# Imetelstat for Anemia in Myelodysplastic Syndrome: Effectiveness and Value

Public Meeting — July 19, 2024

Meeting materials available at: https://icer.org/assessment/myelodysplastic-syndrome-2024/

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CALIFORNIA TECHNOLOGY ASSESSMENT FORUM

# Patient Experts

**Joan Durnell-Powell,** MDS Patient Advocate, AA&MDS International Foundation

- *No conflicts to disclose.*

**Daneen Sekoni, MHSA,** Vice President, Policy and Advocacy, Cancer Support Community

- *The Cancer Support Community has received more than 25% of overall funding from health care companies and has received direct service/policy/psychosocial research support from BMS and Geron Corporation.*

# Clinical Experts

**Timothy Graubert, MD,** Director, Hematologic Malignancy Program, Massachusetts General Hospital, Harvard Medical School

- *Dr. Graubert has a family member who is a full-time employee of Alexion Pharmaceuticals and has equity in AstraZeneca, Biogen, and Blueprint.*

**Andreas Klein, MD,** Chief, ad interim, Division of Hematology/Oncology and Director, Transplant and Cellular Therapies Program, Tufts Medical Center

- *Dr. Klein is employed by an academic medical center physician organization.*

# ICER Speakers

**Sarah K. Emond, MPP**
*President & CEO*

**Jeffrey A. Tice, MD**
*Evidence Author*

**Dan Ollendorf, PhD, MPH**
*Senior Management Lead*

**Steven D. Pearson, MD, MSc**
*Special Advisor*

**Josh Carlson, PhD, MPH**
*Economic Modeler*

# Why are we here today?

“He started needing transfusions about six months ago when his hemoglobin got below seven…so at first his transfusions were every other week, he’d go two weeks and then it would start falling…he wouldn’t be able to do anything…he has no energy….and then it became more and more often. He [caregiver’s husband] says, “ I have no quality of life, and if this is what my life is going to be, I don’t want it anymore.”

Caregiver of husband living with MDS

# Why Are We Here Today?

- What happens the day these treatments receive FDA approval?
- Questions about:
  - What are the risks and benefits?
  - How do new treatments fit into the evolving landscape?
  - What are reasonable prices and costs to patients, the health system, and the government?
  - What lessons are being learned to guide our actions in the future?

# The Impact on Rising Health Care Costs for Everyone

DIAGNOSIS: DEBT

## 100 Million People in America Are Saddled With Health Care Debt

By Noam N. Levey

JUNE 16, 2022

## Why Delaware is eying a 27% premium hike on state employees' health insurance

**Amanda Fries**

Delaware News Journal

Published 4:35 a.m. ET Feb. 1, 2024 | **Updated 9:29 p.m. ET Feb. 6, 2024**





100 Million People in America Are Saddled With Health Care Debt (KFF Health News)

Why Delaware is eyeing a 27% premium hike on state employees' health insurance (Delaware Online)

# Organizational Overview

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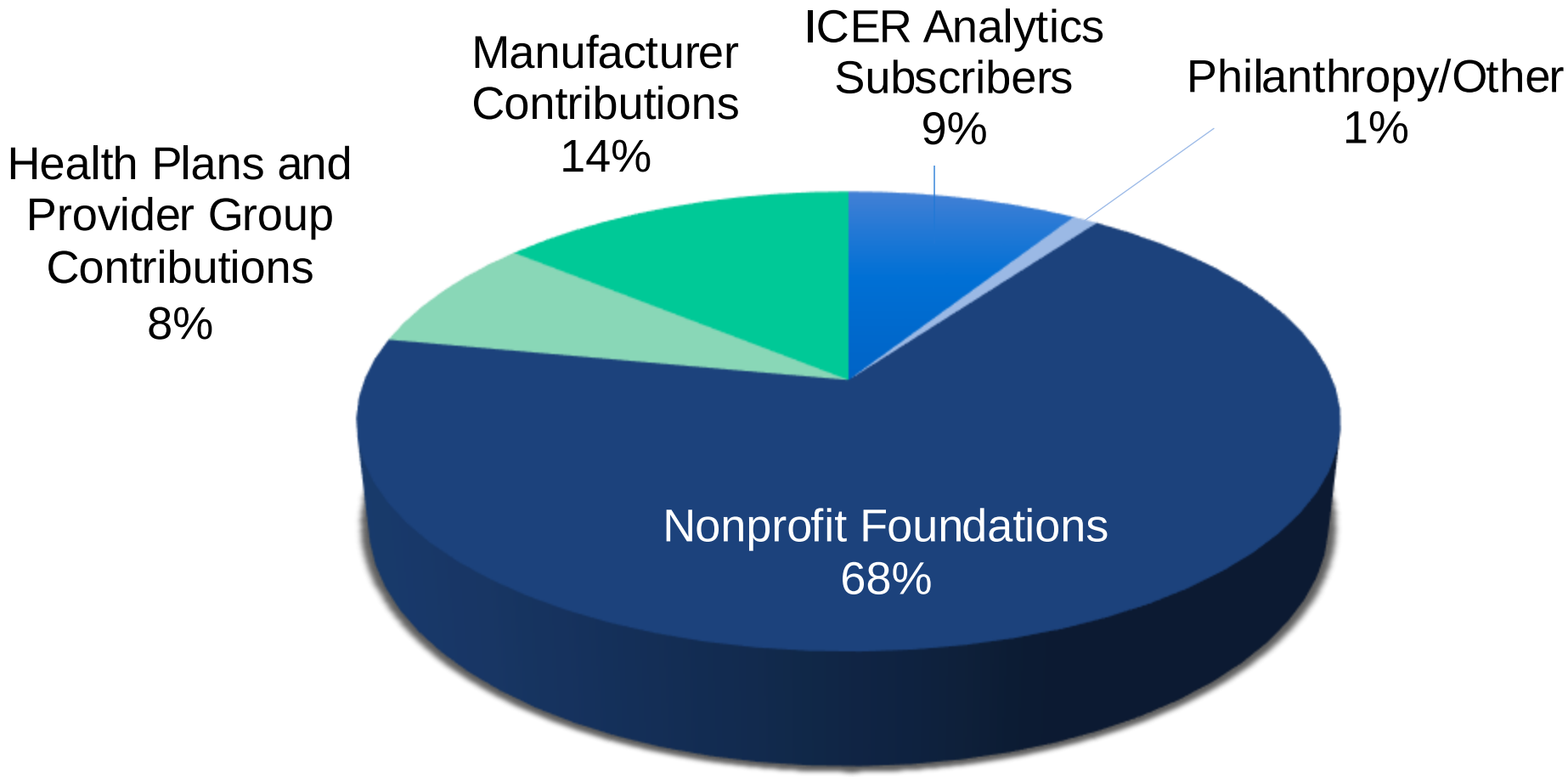
# Funding 2024






