Jefferies London Healthcare Conference

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NASDAQ: AVIR

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Fully Funded, Multiple Upcoming Value-Driving Milestones

ssRNA VIRUS	THERAPEUTIC INDICATION		PRECLINICAL	PHASE 1	PHASE 2	PHASE 3
Coronaviridae	COVID-19[1]	Bemnifosbuvir (AT-527) Nucleotide*				
	COVID-19	Bemnifosbuvir Nucleotide + Protease inhibitor				
Flaviviridae	Hepatitis C Virus (HCV)[2]	Bemnifosbuvir Nucleotide				
	Hepatitis C Virus (HCV)	Ruzasvir** (NS5A inhibitor)				
	Dengue Virus	AT-752 Nucleotide				
Paramyxoviridae	Respiratory Syncytial Virus (RSV)	Product Candidates				

2022 EXPECTED MILESTONES

COVID-19

- Enrollment of SUNRISE-3 global Phase 3 trial **in Q4 2022**
- Advance internal protease inhibitor platform

HCV

- Submit CTAs for bemnifosbuvir + ruzasvir Ph 2 combo trial: **late Q4 2022**

Dengue

- Ph 2 PoC program: **Enrollment completion** ~year-end 2022

- **$665.0 million in cash and cash equivalents as of 9/30/22**
- **Cash runway through 2025**

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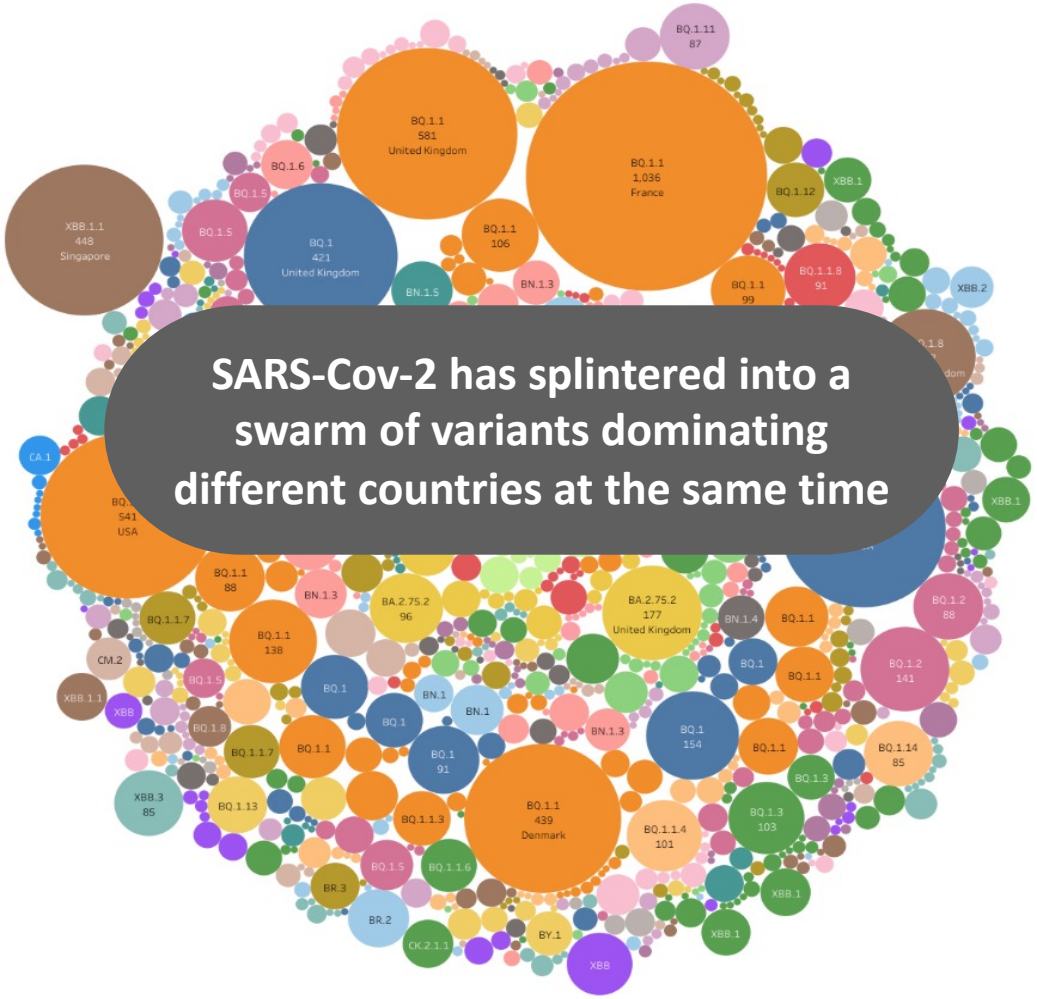
Bemnifosbuvir

