January 2020
Corporate Update

Forward-Looking Statements

These slides contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 that are subject to risks and uncertainties that could cause actual results to differ materially from those projected. Forward-looking statements include those relating to, among other things, the potential benefits to be derived from the License and Development Agreement with SymBio Pharmaceuticals or Cantex Pharmaceuticals, including any statements related to dociparstat; and Chimerix's ability to develop disease modifying and potentially curative treatments for diseases, including AML and smallpox. Among the factors and risks that could cause actual results to differ materially from those indicated in the forward-looking statements are risks that the benefits of the agreements with Cantex or SymBio may never be realized; risks that dociparstat or brincidofovir may not obtain regulatory approval from the FDA or such approval may be delayed or conditioned; risks that development activities related to dociparstat or brincidofovir may not be completed on time or at all; Chimerix's reliance on a sole source third-party manufacturer for drug supply; risks that ongoing or future clinical trials may not be successful or replicate previous clinical trial results, or may not be predictive of real-world results or of results in subsequent clinical trials; risks and uncertainties relating to competitive products and technological changes that may limit demand for our drugs; risks that our drugs may be precluded from commercialization by the proprietary rights of third parties; risks related to procurement of brincidofovir for the treatment of smallpox; and additional risks set forth in the Company's filings with the Securities and Exchange Commission. These forward-looking statements represent the Company's judgment as of the date of this release. The Company disclaims, however, any intent or obligation to update these forward-looking statements.

At Chimerix, we're developing medicines for patients facing deadly disease.

Our mission is to rewrite the odds to meaningfully improve their probability of survival.

We Are Focused on Deadly Diseases with High Mortality

Acute Myeloid Leukemia (AML)

Survival is usually measured in **days to weeks** without treatment

Patients receiving chemotherapy may experience up to a **70% mortality rate** within the first year of treatment[1]

The five-year overall survival rate for AML in the U.S. is **28.3%**[2]

Smallpox

Smallpox vaccination no longer administered to general population

Most people are **vulnerable** in the event of an outbreak; death expected in approximately 30% of patients[3]

There is a critical gap in biomedical defense against smallpox threats

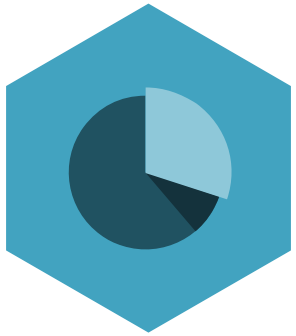
[1]Meyers J, Yu Y, Kaye JA, Davis KL. Medicare fee-for-service enrollees with primary acute myeloid leukemia: an analysis of treatment patterns, survival, and healthcare resource utilization and costs. Appl Health Econ Health Policy. 2013;11(3):275-286. doi: 10.1007/s40258-013-0032-2.
[2]https://seer.cancer.gov/statfacts/html/amyl.html/ |. [3]https://www.who.int/biologicals/vaccines/smallpox/en/

Strong Investment Rationale

Substantial opportunity in first-line AML

- Compelling randomized Ph2 event-free & overall survival data
- Addresses $1B+ market opportunity in first-line AML
- Planned Ph3 initiation mid-2020

Major advances in development of countermeasure for smallpox



- Significantly reduced mortality in both required animal models
- Completing final PK dose-bridging experiments
- Planned NDA filing mid-2020

Balance sheet provides ample financial runway

- $116.7M in cash as of Sept 30
- ~$110 million expected year-end
- Potential $100 million in 2021 from smallpox procurement contract

Proven Management Team

ENDOCYTE · Lilly · FRED HUTCH CURES START HERE™

Roche · gsk

Bristol-Myers Squibb

Mike Sherman
CEO

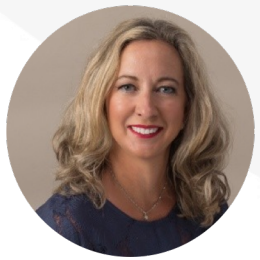
Garrett Nichols
CMO

Mike Andriole
CFO & CBO

Randall Lanier
CSO

Roy Ware
CMTO

Heather Knight
VP, Regulatory



Michelle Laspaluto
VP, Strategic Planning & IR

Michael Alrutz
General Counsel

Dociparstat Sodium (DSTAT): First-line Treatment for AML

More than 21,000 new cases of AML diagnosed annually in the U.S.

- Rapidly progressive disease with low survival rates
- Existing therapies are seldom cures
  - 1-year survival for older patients

    5 out of 10
  - 5-year survival for older patients

    1 out of 10
  - Relapse can occur if not all AML blasts and stem cells are eradicated
- AML is heterogenous and has multiple mechanisms by of resistance to treatment

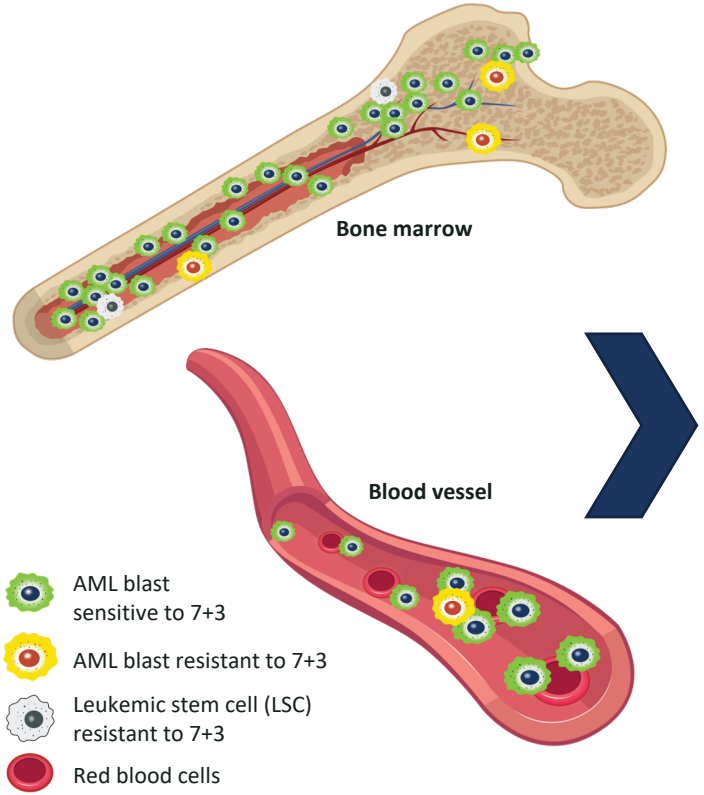
[1]Walter RB, Othus M, Burnett AK, et al. Resistance prediction in AML: analysis of 4601 patients from MRC/NCRI, HOVON/SAKK, SWOG and MD Anderson Cancer Center. Leukemia. 2015;29(2):312-320. doi: 10.1038/leu.2014.242.