*ICER received significant funding from Arnold Ventures, California Health Care Foundation, & The Commonwealth Fund. Source: https://icer.org/who-we-are/independentfunding/sources-of-funding/

# How Was the ICER Report Developed?

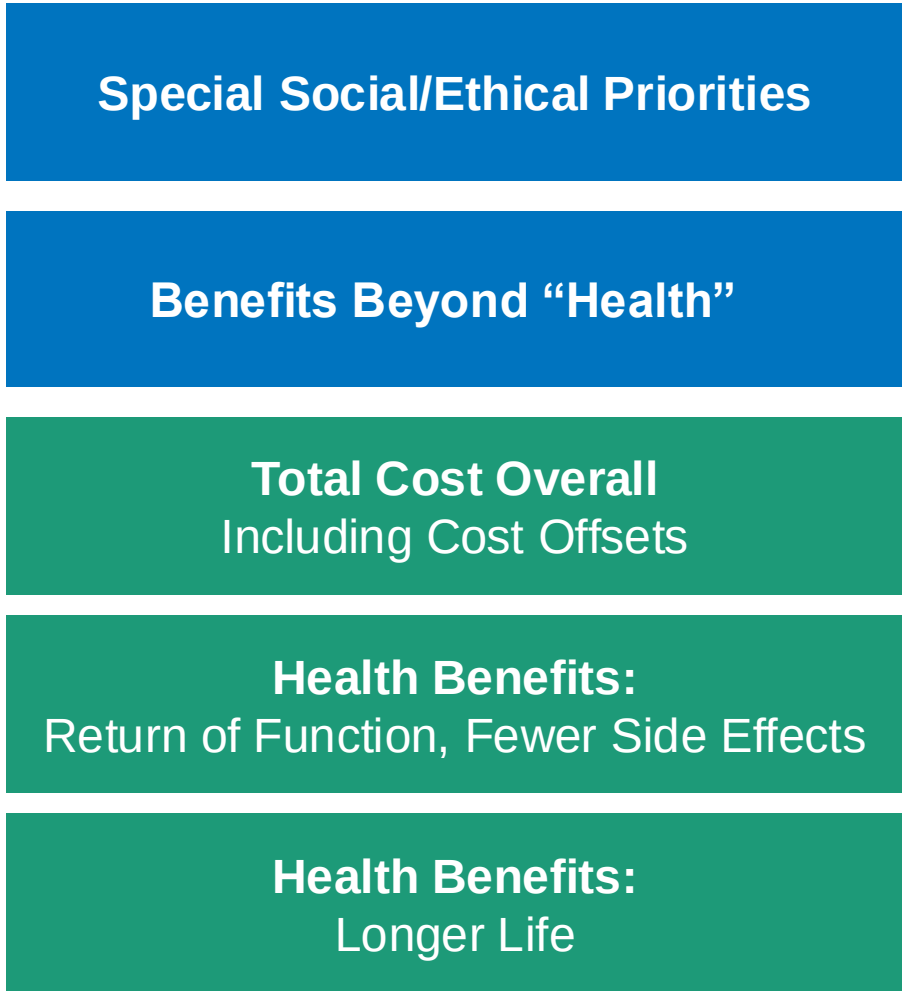

Guidance from patients, clinical experts, manufacturers, and other stakeholders

Evidence analysis in collaboration with the **University of California San Francisco** and cost-effectiveness modeling in collaboration with the **University of Washington**

- **Daneen Sekoni**, MHSA, Vice President, Policy and Advocacy, Cancer Support Community
- **Hedwig Blommestein**, PhD, Associate Professor, Erasmus School of Health Policy & Management, Erasmus University Rotterdam, the Netherland
- **Peter Greenberg**, MD, Professor of Medicine, Stanford University Cancer Center

Structured to support **CTAF** voting and policy discussion

# Value Assessment Framework: Long-Term Value for Money



# Agenda (PT)

| | |
|---|---|
| **9:00 AM** | Meeting Convened and Opening Remarks |
| **9:20 AM** | Presentation of the Clinical Evidence |
| **10:00 AM** | Presentation of the Economic Model |
| **10:40 AM** | Public Comments and Discussion |
| **11:00 AM** | Lunch Break |
| **11:50 AM** | CTAF Deliberation and Vote |
| **12:50 PM** | Break |
| **1:00 PM** | Policy Roundtable Discussion |
| **2:30 PM** | Reflections from CTAF |
| **3:00 PM** | Meeting Adjourned |

# Presentation of the Clinical Evidence
## Imetelstat for Anemia in MDS

**Jeffrey A. Tice, MD**

Professor of Medicine

University of California, San Francisco

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# Key Collaborators

| Team Role | Assigned Team Member |
|---|---|
| **Research Lead** | Shahariar Mohammed Fahim, PhD |
| **Research Assistant** | Belén Herce-Hagiwara, BA |

# Disclosures

Financial support provided to the University of California San Francisco from the Institute for Clinical and Economic Review (ICER).

Dr. Tice has no conflicts to disclose defined as more than $10,000 in healthcare company stock or more than $5,000 in honoraria or consultancies relevant to this report during the previous year from health care manufacturers or insurers.

