Fourth Quarter and Full Year 2023 Financial and Business Update

February 28, 2024

NASDAQ: AVIR

DISCLAIMERS

Forward-Looking Statements

This presentation contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are neither historical facts nor assurances of future performance. Instead, they are based on our current beliefs, expectations and assumptions regarding the future of our business, future plans and strategies, our clinical results and other future conditions including without limitation the future of the COVID-19 and HCV landscapes and related commercial market opportunities. All statements other than statements of historical facts contained in this presentation are forward-looking statements, including statements by Atea Pharmaceuticals, Inc. (the "Company") regarding future results of operations and financial position, including our anticipated cash runway; business strategy; current and prospective product candidates; anticipated milestone events; potential benefits of our product candidates and market opportunity; clinical trials, including, without limitation, anticipated initiation, enrollment, regulatory submission and data readout timelines; preclinical activities; product approvals; manufacturing availability; degree of market acceptance of any products that may be approved; research and development costs; current and prospective collaborations; and prospects and opportunities for investors. In some cases, you can identify forward-looking statements by terms such as "may," "will," "should," "expects," "plans," "anticipates," "could," "intends," "targets," "projects," "contemplates," "believes," "estimates," "predicts," "potential" or "continue" or the negative of these terms or other similar expressions.

The information in this presentation, including without limitation the forward-looking statements contained herein, represent our views as of the date of this presentation. These statements are neither promises nor guarantees, but involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any anticipated results, performance or achievements expressed or implied by the forward-looking statements. Risks and uncertainties that may cause actual results to differ materially include uncertainties inherent in the drug discovery and development process and the regulatory approval process, unexpected safety or efficacy data or results observed during clinical trials or in data readouts; delays in or disruptions to clinical trials or our business; our reliance on third parties over which we may not always have full control, competition from authorized and approved treatments for COVID-19 and hepatitis C, risks related to the continued evolution of COVID-19, and other important risks and uncertainties that are described in our Annual Report on Form 10-K filed for the year ended December 31, 2022 and our most recent quarterly report on Form 10-Q filed with the Securities and Exchange Commission ("SEC") and our other filings with the SEC. New risk factors and uncertainties may emerge from time to time, and it is not possible to predict all risk factors and uncertainties. Accordingly, you are cautioned not to place undue reliance on these forward-looking statements.

Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise. No representations or warranties (expressed or implied) are made about the accuracy of any such forward-looking statements.

Industry Information

Market data and industry information used throughout this presentation are based on management's knowledge of the industry and the good faith estimates of management. We also relied, to the extent available, upon management's review of independent industry surveys and publications and other publicly available information prepared by a number of third-party sources. All of the market data and industry information used in this presentation involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates. Although we believe that these sources are reliable, we cannot guarantee the accuracy or completeness of this information, and we have not independently verified this information. While we believe the estimated market position, market opportunity and market size information included in this presentation are generally reliable, such information, which is derived in part from management's estimates and beliefs, is inherently uncertain and imprecise. No representations or warranties are made by the Company or any of its affiliates as to the accuracy of any such statements or projections. Projections, assumptions and estimates of our future performance and the future performance of the industry in which we operate are necessarily subject to a high degree of uncertainty and risk due to a variety of factors, including those described above. These and other factors could cause results to differ materially from those expressed in our estimates and beliefs and in the estimates prepared by independent parties.

Strong Operational Execution in 2023 Leads to Anticipated Key Clinical Milestones in 2024

COVID-19: 2023 Achievements Global Phase 3 SUNRISE-3 Program

- ✓ Achieved substantial enrollment progress
- ✓ Granted Fast Track Designation from FDA
- ✓ Expanded global footprint to target of ~300 clinical sites
- ✓ Broadened eligibility criteria of high-risk patients and increased sample size to address lower hospitalization and death rates
- ✓ *In vitro* studies confirmed bemnifosbuvir remains fully active against newest Omicron subvariants
- ✓ Presented and published preclinical and clinical data supporting program

HCV: 2023 Achievements Global Phase 2 Program

- ✓ Regulatory approvals of short 8-week treatment of global Phase 2 combination trial of bemnifosbuvir + ruzasvir
- ✓ Completed enrollment of lead-in cohort of 60 patients
- ✓ Demonstrated potent *in vitro* synergy and compelling profile against major HCV resistant mutations
- ✓ Advanced fixed dose combination tablet program for Phase 3 program
- ✓ Presented and published preclinical and clinical data supporting program

Focused Antiviral Pipeline, Fully Funded Through Key Inflection Points

Key Clinical Data Expected in 2024: Phase 3 SUNRISE-3 Results and Final Phase 2 HCV Results

PROGRAM	THERAPEUTIC INDICATION	PRECLINICAL	PHASE 1	PHASE 2	PHASE 3	MAJOR MILESTONES 2024
Coronaviridae Sunrise-3	**COVID-19**	**Bemnifosbuvir (AT-527) Nucleotide***				**New : >1,400 patients enrolled** • 1st interim analysis (DSMB) March'24 • 2nd interim analysis (DSMB) Q2'24 • Topline results 2H'24 • NDA submission target YE'24
		Protease Inhibitor				**Protease inhibitor** • Program update Mid'24
Bemnifosbuvir + Ruzasvir Combination Program	**Hepatitis C**	**Bemnifosbuvir Nucleotide[1]** **Ruzasvir** NS5A Inhibitor[1]**				**New data: lead-in cohort** • Lead-in cohort SVR4 final results • Final Phase 2 SVR12 results 2H'24 • Phase 3 initiation target 2H'24

Cash, cash equivalents & marketable securities: **$578.1M at 12/31/23 --** Cash runway anticipated through 2026

*Bemnifosbuvir (generic name for AT-527) is a double prodrug nucleotide analog. ** Worldwide exclusive license for all uses from Merck.