CHIMERIX

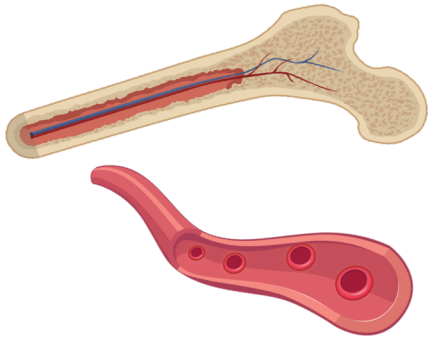
DSTAT May Improve Chemotherapy and Overall Survival

Treatment with DSTAT and chemotherapy

AML-implicated proteins targeted by DSTAT (CXCR4/ CXCL12, Selectins, HMGB1, Elastase)



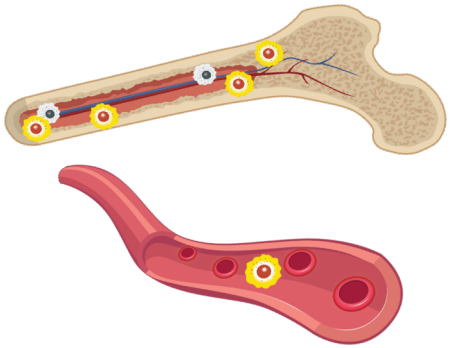
'7+3' Chemotherapy + DSTAT



1) Reverse quiescence and mobilize AML blasts and LSCs out of protective bone marrow

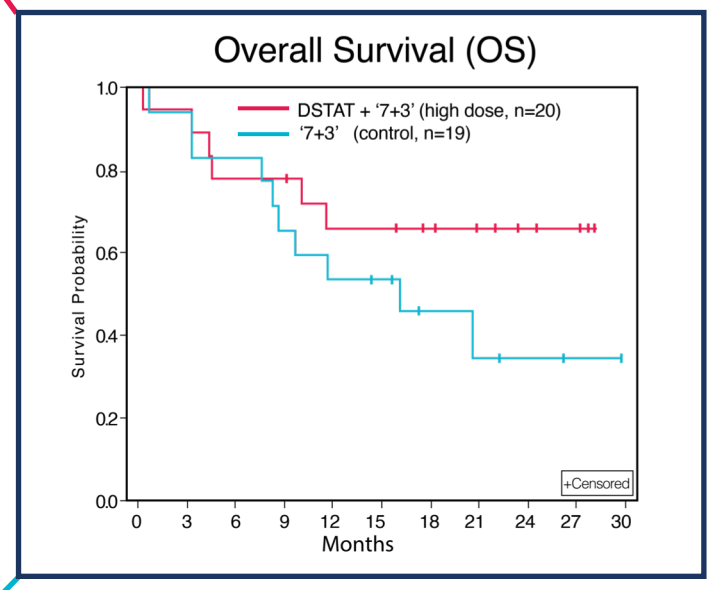
2) Inhibit AML survival pathways

'7+3' Chemotherapy



Combining standard chemotherapy with DSTAT improved overall survival in a controlled Ph2 clinical trial

DSTAT appears to reduce AML relapse



Relapse driven by resistant blasts & LSC

Compelling Pilot Study Results in Treatment-naïve AML Patients

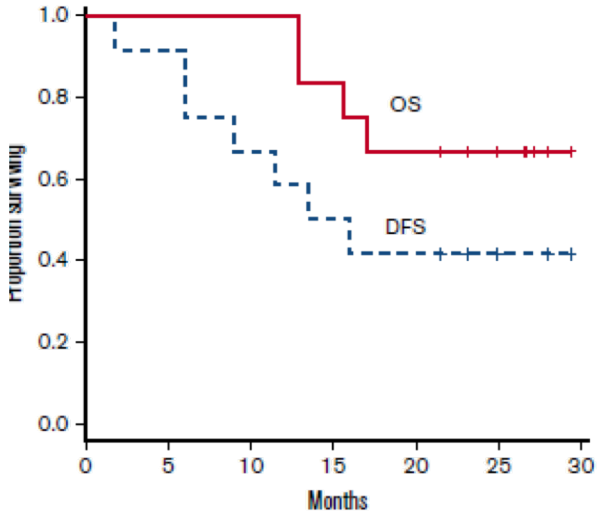
Strong Complete Response, Overall Survival and improved hematologic recovery

Complete Response

- **11 of 11 (100%)** patients with treatment-naïve primary AML achieved a CR with single induction cycle and no reported serious adverse events related to DSTAT
- 12th patient enrolled with granulocytic sarcoma secondary to chronic myelomonocytic leukemia achieved a CR with second induction cycle without DSTAT
- All 5 baseline FLT3+ patients achieved CR with single induction cycle

Survival Rates

- Median survival not yet reached after 29.4 months
- Median disease-free survival of 14.8 months
- 4 patients remained in remission



Count Recovery

- Median time to recovery of an untransfused platelet count of a least 50 x 10^9/L of 23.5 days
- Median time to ANC recovery of at least 0.5 x 10^9/L of 22 days

Tibor J. Kovacsovics, Alice Mims, Mohamed E. Salama, et al. Combination of the low anticoagulant heparin CX-01 with chemotherapy for the treatment of acute myeloid leukemia. Blood Advances. 16 October 2017; accepted 21 January 2018. DOI 10.1182

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Randomized Phase 2B AML Study in U.S. Cancer Centers

Design[a-b]

Subjects	• Treatment-naïve AML patients • Age 60+ • N = 75
Treatment Arms	• Cytarabine + idarubicin (control) • Cytarabine + idarubicin + low dose DSTAT (4 mg/kg IV bolus followed by 0.125 mg/kg/hr for 7 days) • Cytarabine + Idarubicin + higher dose DSTAT (4 mg/kg IV bolus followed by 0.25 mg/kg/hr for 7 days)
Likely Phase 3 Population	• Targets 39 of 50 patients from high dose and control arms – Excludes patients with favorable cytogenetics who have lower unmet need (n=5) – Excludes patients with secondary AML (sAML) who will likely receive Vyxeos for induction (n=6)

a) 4th arm in this study (4mg/kg bolus followed by 0.325 mg/kg/hr infusion plus 7+3) discontinued after two patients were enrolled (one patient had hemorrhage deemed possibly related to DSTAT)
b) Low dose was deemed sub-therapeutic and the following data presented is limited to the high dose arm and the control arm