# Myelodysplastic Syndromes (MDS)

## Background

- Bone marrow disorders with low circulating blood cells
- Risk for acute myeloid leukemia (AML)
- 60,000 to 170,000 with MDS in the US
- Direct medical costs up to $220,000 annually

# Myelodysplastic Syndromes (MDS)

## Background

- Diagnosis typically involves a bone marrow biopsy and molecular genetic testing
- International Prognostic Scoring System (IPSS)
  - Risk for progression to AML

# Impact on Patients

- **Anemia** with its associated symptoms of fatigue and shortness of breath, is a major contributor to poor quality of life.
- **Severe, disabling fatigue** is the #1 complaint.
- **Emotional distress** due to uncertainties about prognosis and challenges in understanding the diagnosis.
- **Financial stresses**: One patient says of his co-pay requirements "*We can't afford that.*"

# Standard of Care and Management for Anemia in MDS

- Blood transfusions
  - Development of antibodies: difficult to find matching blood
  - Iron overload requiring chelation
- Erythropoiesis stimulating agents (ESAs)
- Lenalidomide [del(5q)]
- Luspatercept [ring sideroblasts]

# Scope of Review

## Population

Adults with lower-risk myelodysplastic syndromes without del(5q) mutation who are transfusion-dependent*, receiving best supportive care, and ineligible for or refractory to erythropoiesis-stimulating agents (ESAs)

* Transfusion-dependence defined as 2-4 red blood cell units transfused over 8 weeks

# Scope of Review

## Intervention

### Imetelstat (Rytelo™)

- Oligonucleotide telomerase inhibitor
- FDA approved on June 6, 2024 for transfusion-dependent anemia in lower-risk MDS patients who have not responded to, lost response to, or are ineligible for ESAs
- 7.1 mg/kg IV infusion every four weeks

## Comparators

- Placebo / Best supportive care
- Luspatercept

# Scope of Review

## Key Outcomes

- Transfusion independence for at least 8 weeks (RBC-TI)
- Quality of life
- Fatigue
- Adverse events

# Clinical Evidence

# Key Clinical Trials: Design

| Study | Treatment and Design | Population | Primary Outcome |
|---|---|---|---|
| **IMerge** | **Imetelstat** vs. Placebo<br><br>Phase 3, randomized 2:1, double-blind | • IPSS lower risk MDS<br>• Transfusion-dependent (**≥4** over 8 weeks) | RBC-TI ≥ 8 weeks [52 weeks] |
| **MEDALIST** | **Luspatercept** vs. Placebo<br><br>Phase 3, randomized 2:1, double-blind | • IPSS-R lower risk MDS<br>• Transfusion-dependent (**≥2** over 8 weeks)<br>• Ring sideroblasts | RBC-TI ≥ 8 weeks [24 weeks] |



**IPSS-R**: International Prognostic Scoring System-Revised, **MDS**: myelodysplastic syndrome, **RBC-TI**: red blood cell transfusion independence

# Key Clinical Trials: Baseline Characteristics

| Study | Age years | Female % | Hemoglobin g/dL | Transfusion Burden average units over 8 weeks | Ring Sideroblasts % |
|---|---|---|---|---|---|
| **IMerge** | 72 | 38 | 7.9 | 6 | 62 |
| **MEDALIST** | 71 | 37 | 7.6 | 5 | 100 |



**g/dL:** grams per deciliter

# IMerge Results

| Key Outcomes | Imetelstat N = 118 | Placebo N = 60 | P-Value |
|---|---|---|---|
| **8-week RBC-TI** | 40% | 15% | <0.001 |
| **Duration of RBC-TI** | 52 weeks | 13 weeks | <0.001 |
| **FACIT-Fatigue improvement*** | 50% | 40% | NR |
| **Progression to AML** | 2% | 3% | NR |
| **Death** | 30% | 25% | NR |

* Defined as an increase of at least 3 points for at least 2 consecutive cycles



**AML**: acute myeloid leukemia, **FACIT**: Functional Assessment of Chronic Illness Therapy, **N**: number, **NR**: not reported, **RBC-TI**: red blood cell transfusion independence

# Primary Outcome for Imetelstat and Luspatercept in the RS+ Population

| Study | Arms | Sample Size | Proportion of Patients with 8-week RBC-TI |
|---|---|---|---|
| **IMerge**<br>**52 weeks** | **Imetelstat** | 73 | 45% |
| | **Placebo** | 37 | 19% |
| **MEDALIST**<br>**48 weeks** | **Luspatercept** | 153 | 45% |
| | **Placebo** | 76 | 16% |



**RBC-TI**: red blood cell transfusion independence

# Indirect Comparison of Imetelstat and Luspatercept in the RS+ Population: Primary Endpoint of 8-Week Transfusion Independence

| Imetelstat | | |
|---|---|---|
| RR: 0.9 (0.4, 2.3) | Luspatercept | |
| **RR: 2.5 (1.3, 5.7)** | **2.9 (1.8, 5.4)** | Placebo |



**RR**: relative risk, **RS+**: ring-sideroblast positive

# Limitations of NMA

- Full set of data for imetelstat in RS+ subgroup not available
- Populations may be somewhat different
- Small numbers



**RS+**: ring-sideroblast positive

# Harms

| Key Harms | IMerge* | | MEDALIST | |
|---|---|---|---|---|
| | Imetelstat | Placebo | Luspatercept | Placebo |
| **Discontinuation due to AE** | 16% | 0% | 8% | 8% |
| **Grade 3/4 Adverse Events** | 91% | 48% | 42% | 45% |
| **Neutropenia** | 68% | 3% | 3% | 8% |
| **Thrombocytopenia** | 62% | 8% | 0% | 0% |
| **Anemia** | 19% | 7% | 7% | 7% |

* No excess febrile neutropenia, serious infections or bleeding in the imetelstat group compared with placebo

# Controversies and Uncertainties

## Key Points

- High incidence of grade 3/4 neutropenia & thrombocytopenia with imetelstat
- Higher incidence of fatigue as an adverse event in imetelstat group than placebo (29% vs. 22%) though greater improvement by FACIT-Fatigue
- Unclear if imetelstat will improve long-term outcomes for patients
- Insufficient data to confidently compare outcomes for imetelstat and luspatercept in the RS+ subgroup



**RS+**: ring sideroblast positive

# Benefits Beyond Health and Special Ethical Priorities

## Key Points

- There is a substantial unmet need for transfusion-dependent patients with MDS.
- If long-term transfusion independence is achieved there would be a substantial improvement in caregiver's quality of life.

# Public Comments Received

- The lack of complete data on the comparative effectiveness of imetelstat in the RS+ subgroup severely limits the ability to compare outcomes with luspatercept.