1. Bemnifosbuvir and ruzasvir have each separately generated clinical results and are being developed as a combination for HCV.

HEPATITIS C

Program Update: Potential Best-in-Class Pan-Genotypic Regimen

- Phase 2 Open Label Study of Bemnifosbuvir + Ruzasvir
- Final SVR4 Results From Lead-in Cohort

ATEA Pharmaceuticals

HCV

Continues to be a health crisis in US

Recognized ongoing unmet needs by US healthcare providers

UNMET MEDICAL NEED in US:

~ 2.4M estimated to have HCV

New and reinfection rates exceed cures

Best-in-Class Target Profile - Bemnifosbuvir + Ruzasvir

- Potential short 8-week treatment with lower daily pill burden
- Potential for fewer side effects, low risk for drug-drug interactions and no food effect
- Protease inhibitor-free treatment

Global Market Opportunity:

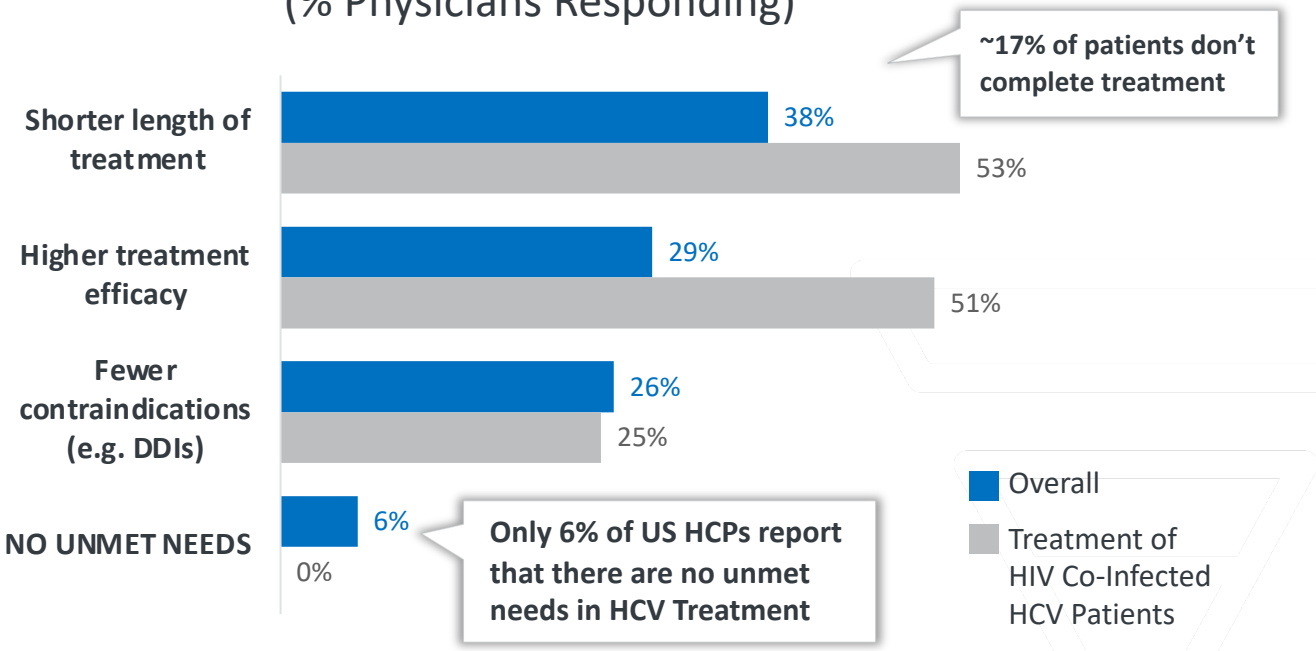
>$3B net sales in 2023	Primarily **2** product market	**No** competitors in clinical development

Market Research Shows Substantial Unmet Needs in HCV Treatments

Only 6% of US Healthcare Providers Satisfied with Current Treatments

HCV TREATMENT UNMET NEEDS

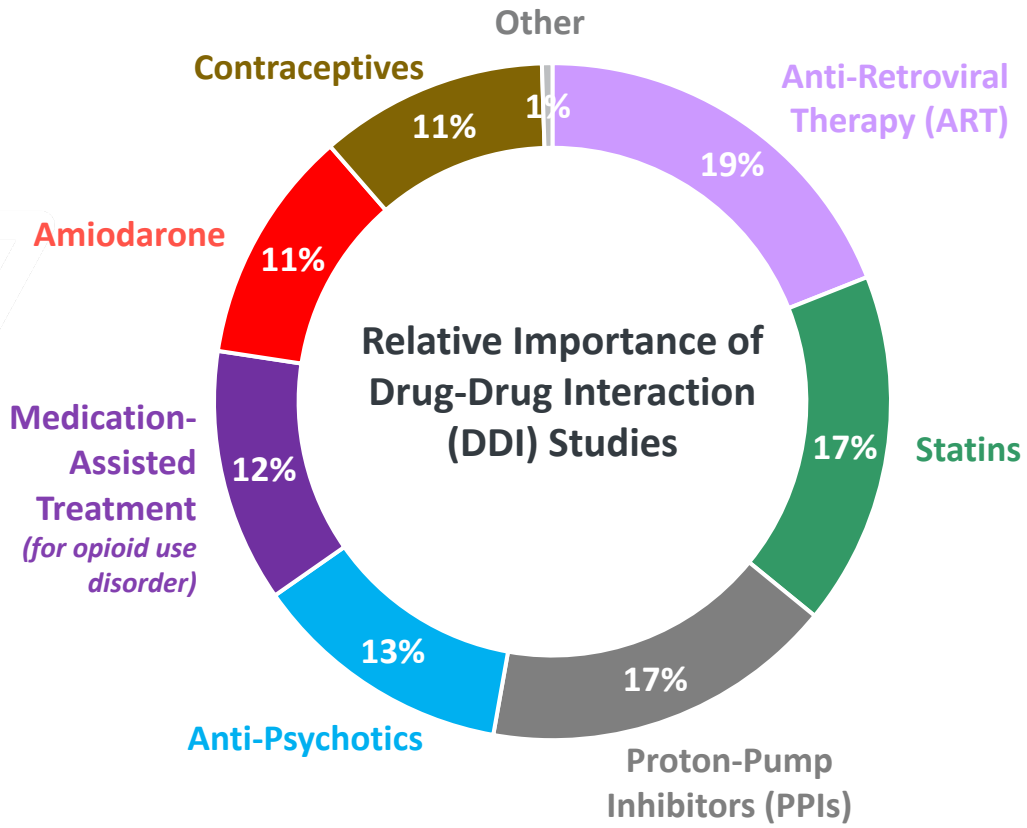
(% Physicians Responding)