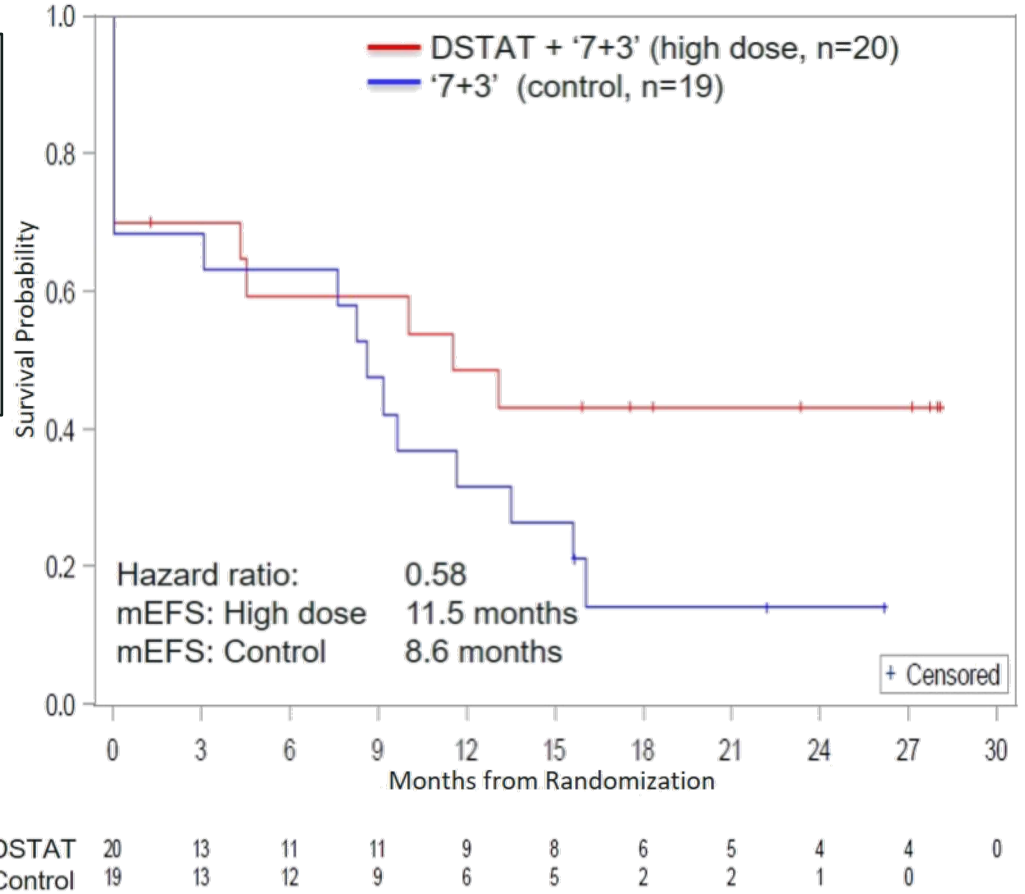
Likely Ph 3 ITT Population Shows Promising Effect

Clinically relevant separation in EFS/OS curves

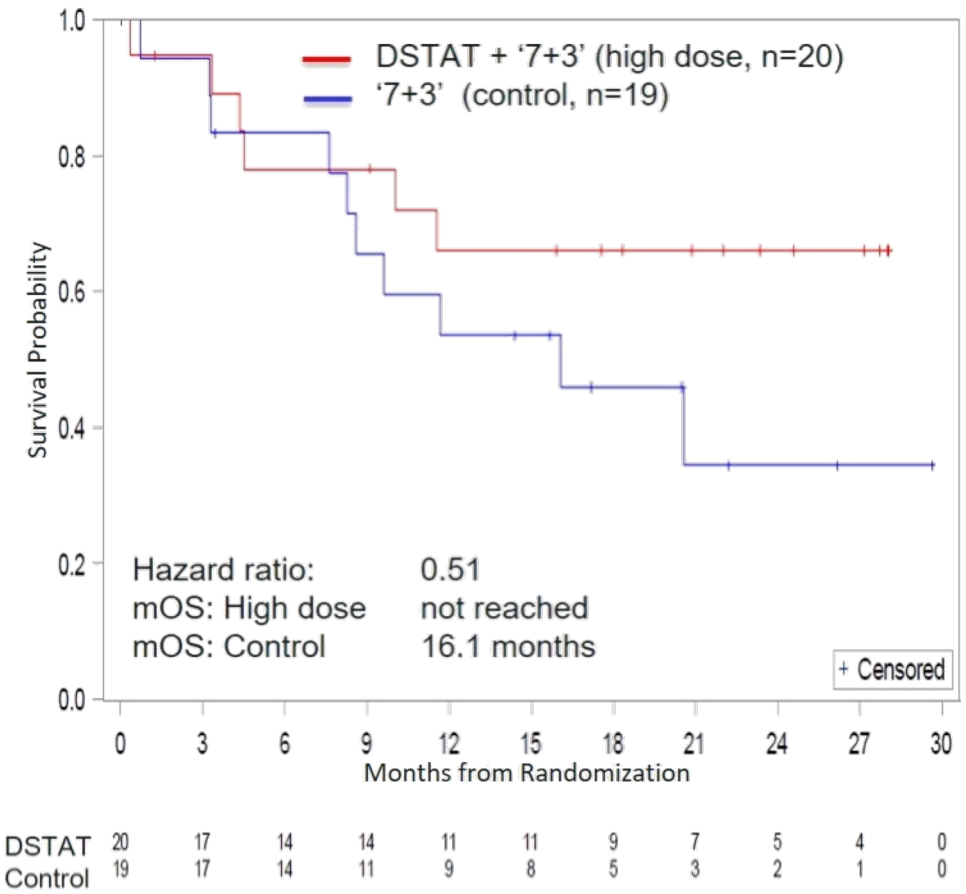
Response Summary

	% CR/CRi[a-c]
High Dose Arm	70% (14/20)
Control Arm	68% (13/19)
(Historical Control ~50%)	

Event-Free Survival (EFS)[a-c]



Overall Survival (OS) [a-c]