# Summary: Imetelstat for Anemia Compared with Best Supportive Care in Lower Risk MDS without del(5q)

Compared with best supportive care, the net benefit of imetelstat is **promising, but inconclusive (P/I).**

- Significant reduction in the need for transfusions
- No significant improvement in fatigue
- Substantially more grade 3 and 4 adverse events including thrombocytopenia, neutropenia, and anemia
- One relatively small clinical trial, so the level of certainty is at best moderate

# Summary: Imetelstat for Anemia Compared with Luspatercept in Lower Risk MDS with RS

Compared with luspatercept, we rate the evidence for imetelstat as **insufficient (I).**

- No evidence suggesting reductions in transfusions
- No evidence of improvements in quality of life or fatigue
- Significantly more grade 3 and 4 hematologic adverse events
- The evidence base is indirect and incomplete

# Questions?

# Presentation of the Economic Evidence

**Josh Carlson, PhD, MPH**

Professor

University of Washington

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# Key Review Team Members

| Team Role | Assigned Team Member |
|---|---|
| **Modeler(s)** | Josh Carlson, PhD, MPH<br>Linda Luu, MSc |
| **Economics Lead** | Marina Richardson, PhD, MSc |

## Disclosures

Financial support provided to the University of Washington from the Institute for Clinical and Economic Review (ICER).

Dr. Carlson has no conflicts to disclose defined as more than $10,000 in healthcare company stock or more than $5,000 in honoraria or consultancies relevant to this report during the previous year from health care manufacturers or insurers.

## Objective

To evaluate the lifetime cost-effectiveness of imetelstat compared to luspatercept, or best supportive care, for the treatment of anemia in transfusion dependent, lower risk myelodysplastic syndromes adults without the del(5q) mutation who are ineligible or refractory to erythropoiesis stimulating agents

## Population

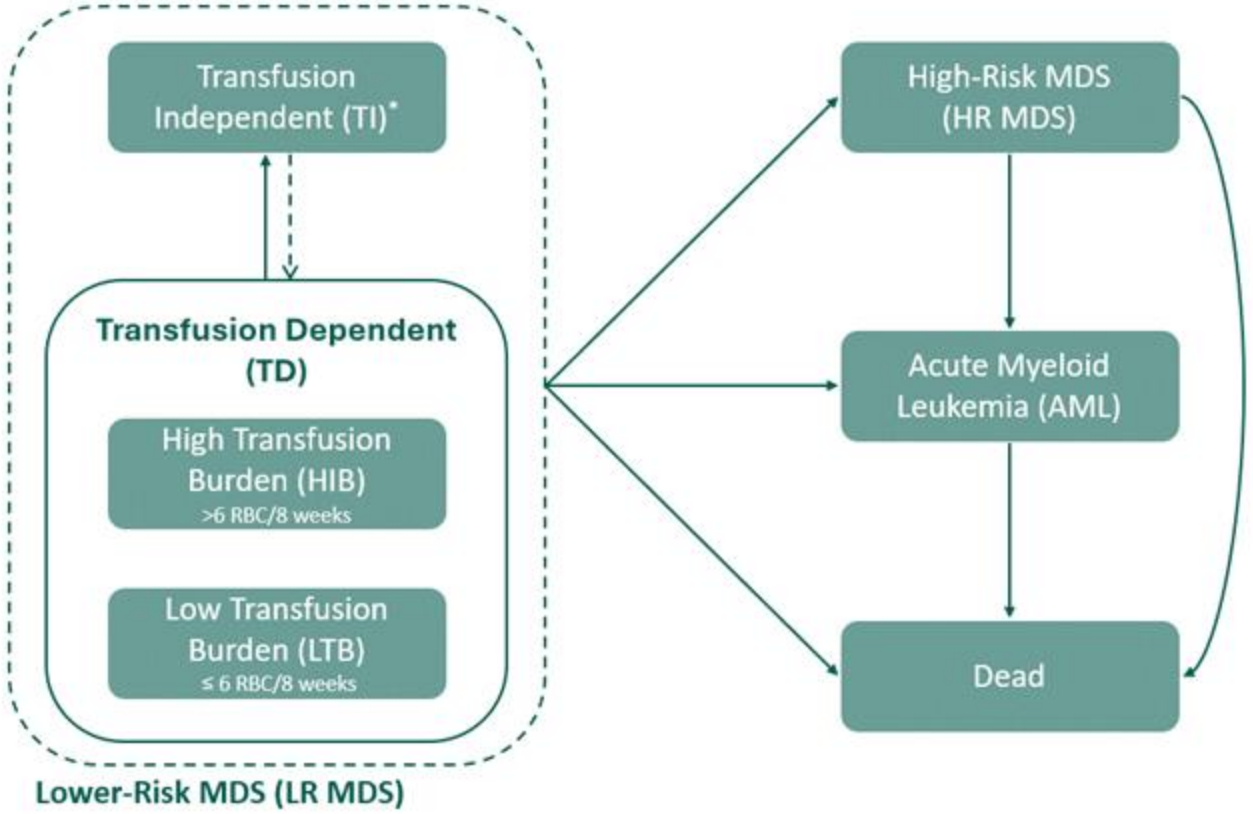
1. All Imetelstat Eligible Patients:
    - Comparator: Best Supportive Care
2. Ring Sideroblasts (RS) Patients:
    - Comparators: Luspatercept

# Methods in Brief

# Methods Overview

| | |
|---|---|
| **Model** | Markov Model |
| **Setting** | United States |
| **Perspective** | Health Care Sector Perspective and Modified Societal Perspective |
| **Time Horizon** | Lifetime |
| **Discount Rate** | 3% per year (costs and outcomes) |
| **Cycle Length** | 4 weeks |
| **Primary Outcome** | Cost per quality-adjusted life year (QALY) gained; equal value of life years (evLY) gained |

# Model Schematic




* Response to treatment defined as achieving transfusion independence for ≥ 8 consecutive weeks informed by interim trial results. Response is a one-time movement after the first four-week cycle. A transition back to transfusion dependent from independent represents a loss of response.

# Model Characteristics

| Baseline Characteristic | Value |
|---|---|
| **Median Age (years)** | 72 |
| **Female (%)** | 38 |
| **Transfusion Burden** | |
| **≤ 6 RBC units/8 weeks (%)** | 53 |
| **> 6 RBC units/8 weeks (%)** | 47 |
| **IPSS-Revised** | |
| **Very Low (%)** | 3 |
| **Low (%)** | 80 |
| **Intermediate Risk-1 (%)** | 17 |

Source: IMerge



**RBC**: Red Blood Cell, **IPSS-Revised**: Revised International Prognostic Scoring System

# Key Assumptions

## Assumption 1

Response to treatment is defined as achieving transfusion independence for 8 consecutive weeks or longer.

