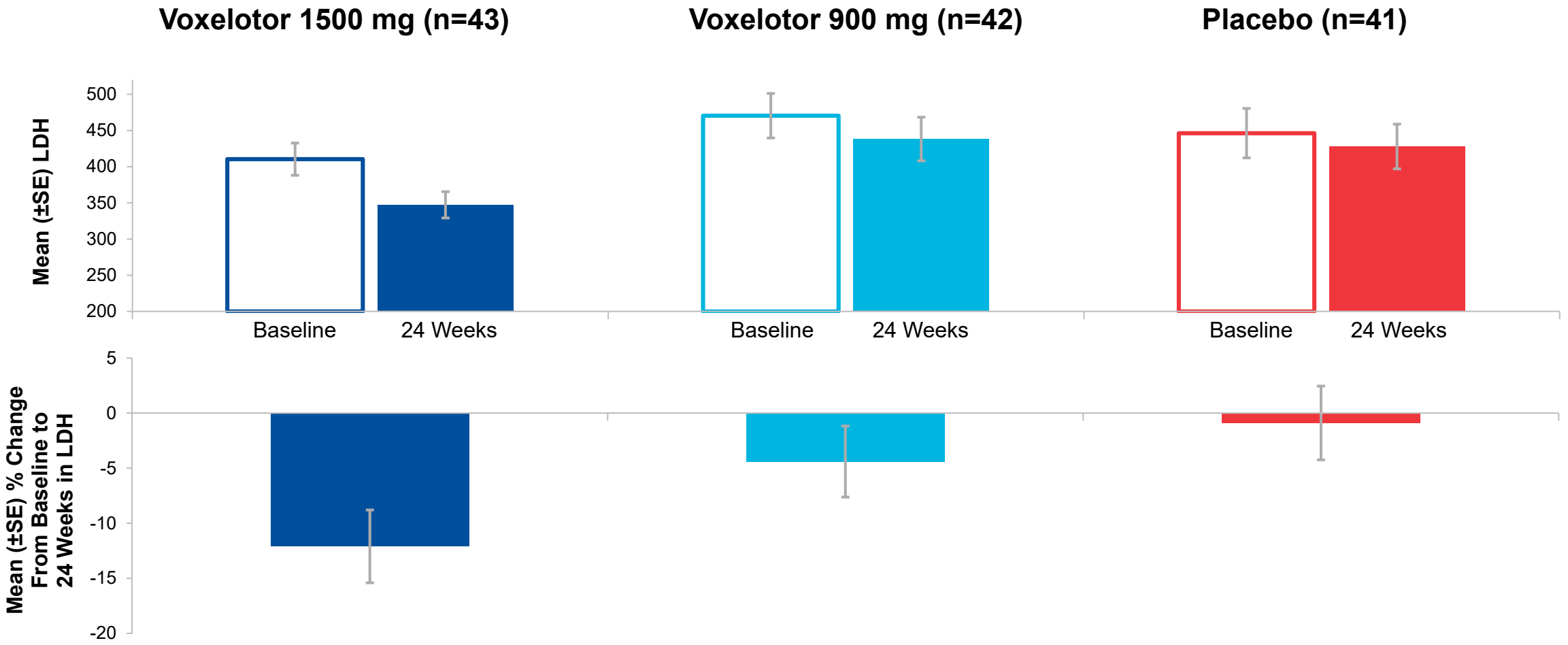
Baseline = average of screening and day of randomization; 24 Weeks = average of Weeks 20 and 24.

INDIRECT BILIRUBIN IMPROVEMENT CONSISTENT WITH DECREASED HEMOLYSIS



Baseline = average of screening and day of randomization; 24 Weeks = average of Weeks 20 and 24.

LDH IMPROVEMENT CONSISTENT WITH DECREASED INTRAVASCULAR HEMOLYSIS



LDH, lactate dehydrogenase.
Baseline = average of screening and day of randomization; 24 Weeks = average of Weeks 20 and 24.

TREATMENT-EMERGENT ADVERSE EVENTS

	Voxelotor 1500 mg N=52	Voxelotor 900 mg N=52	Placebo N=50
Any AE	48 (92%)	46 (88%)	47 (94%)
Grade ≥3	29 (56%)	31 (60%)	27 (54%)
AE leading to treatment discontinuation	5 (10%)	3 (6%)	2 (4%)
SAE (not including VOC or ACS)	25 (48%)	29 (56%)	25 (48%)
Fatal SAE	0	0	1 (2%)

ACS, acute chest syndrome; AE, adverse event; SAE, serious adverse event.

TREATMENT-EMERGENT ADVERSE EVENTS OCCURRING IN ≥10% OF SUBJECTS

Preferred Term, n (%)	Voxelotor 1500 mg N=52	Voxelotor 900 mg N=52	Placebo N=50
Patients with ≥1 event (not including SCD events)	48 (92)	46 (88)	47 (94)
Diarrhea	11 (21)	10 (19)	5 (10)
Headache	15 (29)	6 (12)	13 (26)
Upper respiratory tract infection	7 (13)	11 (21)	5 (10)
Arthralgia	9 (17)	7 (13)	5 (10)
Nausea	8 (15)	8 (15)	6 (12)
Abdominal pain	7 (13)	6 (12)	4 (8)
Fatigue	5 (10)	7 (13)	6 (12)
Pain	5 (10)	7 (13)	4 (8)
Vomiting	7 (13)	5 (10)	7 (14)
Back pain	5 (10)	6 (12)	4 (8)
Pain in extremity	4 (8)	7 (13)	8 (16)
Pyrexia	4 (8)	6 (12)	2 (4)
Pneumonia	3 (6)	6 (12)	6 (12)
Urinary tract infection	5 (10)	4 (8)	7 (14)
Cough	5 (10)	2 (4)	3 (6)