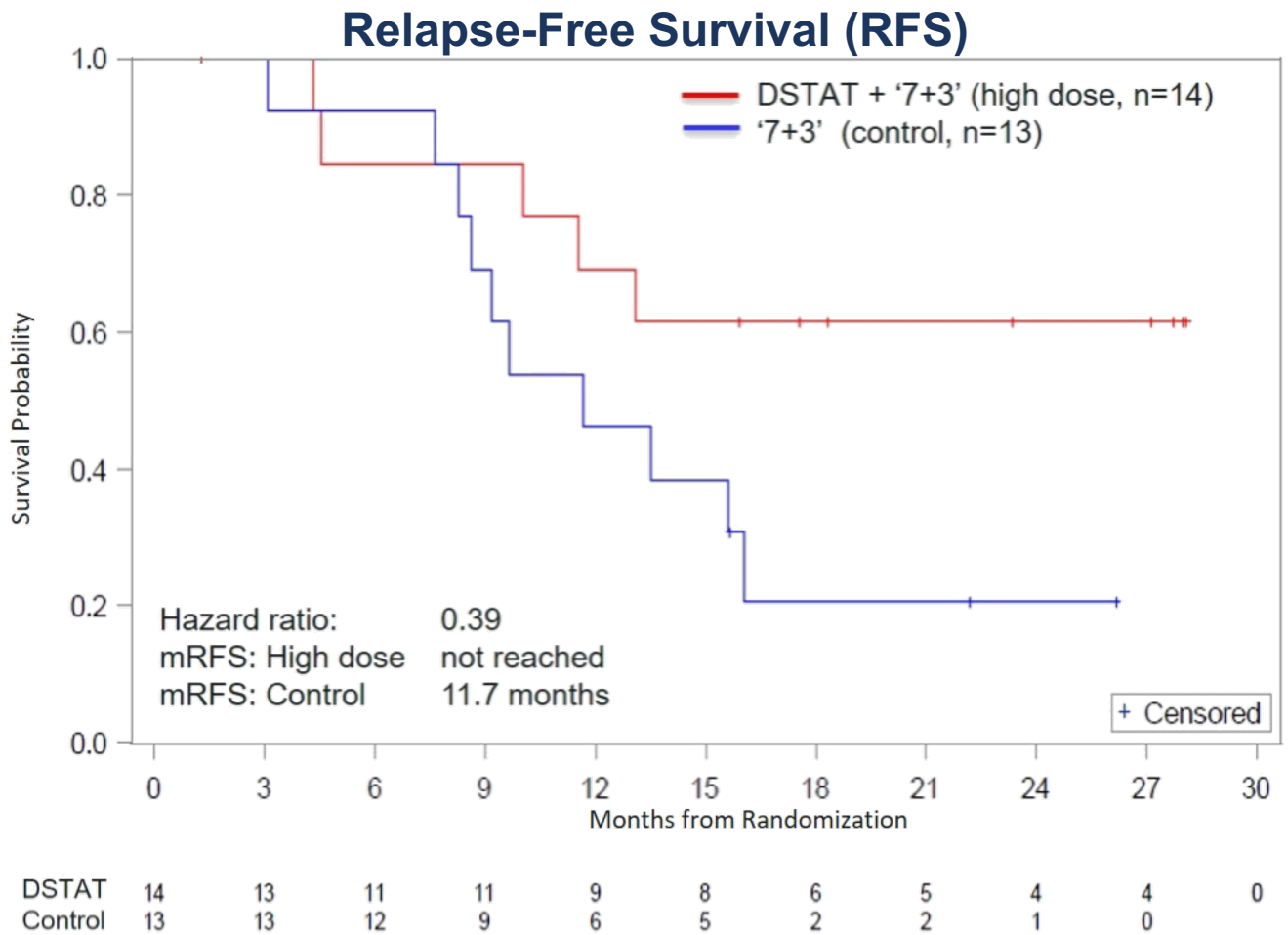


a) Complete Response (CR) or Complete Response without complete hematologic recovery (CRi)
b) Confirmed with post day 14 (D14) bone marrow (BM) biopsy and less than 5% blasts. If no post D14 was performed, the D14 BM biopsy was used to determine response
c) Responses and Kaplan-Meier curves do not include sub therapeutic low dose arm

Likely Ph 3 ITT Population Shows Durability of CR/CRi

Relapse-free survival median not reached on high dose arm

Relapse-Free Survival (RFS) = survival without relapse following induction success (CR/CRi)