N = 157 US Healthcare Providers (Hepatologists, IDs, Gastros and PCPs)

- Treated at least 25 HCV patients in previous 12 months
- Initiated 15+ HCV Patients on DAA Treatment in the previous 12 months
- Prescribed Epclusa or Mavyret to at least 50% of their eligible patients in the previous 12 months

Drug-Drug Interactions are an Important Issue Across Physician Specialties

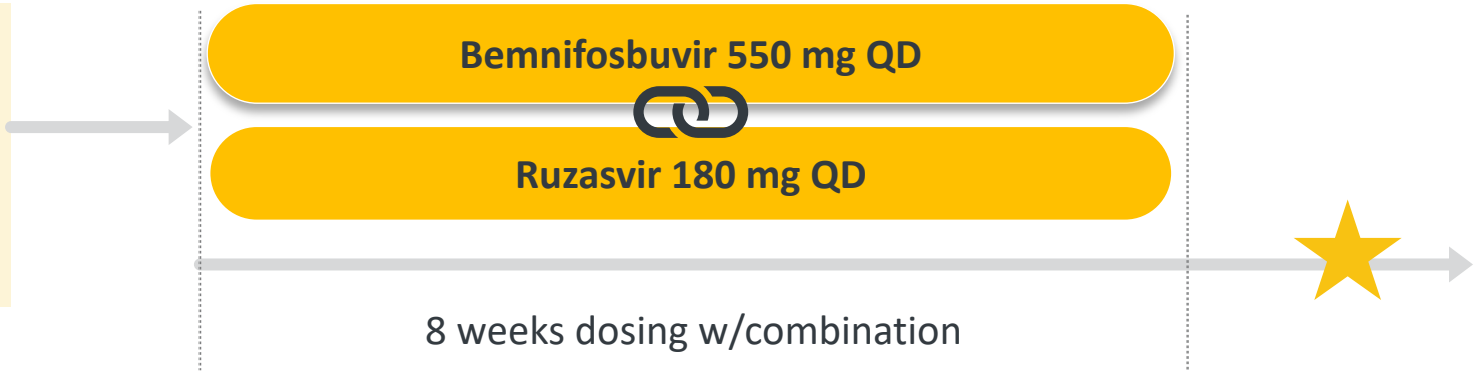


Information Based on Atea's Proprietary Quantitative Market Research Conducted in Nov '23

Phase 2 Open Label Study of Bemnifosbuvir + Ruzasvir in HCV Patients

Study Design: Open label combination

N= up to 280: including a lead-in cohort



Patient Population:

- HCV-infected patients, including compensated cirrhosis
- Direct-acting antiviral naïve
- All genotypes

60 Patient Lead-in Cohort:

- Safety and tolerability
- Sustained virologic response (SVR) at Week 4 post-treatment (SVR4)

Primary Endpoints:

- SVR at Week 12 post-treatment (SVR12)
- Safety

Other Endpoints:

- Virologic failure
- SVR at Week 24 post-treatment (SVR24)
- Resistance

Patient Demographics and Baseline Characteristics

Phase 2 Open Label Study of Bemnifosbuvir + Ruzasvir Lead-in Cohort

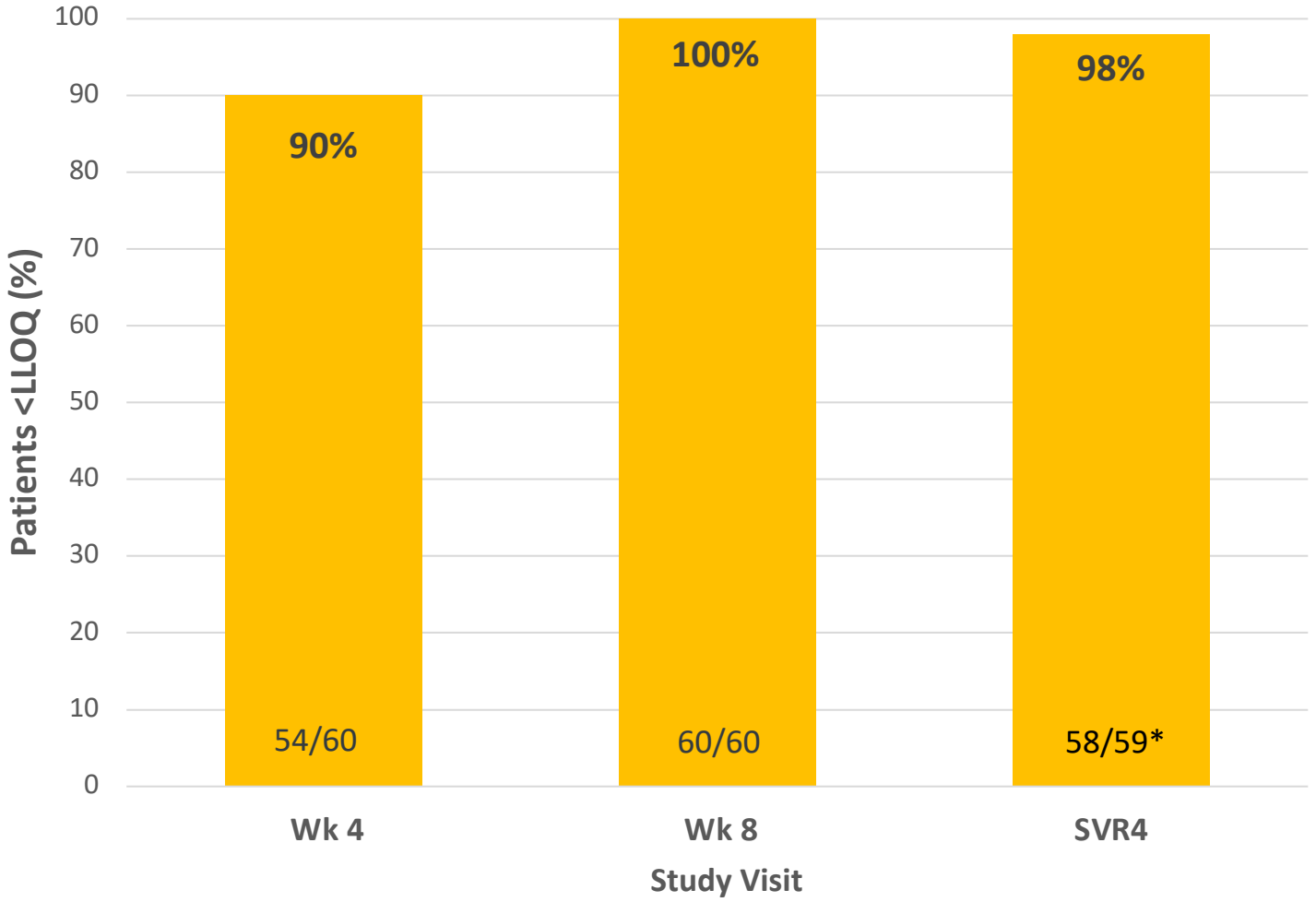
Patient Profile		Total (N=60)
Median age, yrs (range)		47 (25-79)
Median BMI, kg/m^2 (range)		26.3 (18.9-47.1)
Male/Female, n (%) / n (%)		34 (56.7) / 26 (43.3)
Race, n (%)	White	57 (95)
	Black	1 (1.7)
	Other	2 (3.3)
DAA-naïve, n (%)		60 (100)
HCV genotype, n (%)	1a	6 (10)
	1b	38 (63.3)
	1*	1 (1.7)
	2	2 (3.3)
	3	13 (21.7)
Fibrosis Stage, n (%)	F0	9 (15)
	F1	26 (43.3)
	F2	15 (25)
	F3	10 (16.7)

*unspecified subtype

- Lead-in cohort comprised of non-cirrhotic patients only
- Compensated cirrhotic patients will be enrolled in second part of Phase 2 study