## Assumption 2

Responding patients transition to the transfusion independent state after the first 4-week cycle.

## Assumption 3

Patients do not move between high and low transfusion burden states.

# Key Assumptions

## Assumption 4

Patients discontinue treatment if they have no response by 24-weeks, lose response or progress.

## Assumption 5

Treatment has no direct effect on disease progression or death.

## Assumption 6

Baseline characteristics, adverse event frequencies, and dose intensities are the same in the RS subgroup and the overall population in IMerge.



**RS**: Ring Sideroblast

# Treatment-Related Efficacy: All Patients

| | Imetelstat (IMerge) | Best Supportive Care (IMerge) |
|---|---|---|
| **8-week RBC-TI for Low Transfusion Burden (%)** | 45.2 | 21.2 |
| **8-week RBC-TI for High Transfusion Burden (%)** | 33.9 | 7.4 |
| **TI Duration (weeks) – Median (95% CI)*** | 51.6 (26.9 - 83.9) | 13.3 (8.0 - 24.9) |

* Transition probabilities used in model were obtained from survival models fit to Kaplan Meier curves for transfusion independence

# Treatment-Related Efficacy: Ring Sideroblast

| | Best Supportive Care (IMerge) | Imetelstat (IMerge) | Luspatercept (MEDALIST) |
|---|---|---|---|
| **8-week RBC-TI** | 19% | RR to BSC: 2.48 (1.3, 5.73) | RR to BSC: 2.92 (1.77, 5.41) |
| **TI Duration (weeks) – Median (95% CI)*** | 16.9 (8.0 - 24.9) | 46.9 (25.9 - 83.9) | 30.6 (20.6 - 40.6) |

* Transition probabilities used in model were obtained from survival models fit to median durations (IMerge) or Kaplan Meier curves for transfusion independence (MEDALIST)



**RBC**: Red Blood Cell, **TI**: Transfusion Independent, **RR**: Relative Risk, **BSC**: Best Supportive Care, **CI:** Confidence Interval

# Key Model Inputs: Treatment Costs

| Intervention (Dosage) | Net Price | Net Annual Cost | Source |
|---|---|---|---|
| **Imetelstat (7.1mg/kg)** | $27,996 | $365,197 | Redbook |
| **Imetelstat (6.1mg/kg)*** | $24,077 | $314,069 | Redbook |
| **Luspatercept (1mg/kg)‡** | $10,604 | $183,810 | Redbook/SSR Health |
| **Luspatercept (1.5mg/kg)†‡** | $15,906 | $275,715 | Redbook/SSR Health |

All prices calculated using median body weight of 75kg from IMerge.
* Accounting for dose reductions, applied in model from week 12 onward
† Average dose accounting for all up-titrations, applied in model from week 12 onward
‡ 9% discount from SSR Health applied to wholesale acquisition cost from Redbook

# Key Model Inputs: MDS-Related Costs

| | Cost | Source |
|---|---|---|
| **HR-MDS Year 1** | $20,529* | Bell et al. 2019 |
| **HR-MDS Year 2+** | $15,365* | Bell et al. 2019 |
| **AML** | $40,326* | Kota et al. 2023 |
| **Myeloid Growth Factors (60 mcg)** | $33 | Redbook |
| **Average RBC, each unit** | $946 | Cogle et al. 2016 |
| **Platelets, each unit** | $778 | Cogle et al. 2016 |
| **Iron Chelation†** | $16,324* | Redbook |

* Monthly costs
† 10% receiving 2000mg deferoxamine mesylate 6 times a week, and 90% receiving 1500mg deferasirox daily. Estimated using lowest cost generic.

# Key Model Inputs: MDS-Related Administrative Costs

| | Cost | Source |
|---|---|---|
| **Physician office visit (First 40 minutes)** | $177 | CMS Fee Schedule |
| **Physician office visit (Additional 30 minutes)** | $32 | CMS Fee Schedule |
| **Subcutaneous injection** | $14 | CMS Fee Schedule |
| **IV Administration Cost (First Hour)** | $62 | CMS Fee Schedule |
| **IV Administration Cost (Subsequent hours)** | $20 | CMS Fee Schedule |



**IV**: Intravenous, **CMS**: Centers for Medicare & Medicaid Services

# Health State Utilities

| Health State | Utility | Source |
|---|---|---|
| **Transfusion Dependent with High Transfusion Burden** | 0.60 | Szende et al. 2009 |
| **Transfusion Dependent with Low Transfusion Burden** | 0.77 | Szende et al. 2009 |
| **Transfusion Independent** | 0.84 | Szende et al. 2009 |
| **High-Risk MDS** | 0.67 | Crespo et al. 2013 |
| **AML** | 0.53 | Pan et al. 2010 |

# Grade 3-4 Adverse Events

| | Imetelstat (%) | Best Supportive Care (%) | Luspatercept (%) | Treatment Cost | Disutility† |
|---|---|---|---|---|---|
| **Thrombocytopenia** | 62 | 8 | 0 | $9,974[1] | 0.25[2] |
| **Neutropenia** | 68 | 3 | 3.3 | $6,423[1] | 0.35[2] |
| **Anemia** | 19 | 7 | 6.5 | $5,759[1] | 0.073[3] |
| **Leukopenia** | 8 | 0 | 0* | $4,541[1] | 0.2[4] |

[1] CMS MS-DRG, [2] Nafees et al. 2017, [3] Liu et al. 2021, [4] Rui et al. 2022

* Not available, assumed to be 0. MEDALIST reported serious adverse events with ≥ 2% incidence.