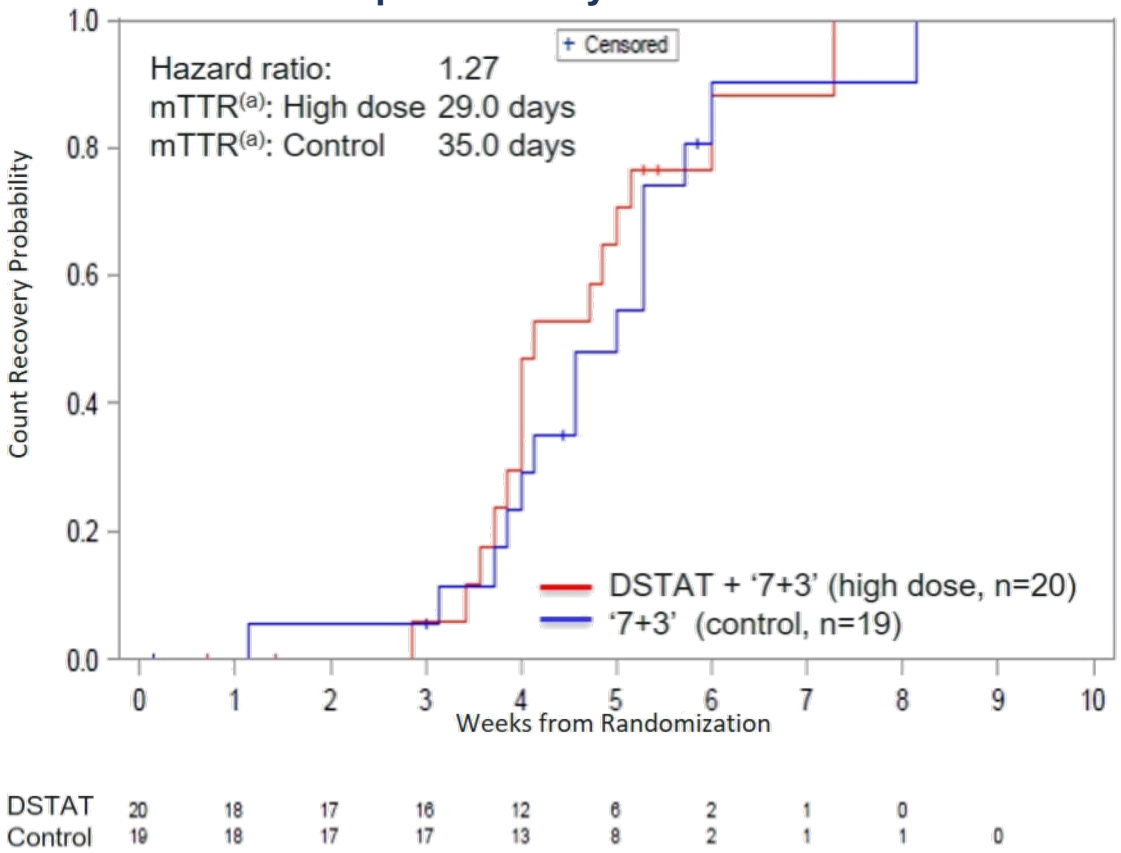


Kaplan-Meier curve does not include sub therapeutic low dose arm

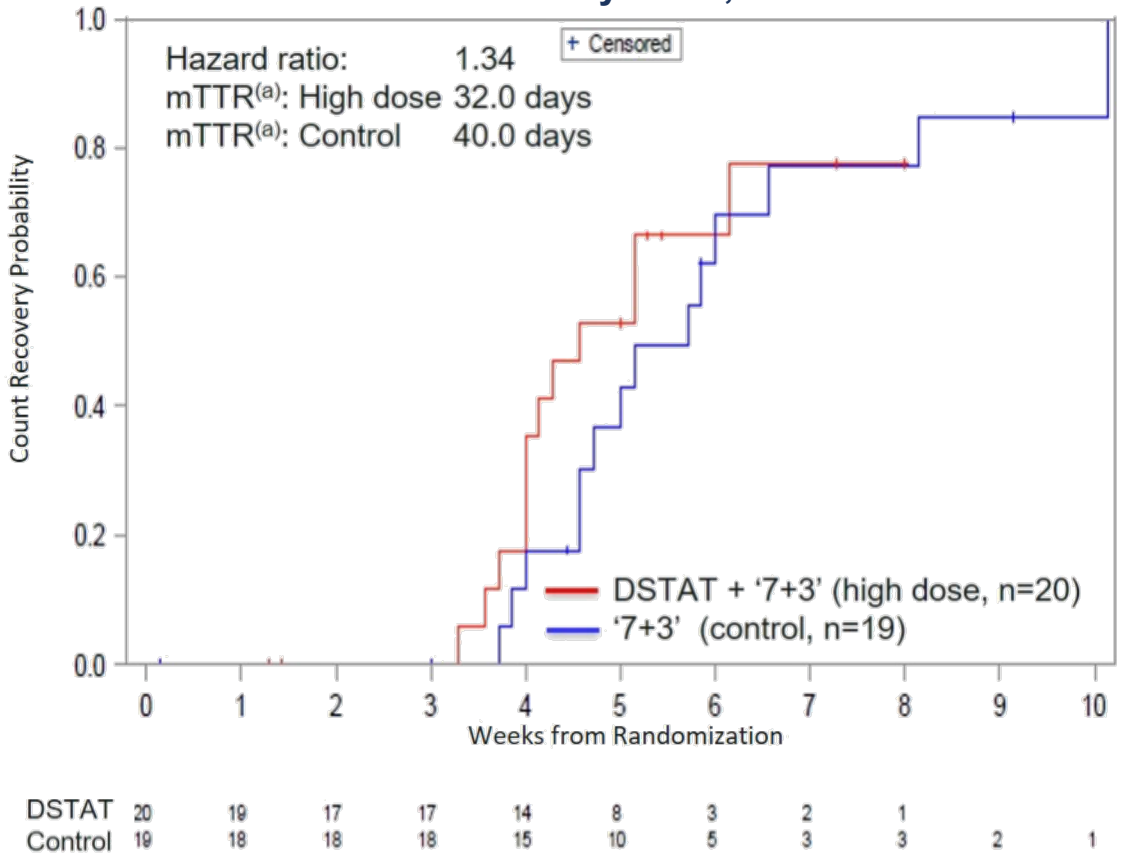
DSTAT Does Not Delay Hematologic Recovery, May Accelerate It

Median days to neutrophil and platelet recovery reduced by 17% and 20%, respectively

Likely Ph 3 ITT
Neutrophil recovery > 500 cells/uL



Likely Ph 3 ITT
Platelet recovery > 100,000 cells/uL



a) Median Time to Recovery
b) Kaplan-Meier curves do not include sub therapeutic low dose arm

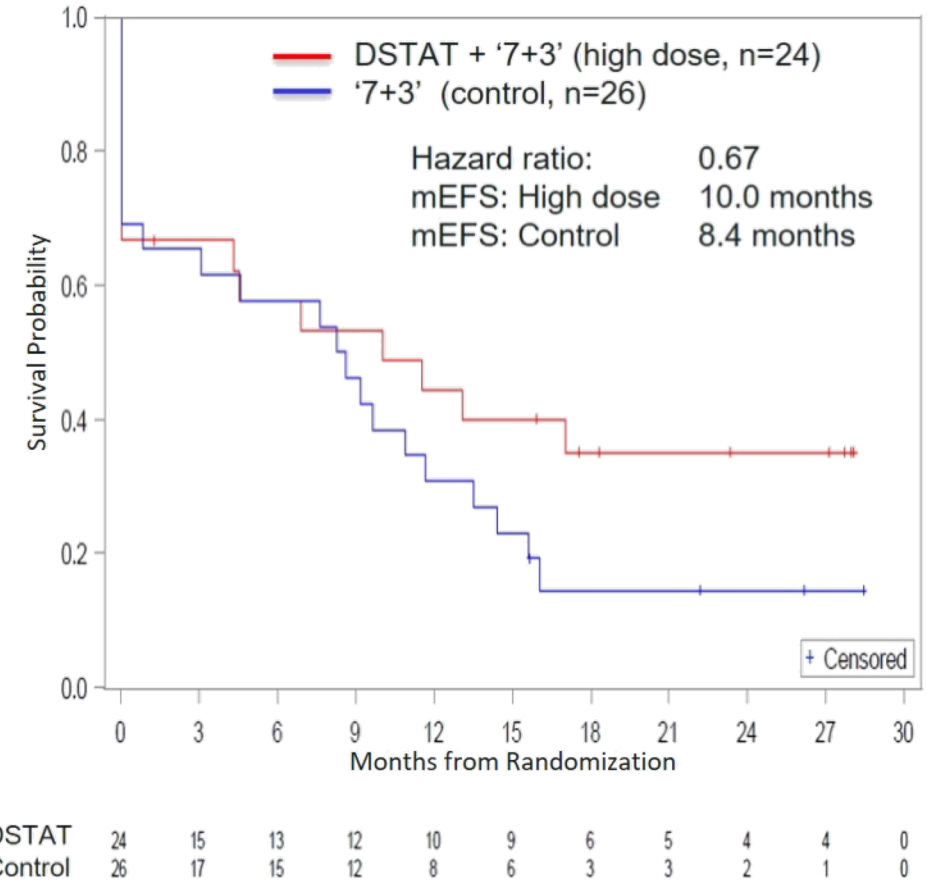
Full ITT Population Outperforms Standard 7+3 Chemotherapy