New Data: Final Results 98% SVR4 Post-Treatment

Phase 2 Open Label Study of Bemnifosbuvir + Ruzasvir Lead-in Cohort



Bemnifosbuvir + ruzasvir with short 8-week treatment

New data: 98% SVR4 final results

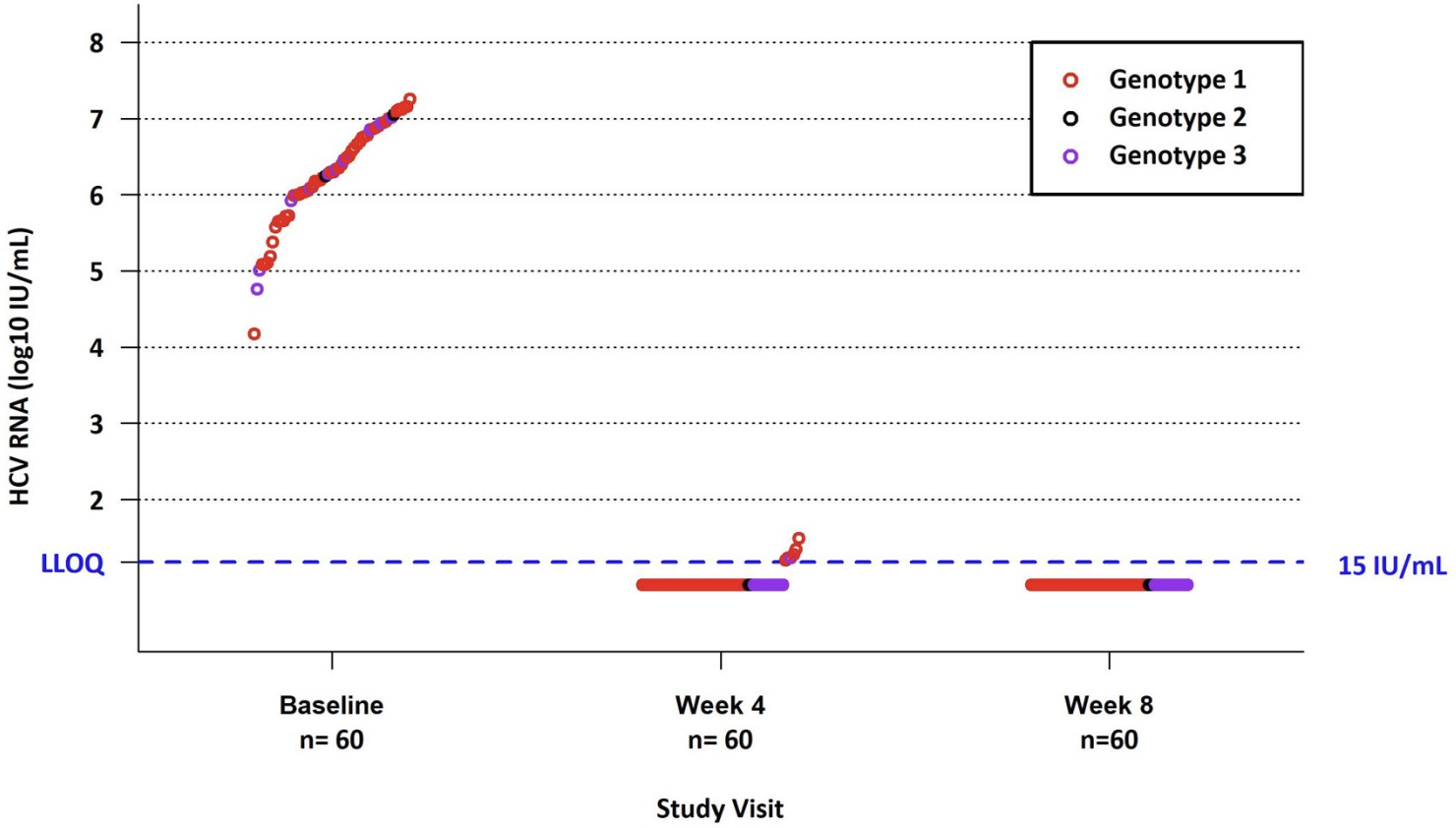
- 1 genotype 2 subject with poor adherence did not achieve SVR4 (lower pill consumption and inadequate PK drug levels)

LLOQ=Lower limit of quantification

*As available data does not include 1 subject who did not attend the SVR4 visit

On-Treatment Viral Kinetics – Individual Patient Data

Phase 2 Open Label Study of Bemnifosbuvir + Ruzasvir Lead-in Cohort



- All patients (n=60) near or below LLOQ by Week 4
- Bemnifosbuvir + ruzasvir kinetics compare favorably to Mavyret[1], the only approved 8-week treatment for HCV
- Very rapid kinetics across genotypes support an 8-week regimen

LLOQ=Lower limit of quantification

1. Sarrazin et.al; Presented at ID Week 2018

Safety Summary

Phase 2 Open Label Study of Bemnifosbuvir + Ruzasvir Lead-in Cohort

- All patients (n=60) completed the 8-week treatment period
- Bemnifosbuvir + ruzasvir was generally safe and well tolerated
- No drug-related serious adverse events or premature treatment discontinuations
- No trends observed in adverse events (mostly mild) and safety laboratory parameters

Global Phase 2 Open Label Trial Update

Bemnifosbuvir + Ruzasvir: Potential Best-in-Class Pan-genotypic Regimen

Re-initiated patient enrollment in January 2024 to complete Phase 2 study (n= up to 280)

Activating ~50 clinical sites in ~15 countries for completion of Phase 2 study

- **Preparing for Phase 3 study**, initiation anticipated 2H'24
- Fixed dose combination tablet clinical selection study ongoing in US

- ✓ **Bemnifosbuvir** is being developed as the most potent nucleotide inhibitor for HCV[1]
- ✓ **Ruzasvir**, an NS5A inhibitor, is a highly potent drug candidate[2]

1. PLoS ONE 15(1):e0227104 https://doi.org/10.1371/journal.pone.0227104 2. Journal of Viral Hepatitis, 2019, September:26 (9); 1127-1138.

ATEA Pharmaceuticals

COVID-19

Bemnifosbuvir Phase 3 Program

- COVID-19 Unmet Medical Need
- 2nd Major Milestone Achieved for Global Phase 3 SUNRISE-3 Trial

ATEA Pharmaceuticals

COVID-19

Continuing Threat, Particularly for Those Vulnerable to Severe Disease

New, Safe and Well-Tolerated Oral Therapies Needed

UNMET MEDICAL NEED:

- Drug-drug interactions
- Safety concerns
- Tolerability issues

Bemnifosbuvir Target Profile:

- Low risk of drug-drug interactions
- Generally safe and well-tolerated
- Distinct mechanism of action with high barrier to resistance

Oral Antiviral Global Market Opportunity:

~$4-5B+	2 product market	Opportunity to expand market with improved product profile

ATEA Pharmaceuticals

COVID-19: Unmet Medical Need Remains in High-Risk Population

*SUNRISE-3 **Only** Phase 3 Program in High-Risk Patients with Hospitalization as Primary Endpoint*

- **SUNRISE 3: Second Milestone Achieved**: **>1,400 patients** enrolled in monotherapy arm
  - 1st interim analysis (DSMB) planned **March'24**
  - 2nd interim analysis (DSMB) planned **Q2'24**
- **~75%** of patients from US clinical sites
- **Ongoing unmet medical need due to safety concerns, tolerability and drug-drug interactions associated with current oral antiviral options**
  - CDC: high infection rates for winter respiratory season 2023/2024[1]
  - COVID-19 remains a major cause of respiratory virus-associated hospitalizations[1]
  - Low booster uptake: currently ~20% of US adults
  - Unmet medical need particularly important in most vulnerable patients including the elderly, immunocompromised and those with underlying risk factors