† Disutility expected to last 2 weeks

# Results

# Base-Case Results – All Patients

| Drug | Intervention Cost | Total Cost | Total RBC Units Transfused | QALYs | evLYs |
|---|---|---|---|---|---|
| **Imetelstat + BSC** | $1,030,000 | $1,150,000 | 149 | 2.83 | 2.86 |
| **Best Supportive Care** | $846,000 | $951,000 | 159 | 2.67 | 2.67 |
| **Incremental Results*** | $184,000 | $199,000 | (10) | 0.17 | 0.19 |

| Drug | Comparator | Cost per QALY gained | Cost per evLY gained |
|---|---|---|---|
| **Imetelstat + BSC** | Best Supportive Care | $1,197,000 | $1,029,000 |

* Any discrepancies in incremental results are due to rounding

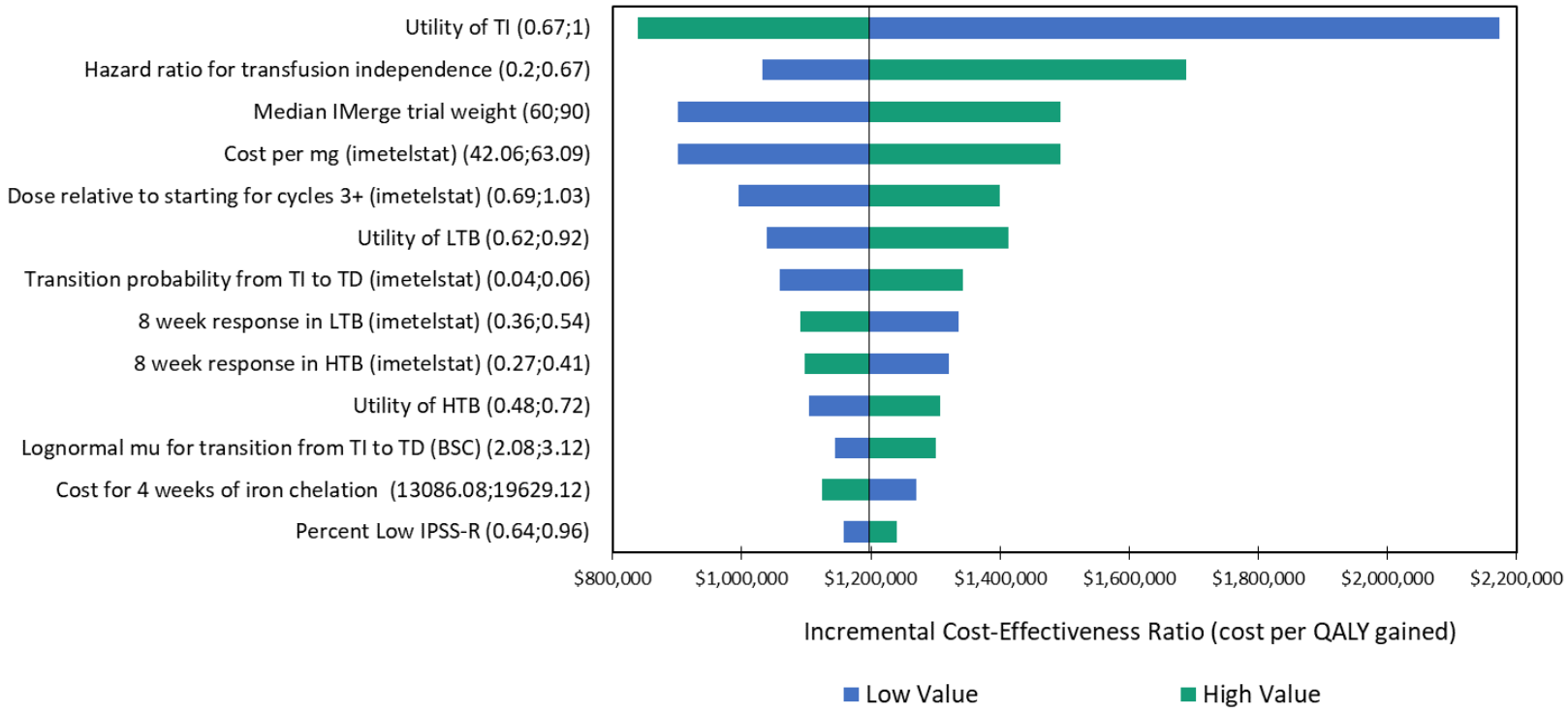
# Base-Case Results – Ring Sideroblast

| Drug | Intervention Cost | Total Cost | Total RBC Units Transfused | QALYs | evLYs† |
|---|---|---|---|---|---|
| **Imetelstat + BSC** | $1,024,000 | $1,144,000 | 150 | 2.84 | 2.87 |
| **Luspatercept + BSC** | $964,000 | $1,073,000 | 150 | 2.86 | 2.88 |
| **Incremental Results*** | $60,000 | $71,000 | 0 | (0.02) | (0.01) |

| Drug | Comparator | Cost per QALY gained | Cost per evLY gained |
|---|---|---|---|
| **Imetelstat + BSC** | Luspatercept + BSC | More costly, less effective | More costly, less effective |

* Any discrepancies in incremental results are due to rounding
† evLYs were calculated relative to best supportive care

# One Way Sensitivity Analyses for Imetelstat versus BSC (All Patients)




Imetelstat + BSC was cost-effective in 0% of 1000 PSA simulations at the common price thresholds: $50,000, $100,000, $150,000, $200,000 per QALY or evLY gained.




**TI**: Transfusion Independent, **TD:** Transfusion Dependent, **mg:** Milligram, **LTB:** Low Transfusion Burden, **HTB:** High Transfusion Burden, **BSC:** Best Supportive Care, **IPSS-R:** Revised International Prognostic Scoring System

# Scenario Analyses – All Patients

**Incremental Cost-Effectiveness Ratio ($/QALY)**

| Treatment vs Comparator | Base Case Result | Scenario 1: Modified Societal Perspective | Scenario 2: 16-Week Transfusion Independence | Scenario 3: Minor HI-E Response* | Scenario 4: No Indirect Mortality Effect |
|---|---|---|---|---|---|
| **Imetelstat + BSC vs BSC alone** | $1,197,000 | $1,151,000 | $1,466,000 | $1,135,000 | $3,784,000 |

* Minor HI-E response is a 50% reduction in red blood cell units over 16-weeks, transitioning individuals without a major response from high to low transfusion burden.