EFS and OS benefit in full ITT Ph 2 population

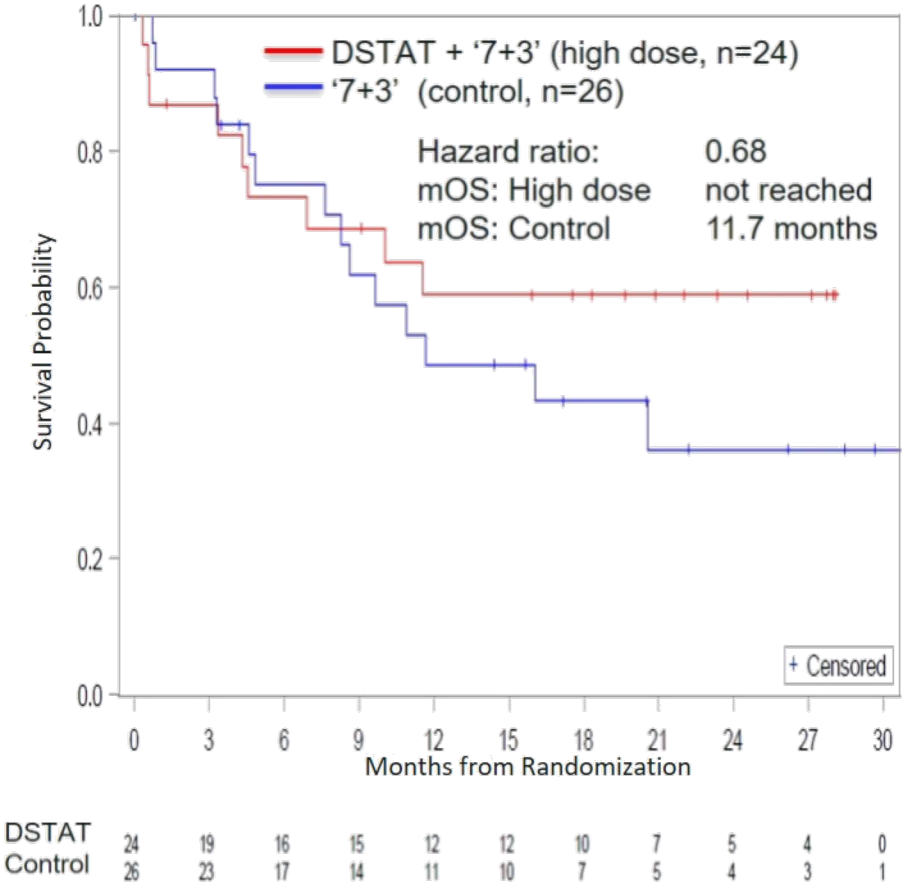
Response Summary

	% CR/CRi[a-c]
High Dose Arm	67% (16/24)
Control Arm	69% (18/26)
(Historical Control ~50%)	

Event Free Survival



Overall Survival



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SURVIVAL ENDPOINTS [a]

Event-free Survival
HR: 0.58

Relapse-free Survival
HR: 0.39

Overall Survival
HR: 0.51

HEMATOLOGIC RECOVERY[a]

17%
Improvement in Median Days to Neutrophil Recovery

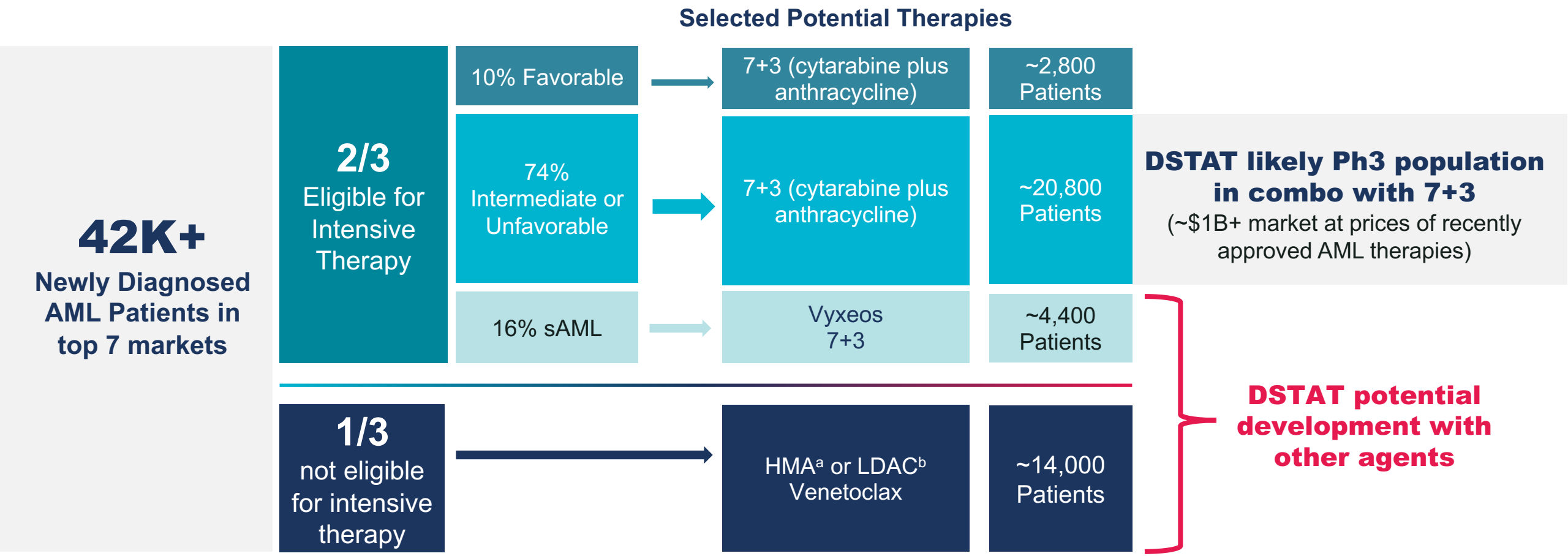
20%
Improvement in Median Days to Platelet Recovery

Potential for Quicker Recovery, More Durable Response and Longer Survival Underpins Strong Phase 3 Rationale

a) Phase 2 high dose arm vs. control in likely Ph3 patient population (Phase 2 ITT, less patients with favorable cytogenetics and patients with secondary AML)

Strong Commercial Opportunity for Standard of Care Regimen

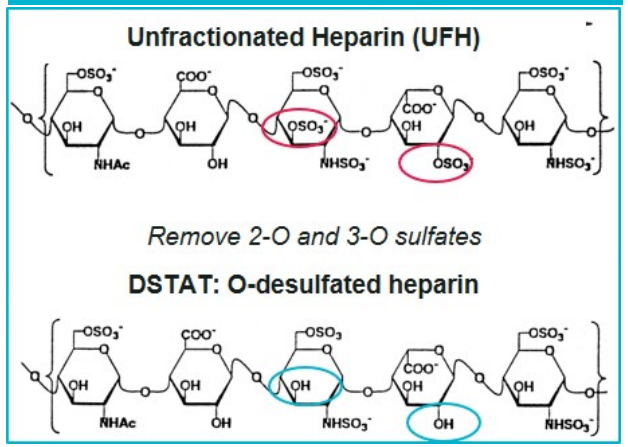
Phase 3 design may position DSTAT as standard of care for up to ~20,800 patients



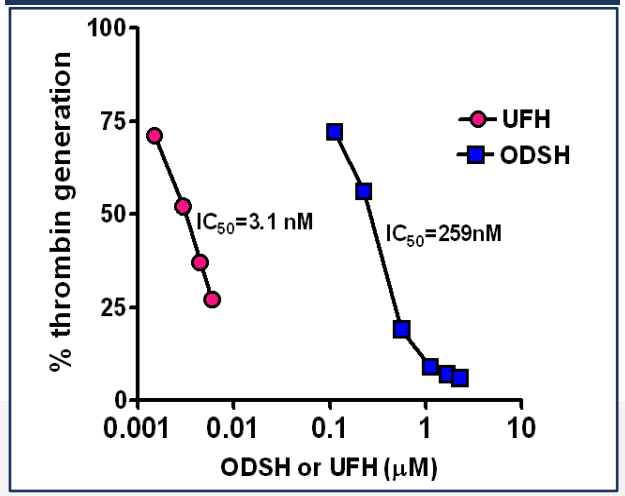
a) Hypomethylating agents
b) Low dose cytarabine