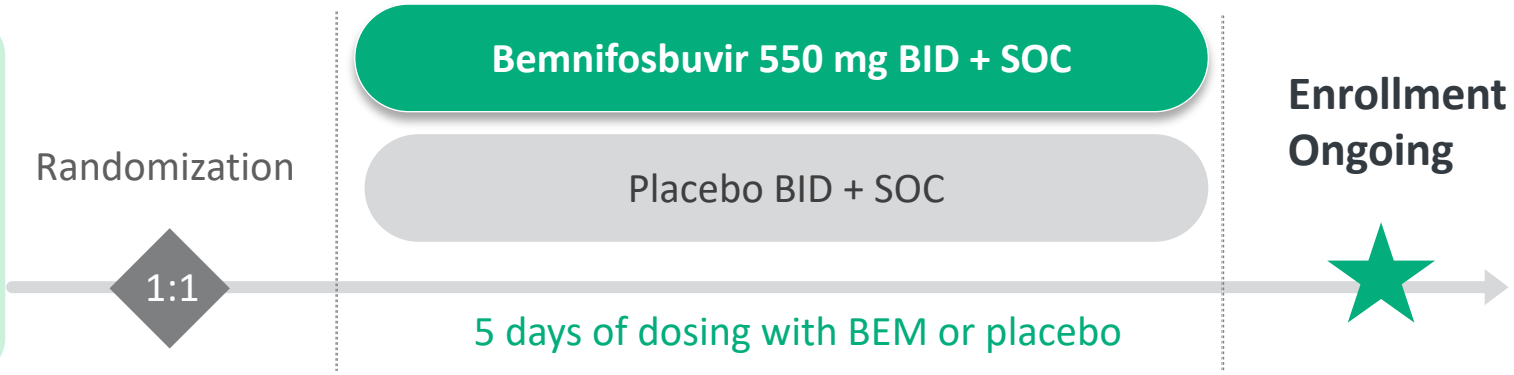
1. https://www.cdc.gov/respiratory-viruses/whats-new/index.html

SUNRISE-3: Global Phase 3 Trial in High-Risk COVID-19 Outpatients

Bemnifosbuvir – U.S. Fast Track Designation for COVID-19

Inclusion Criteria: High-risk outpatients with mild or moderate COVID-19, regardless of vaccination status; symptom onset ≤5 days before randomization

Geography: US, Europe, Japan and ROW



Phase 3 Study Design:

- Randomized, double-blind, placebo-controlled
- Bemnifosbuvir or placebo initiated same time as locally available standard of care (SOC)
- Two study populations:
  - *supportive care monotherapy* (primary analysis)
  - *combination therapy* (secondary analysis, local SOC includes treatment with other antiviral drugs against COVID-19)
- Two interim analyses for DSMB review (safety, futility)

High-risk outpatients: ≥70, ≥55 w/ one+ risk factors, ≥50 with two+ risk factors, ≥18 immunocompromised conditions

Primary Endpoint:

All-cause hospitalization or death through Day 29 in monotherapy population (n=approximately 2,200 patients)

Secondary Endpoints:

- COVID-19 related hospitalizations and deaths
- Medically attended visits
- Symptom rebound / relapse
- Viral load rebound