FEWER VOC WITH SUBSTANTIAL INCREASE IN HEMOGLOBIN

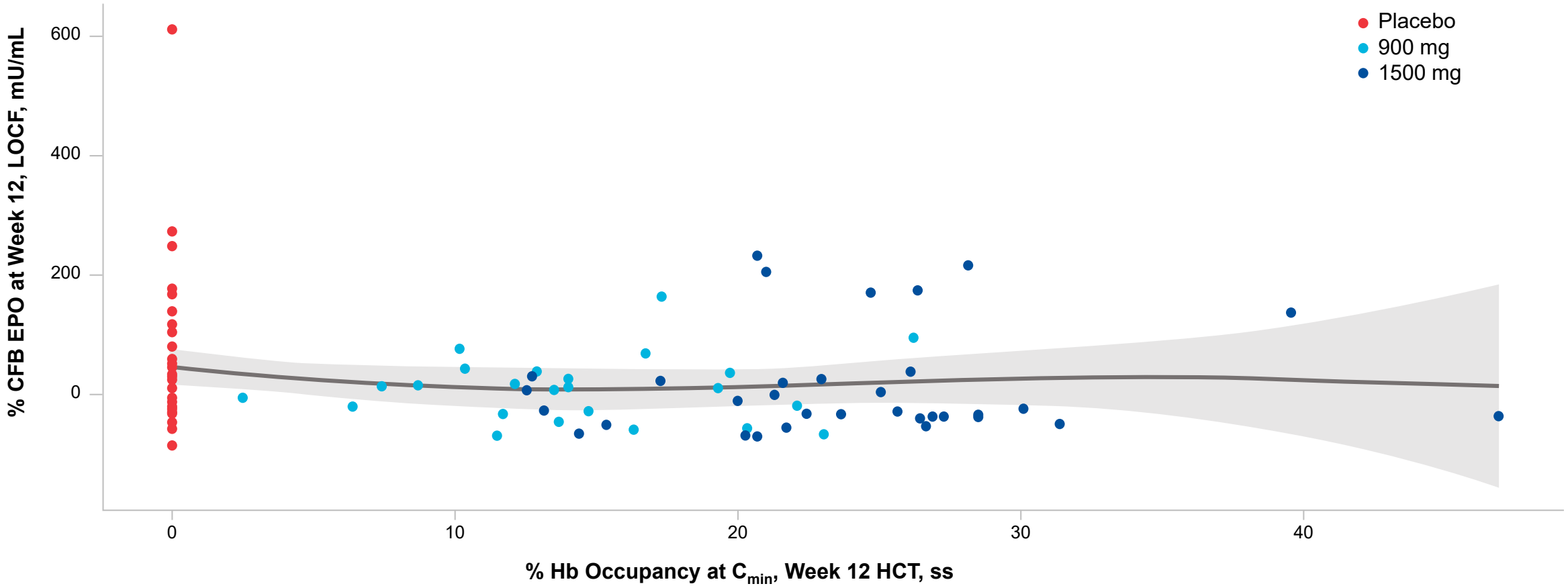
	Voxelotor 1500 mg N=52	Voxelotor 900 mg N=52	Placebo N=50
No. of VOC (No. of participants with ≥1 VOC)	109 (36)	113(34)	131(35)
VOC incidence (per person-year)	2.77	2.85	3.41

VOC definition includes ACS

+ Moderate to severe pain lasting ≥2 hours
+ No explanation other than VOC
+ Requires medication prescribed/directed by a healthcare professional
+ Patient was seen in medical facility or contacted site within 1 business day

Median follow up = 41.6 weeks for all patients (N=154)

NO TREATMENT-RELATED INCREASE IN ERYTHROPOIETIN, INDICATING PRESERVED TISSUE OXYGENATION



CFB, change from baseline; EPO, erythropoietin; HCT, hematocrit; LOCR, last observation carried forward

CONCLUSIONS

+ Rapid, robust, and sustained improvement in hemoglobin and hemolysis
+ Voxelotor 1500 mg dose demonstrated:
  - Hemoglobin increase of >1 g/dL in 65% of patients
  - Anemia improvement irrespective of baseline anemia severity or HU use
+ Voxelotor was safe and well tolerated
+ Fewer VOC with substantial increase in hemoglobin
+ Preserved tissue oxygenation as indicated by reduction in reticulocyte counts and stable erythropoietin levels

Voxelotor has the potential to modify the morbidity of chronic organ damage associated with SCD by improving anemia and hemolysis

Q&A

2018 GBT Corporate Milestone Q&A/Closing Remarks

Dr. Ted W. Love
President & Chief Executive Officer, GBT

MAJOR VALUE DRIVERS IN 2018

Voxelotor: Sickle Cell Disease

- Breakthrough Therapy Designation received from FDA
- Enrolling adult and adolescent patients with SCD in HOPE Study
- Part A top-line results from HOPE Study
- HOPE-KIDS 1 Study complete results (900 mg)
- HOPE-KIDS 1 Study top-line results at medical meeting (1500 mg)
- Present HOPE Study Part A data at medical meeting
- FDA agreement on accelerated approval pathway