Strong IP Position

DSTAT is chemically and biologically distinct from heparin



DSTAT has 80-fold less anticoagulant activity



DSTAT is a novel biologic with patent life through 2033

- Potential first-in-class glycosaminoglycan biologic derived from porcine heparin
- Patent through 2033, potential for 2038 in US with full patent term reinstatement
- Dramatically reduced anticoagulant activity versus unfractionated heparin
- Exclusive drug manufacturing supply agreement

DSTAT: A Compelling Opportunity in Front-line AML

Improvement of durable benefit of front-line intensive therapy is a major unmet need

Ongoing Unmet Needs in AML

- Major improvement needed in potentially curative front-line treatment
- Responses to front-line treatment are rarely durable
- <10% five-year survival in older patients
- Challenging to combine 7+3 with other agents due to toxicities
- Recent approvals based on responses generally not durable
- Targeted agents vulnerable in this highly heterogenous disease

DSTAT Well Positioned

- 2/3 patients eligible and fit for 7+3
- Randomized Ph 2 suggests DSTAT + 7+3 improves EFS, RFS, OS and platelet recovery without additive toxicity whether patients receive consolidation or transplant
- Most patients who achieve CR remain relapse free 15+ months after initial treatment
- Fast track designation and orphan drug designation in the U.S. for AML
- Phase 3 to initiate mid-2020, subject to FDA

Brincidofovir (BCV): Medical Countermeasure for Smallpox

Smallpox – A significant Public Health Risk

- Population is unvaccinated since early ‘70s
- Highly infectious with ~30% mortality
- Considered a Class A threat by PHEMCE[1]
- If weaponized, virus could be engineered to have increased transmission and resistance

The Siberian Times

Experts warn of threat of born-again smallpox from old Siberian graveyards

Two labs in the world keep a live smallpox sample. The one in Russia just had an explosion

N'dea Yancey-Bragg USA TODAY

Published 12:46 p.m. ET Sep. 17, 2019

Health » Diet + Fitness | Living Well | Parenting + Family

Live TV U.S. Editio

CDC: Smallpox found in NIH storage room is alive

By Jen Christensen, CNN

Updated 3:07 PM ET, Fri July 11, 2014

[1]Public Health Emergency Medical Counter Measures Enterprise

Ongoing Collaboration with BARDA

Mandated to stockpile two smallpox countermeasures with differing mechanisms of action

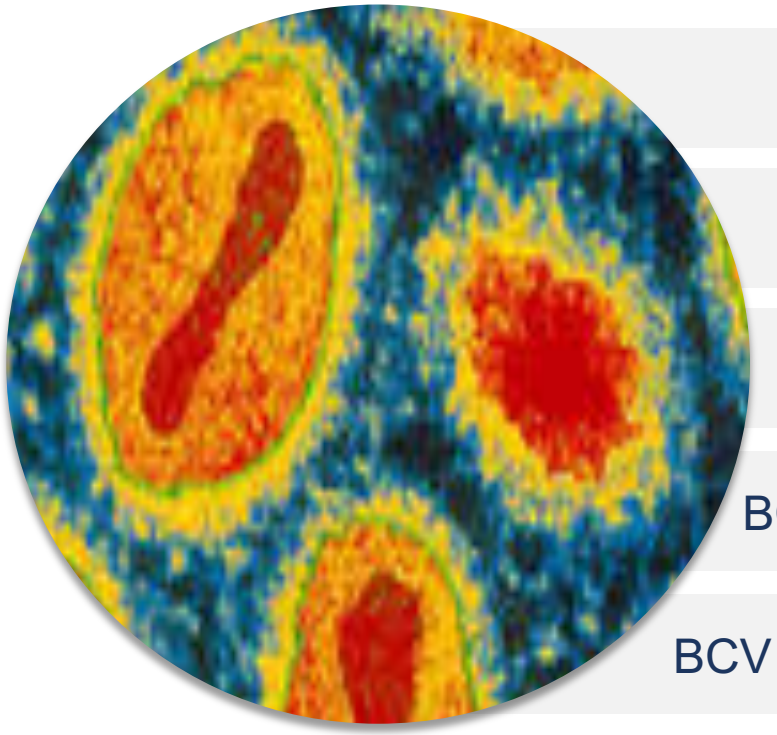
- BARDA is the primary source of funding for BCV for smallpox
- FDA Animal Rule allows approval of drugs where human trials are not feasible or ethical
- BARDA may initiate stockpile procurement prior to FDA approval
- Siga Technologies awarded >$1B in contracts for stockpile of TPOXX
  - $460M in 2011
  - $546M in 2018

About BARDA

Biomedical Advanced Research and Development is part of the HHS Office of the Assistant Secretary for Preparedness and Response, was established to aid in securing the U.S. from chemical, biological, radiological and nuclear (CBRN) threats, as well as from pandemic influenza (PI) and emerging infectious diseases (EID). BARDA supports the transition of medical countermeasures such as vaccines, drugs and diagnostics from research through advanced development towards consideration for approval by the FDA and inclusion into the Strategic National Stockpile (SNS).