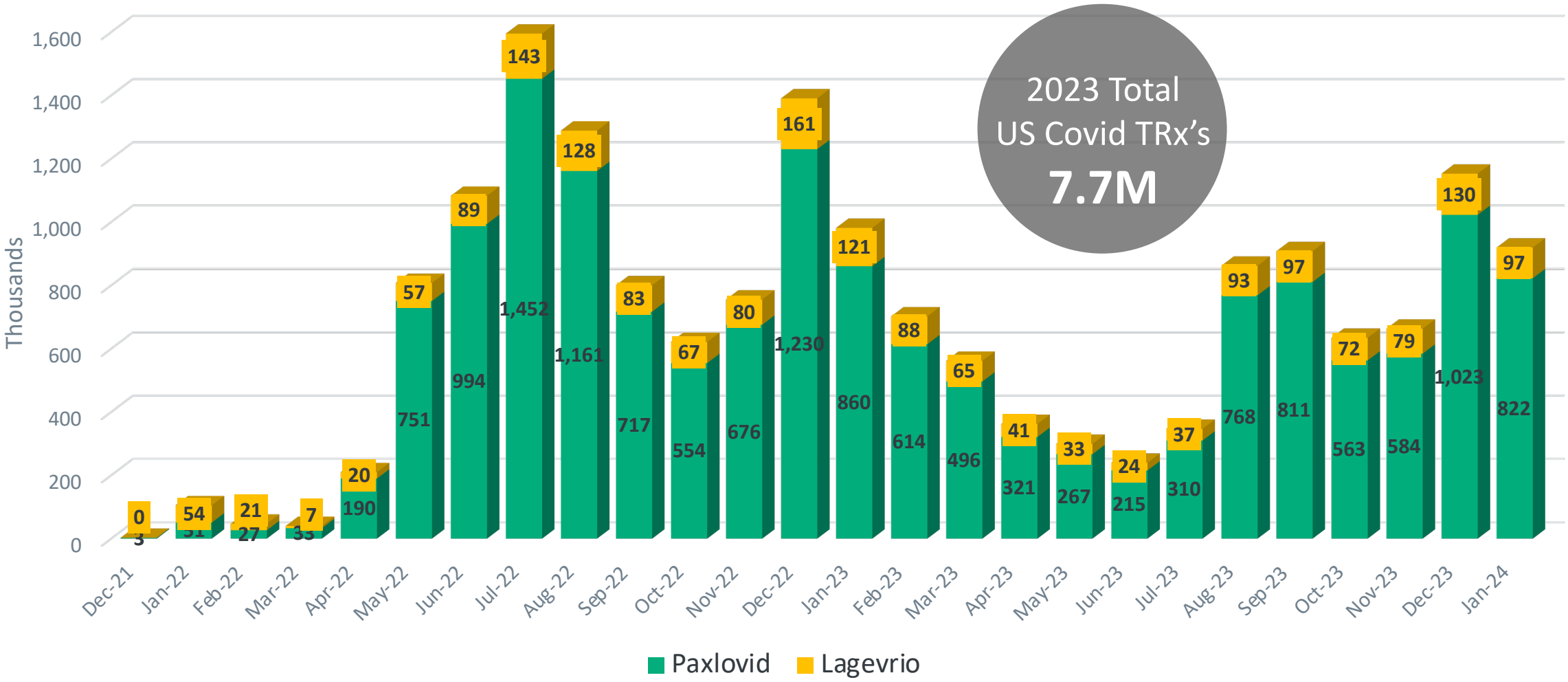
COVID-19

US Oral Antiviral Market Opportunity for COVID-19

ATEA Pharmaceuticals

Robust US TRx Scripts of COVID-19 Oral Antivirals Reflects Demand

US Demand: Monthly COVID-19 Oral Antiviral Prescriptions Dispensed *(thousands)*



Source: IQVIA NPA Jan 2024

US Market Expected to Remain a Long-Term Multi-Billion Dollar Opportunity

Projected Annual US COVID-19 Oral Antiviral (OAV) Retail Demand[1]

7.7M+
Annual US Retail Rxs
Annualized COVID-19 OAV Rxs[1]

×

Cost of Treatment[2]
(Paxlovid: $1,390
Lagevrio: $950)

=

~$4-5B+

Expanded Market Opportunities

Paxlovid™ Drug-Drug Interactions are a Concern

590M

Annual US retail prescriptions (2023)[3] for commonly used drug classes where Paxlovid DDI is a concern

seizure medications, anti-arrhythmics, statins, oral corticosteroids, cancer therapies, etc.

- **Better safety and tolerability profile could lead to broader use**
- **Increased promotion & awareness**
- **No testing needed for prescription**

(1) IQVIA TRxs for Paxlovid and Lagevrio from Jan'23–Sep'23 annualized for full year
(2) Cost of Treatment per Rx
(3) IQVIA TRxs for 2023

Financial Summary

Financial Update Fourth Quarter and Full Year 2023

Condensed Consolidated Statement of Operations and Comprehensive Loss
(in thousands, except share and per share amounts)
(unaudited)

	Three Months Ended December 31,		Year Ended December 31,	
	2023	**2022**	**2023**	**2022**
Operating expenses				
Research and development	$ 35,045	$ 27,540	$ 114,243	$ 81,936
General and administrative	11,528	12,359	49,919	48,714
Total operating expenses	46,573	39,899	164,162	130,650
Loss from operations	(46,573)	(39,899)	(164,162)	(130,650)
Interest income and other, net	7,758	5,591	29,224	11,151
Loss before income taxes	(38,815)	(34,308)	(134,938)	(119,499)
Income tax benefit (expense)	(349)	(123)	(1,018)	3,590
Net loss	$ (39,164)	$ (34,431)	$ (135,956)	$ (115,909)
Other comprehensive income (loss):				
Unrealized gain (loss) on available-for- sale investments	469	171	891	(684)
Comprehensive loss	$ (38,695)	$ (34,260)	$ (135,065)	$ (116,593)
Net loss per share – basic and diluted	$ (0.47)	$ (0.41)	$ (1.63)	$ (1.39)
Weighted-average number of common shares – basic and diluted	83,435,513	83,287,639	83,389,750	83,245,385

Financial Update Fourth Quarter and Full Year 2023

Selected Condensed Consolidated Balance Sheet Data
(in thousands)
(unaudited)

	December 31, 2023	December 31, 2022
Cash, cash equivalents and marketable securities	$ 578,106	$ 646,709
Working capital(1)	558,079	642,444
Total assets	594,968	666,708
Total liabilities	39,776	26,136
Total stockholders' equity	555,192	640,572