# Health Benefit Price Benchmarks (HBPBs)

**Annual Price Benchmarks for Imetelstat in the All Patients Population**

| Annual Prices Using… | Annual WAC | Annual Price at $100,000 Threshold | Annual Price at $150,000 Threshold | Discount from WAC to Reach Threshold Prices |
|---|---|---|---|---|
| **QALYs Gained** | $365,197 | $94,800 | $107,000 | 70.7% - 74.0% |
| **evLYs Gained** | | $98,900 | $113,000 | 69.1% - 72.9% |



**WAC**: Wholesale Acquisition Cost, **evLYs**: Equal Value of Life Years, **QALYs**: Quality-Adjusted Life Years

# Unmet Need

| Condition | Absolute evLY Shortfall | Proportional evLY Shortfall |
|---|---|---|
| **MDS-Induced Anemia** | 8.72 | 74.3% |
| **Other Example Conditions** | | |
| **Alzheimer's Disease** | 9.37 | 71.3% |
| **Multiple Sclerosis** | 18.86 | 51.7% |
| **Osteoporosis** | 2.61 | 18.7% |



**evLYs**: Equal Value of Life Years, **MDS**: Myelodysplastic Syndromes

# Limitations

## Top Limitations

- Limited amount of publicly available data:
  - Unable to inform transitions between high and low transfusion burdens in our base case
  - Assumed ring sideroblast subgroup adverse events, dose reductions, and baseline characteristics were equivalent to the overall population
- Utility estimates from Szende et al. were obtained from surveys that described transfusion states broadly and included a variety of other health issues.

# Comments Received

- Lack of movement between high and low transfusion burden health states
- Cost differences between the different lower-risk MDS health states (low transfusion burden, high transfusion burden, transfusion independent)
- Update the placeholder cost for Imetelstat with the available wholesale acquisition cost



**MDS**: Myelodysplastic Syndromes

# Conclusions

- Imetelstat provides small gains in QALYs and evLYs, and a reduction in the total number of RBC units transfused compared to best supportive care through a patient's lifetime.
- At the current wholesale acquisition cost, imetelstat would not meet commonly cited cost-effectiveness thresholds.
- When compared to luspatercept in the ring sideroblast population, imetelstat was more costly and less effective.

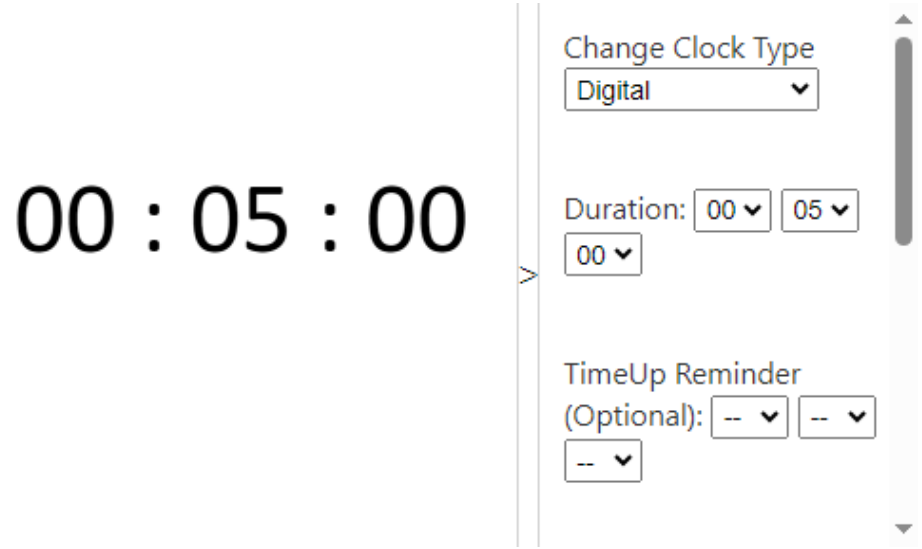
# Questions?

# Manufacturer Public Comment and Discussion

# Faye Feller, MD
# Chief Medical Officer, Geron

*Conflicts of Interest:*

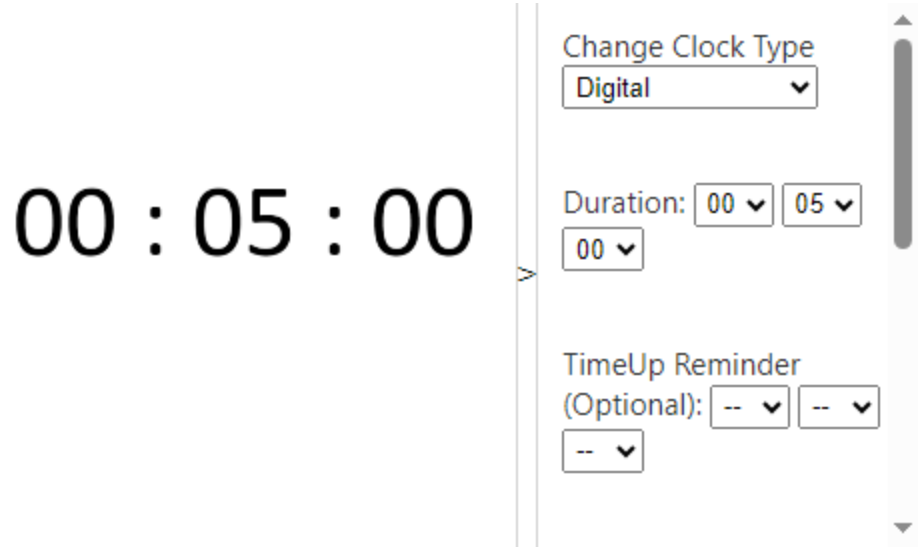
- *Dr. Feller is a full-time employee at Geron.*



# Public Comment and Discussion

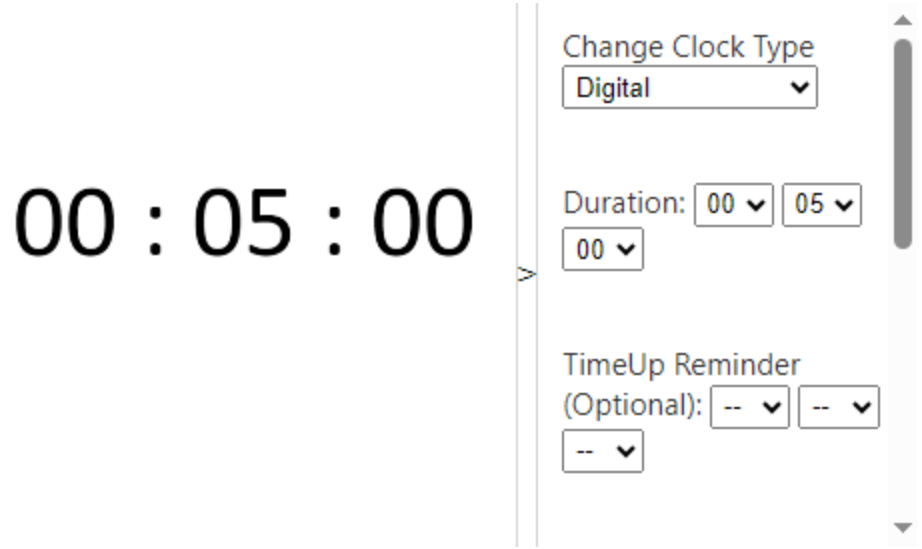
# Rochelle Mackey, MA, APRN, QTTT
# Caregiver