BCV: a Critical Complement to Current Countermeasures

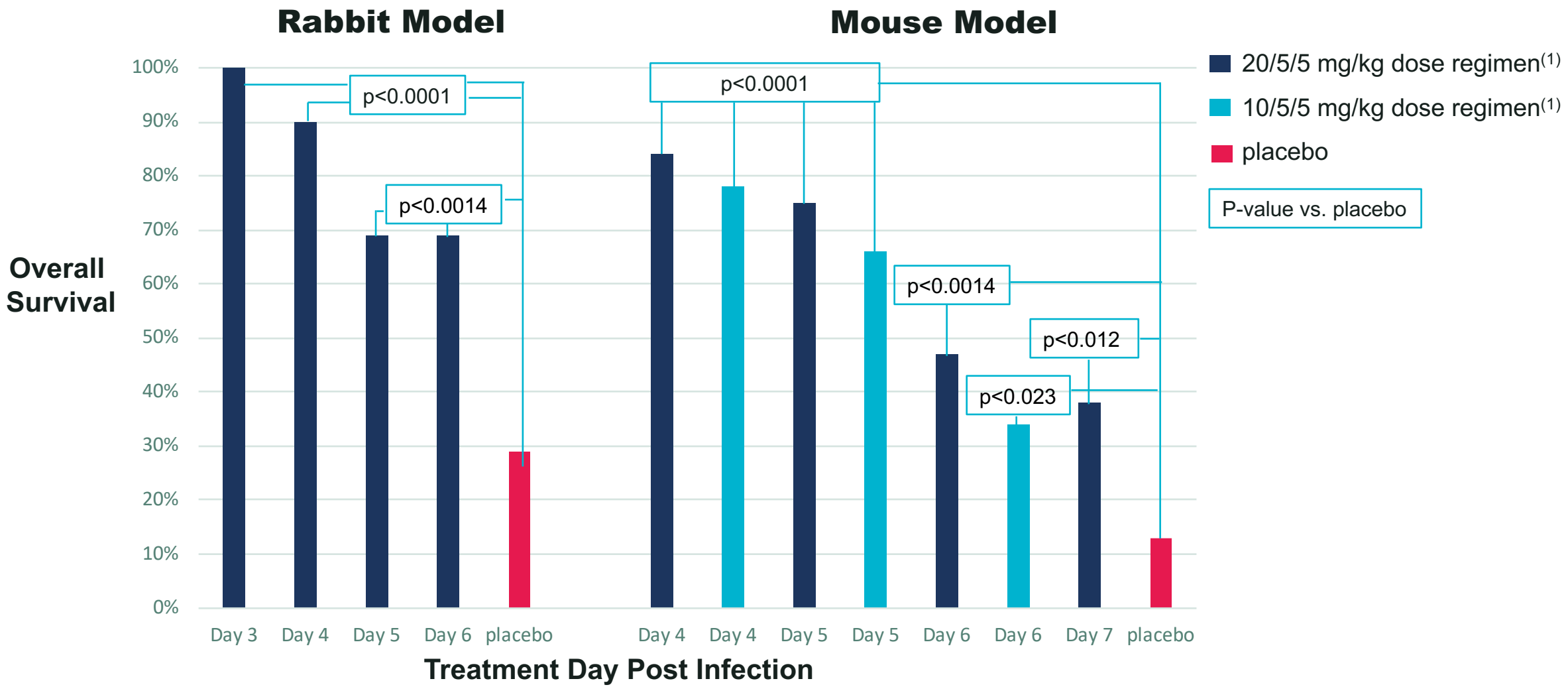
BCV well positioned as attractive addition to the SNS



- Resistant smallpox viruses are a significant threat
- Viral strains resistant to BCV are less lethal and may still respond to therapy
- BCV has a safety database of ~1,500 subjects (healthy and infected)
- BCV available as short-course oral tablet regimen and suspension for pediatrics
- BCV works well with existing countermeasures and optimizes overall preparedness

Animal rule registration targeted for filing in 2020 and potential stockpile procurement

BCV Significantly Reduced Mortality in Animal Models of Orthopoxvirus Infection



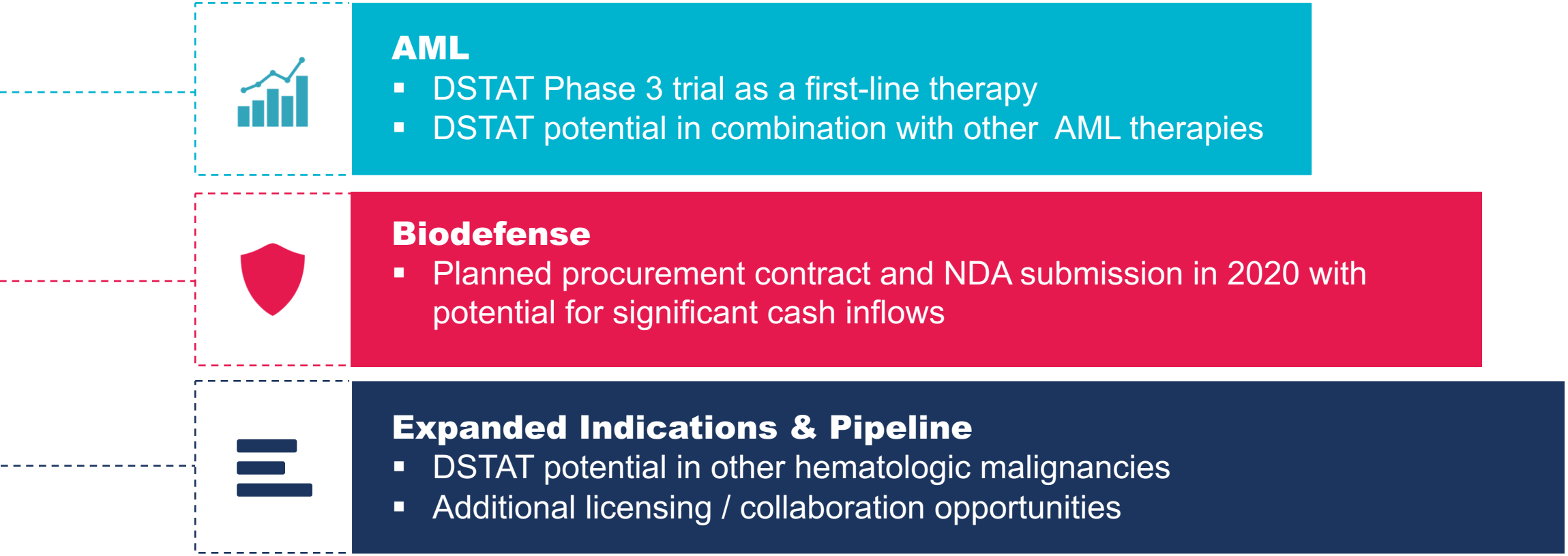
[1]Administered at 48-hour intervals with treatment initiation on post-infection days 3, 4, 5, 6 or 7

SymBio BCV Out-license Creates Path to Additional Value

- SymBio acquired rights to develop and commercialize all indications of BCV excluding the prevention and treatment of orthopox viruses, including smallpox
- SymBio will develop and commercialize BCV in all markets and will incur 100% of the future development and commercial costs
- Economics:
  - $5M upfront to Chimerix
  - Up to $180M in development, regulatory and approval milestones
  - Double-digit royalties on net sales

SymBio
SymBio Pharmaceuticals Limited

Strong Balance Sheet & Near-term Commercial Opportunity Fund Ongoing Development



Rebuilding Culture of Execution with Numerous Value-driving Catalysts Expected in Next 9 Months

	2019	2020		2021
		1H	2H	
DSTAT	✓ WW global in-license ✓ Phase 2 AML data lock/stats	▪ End of phase 2 US FDA meeting ▪ Confirm endpoint/Ph3 trial design	▪ Ph3 trial initiation in 1L AML (mid-2020)	
brincidofovir	✓ Successful rabbit efficacy study ✓ Successful mouse efficacy study ✓ SymBio non-orthopox out-license	▪ Complete PK dose bridging studies ▪ Pre-NDA Meeting with FDA ▪ Stockpile procurement initiation	▪ NDA Submissions ▪ (US, et al)	▪ Smallpox NDA Approval (US) ▪ BCV Product ▪ Shipments(~$100M)

Thank You