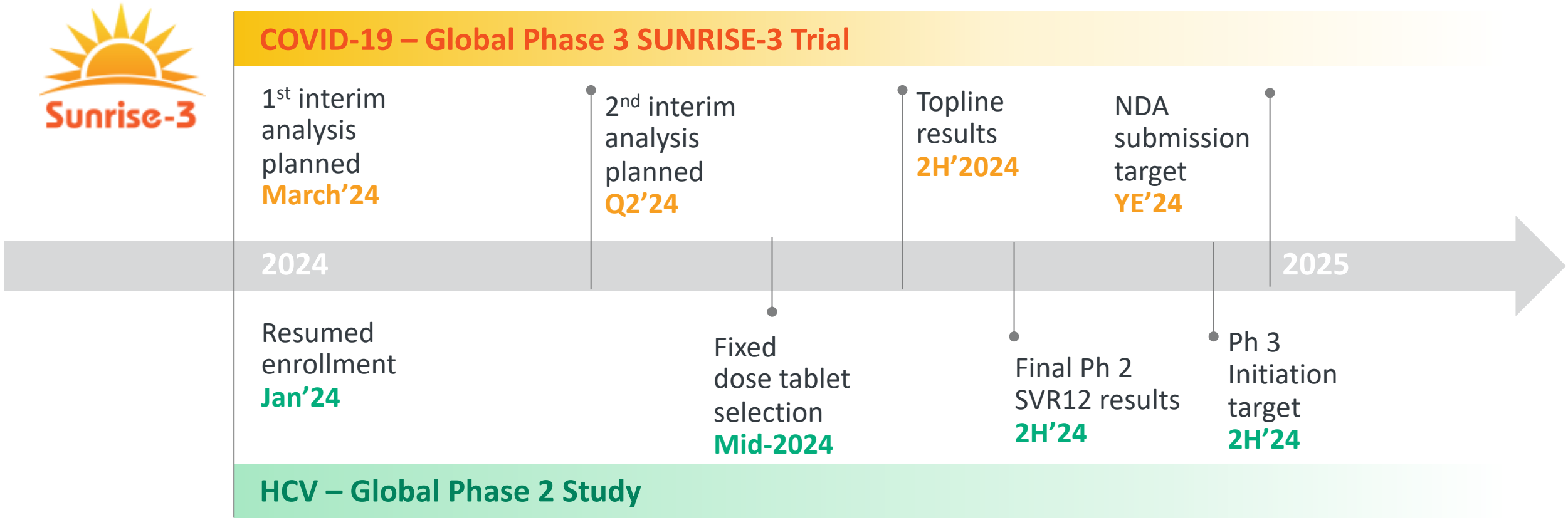
(1) The Company defines working capital as current assets less current liabilities. See the Company's consolidated financial statements in its Annual Report on Form 10-K for the year ended December 31, 2023 for further detail regarding its current assets and liabilities.

Closing Remarks

NASDAQ: AVIR

Significant Near-term Clinical Milestones in 2024

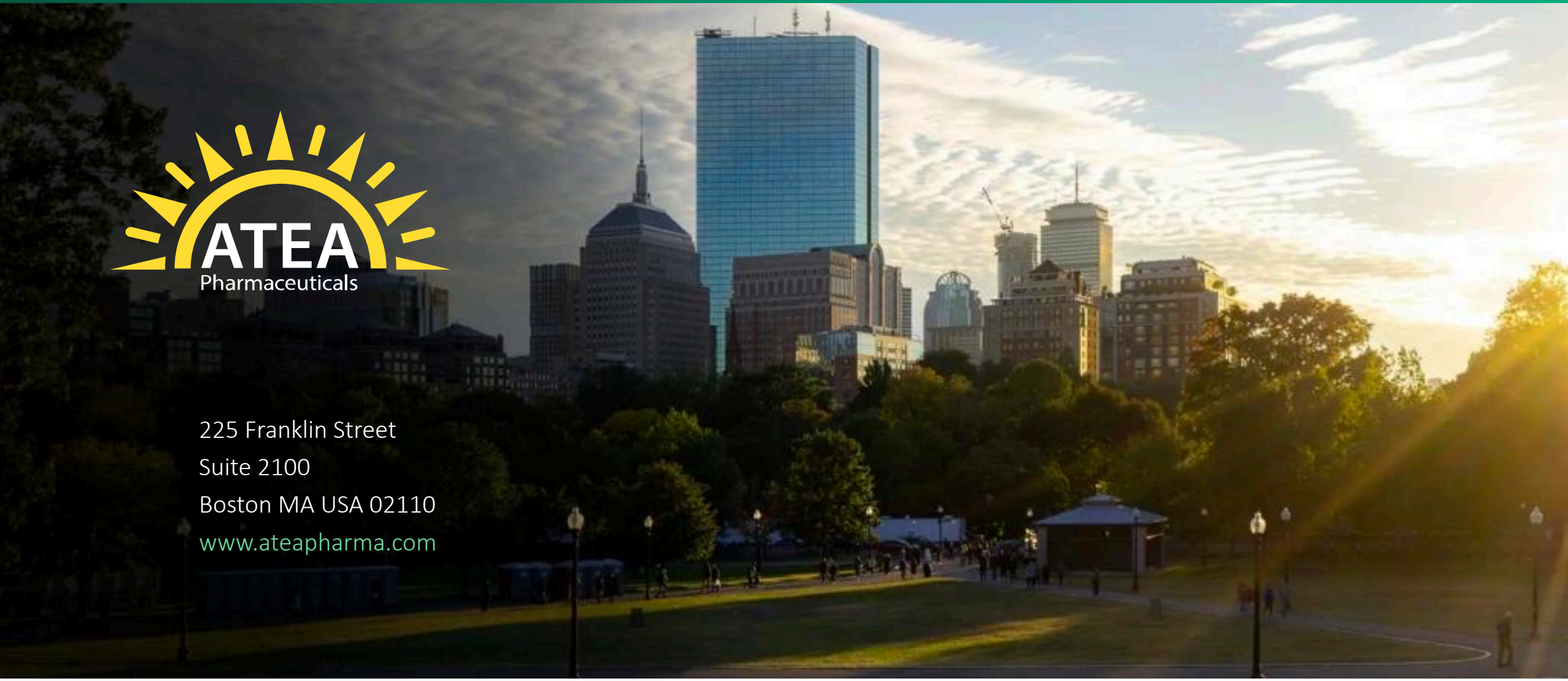
Fully funded Through Key Inflection Points



$578.1 M

Cash, cash equivalents & marketable securities at 12/31/23

Cash runway anticipated through 2026



225 Franklin Street
Suite 2100
Boston MA USA 02110
www.ateapharma.com