*No conflicts to disclose.*



# Ashley Moncrief,
# Director of Patient Care, MDS Foundation

*No conflicts to disclose.*



# Lunch

Meeting will resume at 11:50AM PT

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# Voting Questions

# Clinical Evidence

***Patient Population*****:** *Patients with lower risk myelodysplastic syndrome without the del(5q) mutation who are transfusion dependent* and ineligible for, or refractory to ESAs.*

**** Transfusion-dependence defined as 2-4 red blood cell units transfused over 8 weeks.***

slido

**1. Is the current evidence adequate to demonstrate that the net health benefit of imetelstat plus best supportive care is superior to that provided by best supportive care alone?**

ⓘ Start presenting to display the poll results on this slide.

***Patient Population:*** *Patients with lower risk myelodysplastic syndrome without the del(5q) mutation who are transfusion dependent* and ineligible for, or refractory to ESAs, and are ring sideroblast positive.*

**** Transfusion-dependence defined as 2-4 red blood cell units transfused over 8 weeks.***

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**2. Is the current evidence adequate to demonstrate that the net health benefit of imetelstat plus best supportive care is superior to that provided by luspatercept plus best supportive care?**

ⓘ Start presenting to display the poll results on this slide.

# Benefits Beyond Health and Special Ethical Priorities

***Patient Population:*** *Patients with lower risk myelodysplastic syndrome without the del(5q) mutation who are transfusion dependent* and ineligible for, or refractory to ESAs.*

**** Transfusion-dependence defined as 2-4 red blood cell units transfused over 8 weeks.***

**To help inform judgments of overall long-term value for money, please indicate your level of agreement with the following statements:**

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**3. There is substantial unmet need despite currently available treatments.**

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**4. This condition is of substantial relevance for people from a racial/ethnic group that have not been equitably served by the healthcare system.**

ⓘ Start presenting to display the poll results on this slide.

**To help inform judgments of overall long-term value for money, please indicate your level of agreement with the following statements based on the relative effects of imetelstat plus best supportive care versus best supportive care alone:**

***Patient Population:*** *Patients with lower risk myelodysplastic syndrome without the del(5q) mutation who are transfusion dependent* and ineligible for, or refractory to ESAs.*

**** Transfusion-dependence defined as 2-4 red blood cell units transfused over 8 weeks.***

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**5. The treatment is likely to produce substantial improvement in caregivers' quality of life and/or ability to pursue their own education, work, and family life.**

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## 6. The treatment offers a substantial opportunity to improve access to effective treatment by means of its mechanism of action or method of delivery.

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**To help inform judgments of overall long-term value for money, please indicate your level of agreement with the following statements based on the relative effects of imetelstat plus best supportive care versus luspatercept plus best supportive care:**

***Patient Population:*** *Patients with lower risk myelodysplastic syndrome without the del(5q) mutation who are transfusion dependent* and ineligible for, or refractory to ESAs, and are ring sideroblast positive.*

**** Transfusion-dependence defined as 2-4 red blood cell units transfused over 8 weeks.***

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**7. The treatment is likely to produce substantial improvement in caregivers' quality of life and/or ability to pursue their own education, work, and family life.**

ⓘ Start presenting to display the poll results on this slide.

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**8. The treatment offers a substantial opportunity to improve access to effective treatment by means of its mechanism of action or method of delivery.**

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# Long-Term Value for Money

***Patient Population:*** *Patients with lower risk myelodysplastic syndrome without the del(5q) mutation who are transfusion dependent* and ineligible for, or refractory to ESAs.*

**** Transfusion-dependence defined as 2-4 red blood cell units transfused over 8 weeks.***

slido

**9. What is the long-term value for money of imetelstat plus best supportive care compared to best supportive care alone at current pricing?**

ⓘ Start presenting to display the poll results on this slide.

***Patient Population:*** *Patients with lower risk myelodysplastic syndrome without the del(5q) mutation who are transfusion dependent* and ineligible for, or refractory to ESAs, and are ring sideroblast positive.*

**** Transfusion-dependence defined as 2-4 red blood cell units transfused over 8 weeks.***

slido

**10. What is the long-term value for money of imetelstat plus best supportive care compared to luspatercept plus best supportive care at current pricing?**

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# Break

Meeting will resume at 1:00PM PT

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# Policy Roundtable

# Policy Roundtable

| Participant | Conflict of Interest |
|---|---|
| **Joan Durnell-Powell,** MDS Patient Advocate, AA&MDS International Foundation | No conflicts to disclose. |
| **Leslie Fish, PharmD**, SVP Pharmacy, IPD Analytics | Dr. Fish is a full-time employee at IPD Analytics. |
| **Timothy Graubert, MD**, Director, Hematologic Malignancy Program, Massachusetts General Hospital, Harvard Medical School | Dr. Graubert has a family member who is a full-time employee of Alexion Pharmaceuticals and has equity in AstraZeneca, Biogen, and Blueprint. |
| **Andreas Klein, MD,** Chief, ad interim, Division of Hematology/Oncology and Director, Transplant and Cellular Therapies Program, Tufts Medical Center | Dr. Klein is employed by an academic medical center physician organization. |
| **Daneen Sekoni, MHSA**, Vice President, Policy and Advocacy, Cancer Support Community | The Cancer Support Community has received more than 25% of overall funding from health care companies and has received direct service/policy/psychosocial research support from BMS and Geron. |
| **Emily Tsiao, PharmD, BCPS**, Medical Policies Clinical Pharmacist, Premera Blue Cross | Dr. Tsiao is a full-time employee at Premera Blue Cross. |

# CTAF Council Reflections

# Next Steps

- Meeting recording posted to ICER website next week
- Final Report published on or around August 22nd, 2024
- Includes description of CTAF votes, deliberation, policy roundtable discussion
- Materials available at: https://icer.org/assessment/myelodysplastic-syndrome-2024/

# Adjourn

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