Phase 3 Program Update for COVID-19

- COVID-19 Update
- Omicron Subvariant Results
- COVID-19 Oral Antiviral Commercial Opportunity
- Bemnifosbuvir Global Phase 3 Clinical Trial Design

COVID-19: Limitations with Vaccines / Therapies Predicted to Lead to Waves of Infection

- Global rapid increase and dominance of multiple new Omicron variants predicted to lead to COVID-19 waves
  - Omicron variants more infectious, spreads to others more easily[1]
  - **COVID-19 waves should enable enrollment of SUNRISE-3**
- Waning durability associated with vaccines [2,3] and natural infection
  - Low booster uptake in US ~10%[4]
- Monoclonal antibodies (mAbs) have minimal or no activity against certain SARS-CoV-2 variants[5-7]
- New oral antivirals, with improved profiles, are urgently needed due to limitations of current antiviral options



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1. https://www.cdc.gov/coronavirus/2019-ncov/variants/index.html. (Accessed 3 Nov 2022)
2. Goldberg Y et al. N Engl J Med. 2022;386:2201-12
3. Menni C et al. Lancet Infect Dis. 2022;22:1002-10
4. https://covid.cdc.gov/covid-data-tracker/#datatracker-home (Accessed 14 Nov 2022)
5. https://www.fda.gov/drugs/emergency-preparedness-drugs/coronavirus-covid-19-drugs (Accessed 30 Sep 2022)
6. https://www.idsociety.org/covid-19-real-time-learning-network/therapeutics-and-interventions/monoclonal-antibodies/#PreviouslyEfficacious (Accessed 30Sep2022)
7. Sheward DJ et al. bioRxiv. September 19, 2022. Preprint doi: https://doi.org/10.1101/2022.09.16.508299

In Vitro Bemnifosbuvir Remains Fully Active Against Variants of Concern, Including Omicron Subvariants

SARS-CoV-2 variant		AT-511* EC_{90}, µM (n)		Fold change (variant/USA-WA1)
Variant	Lineage	Mean	SD	
Original (USA-WA1/2020)	A	0.75 (n=2)	0.21	-
Alpha	B.1.1.7	2.15 (n=3)	0.22	2.9
Gamma	P.1	2.50 (n=3)	0.50	3.3
Epsilon	B.1.427	0.76 (n=2)	0.48	1.0
Original (USA-WA1/2020)	A	0.43 (n=2)	0.12	
Beta	B.1.351	0.80 (n=2)	0.23	1.9
Original (USA-WA1/2020)	A	1.20 (n=3)	0.37	-
Delta	B.1.617.2	1.36 (n=3)	0.34	1.1
Original (USA-WA1/2020)	A	0.58 (n=5)	0.26	-
Omicron (BA.1)	B.1.1.529	0.50 (n=3)	0.27	0.86
Original (USA-WA1/2020)	A	0.59 (n=2)	0.18	-
Omicron (BA.2)	B.1.1.529	0.54 (n=2)	0.08	0.92
Original (USA-WA1/2020)	A	0.88 (n=2)	0.15	-
Omicron (BA.4)	B.1.1.529	0.54 (n=2)	0.27	0.61
Omicron (BA.5)	B.1.1.529	0.81 (n=2)	0.20	0.92

Readout: VYR (virus yield assay); Cells: Normal human-derived tracheal/bronchial epithelial cells.
*AT-511 is the free base of bemnifosbuvir

ATEA Pharmaceuticals

Global Revenues for COVID-19 Oral Antivirals Expected ~$27B in 2022

Initial Revenues Driven by Advance Government Purchases

	REVENUES (9-months ending Sept'22)	REVENUES (Expected full year 2022)	KEY ISSUES
Paxlovid™ (nirmatrelvir, ritonavir)	**$17.1B**[1]	**$22.0B**[1]	• Drug-drug interactions (DDI) limiting use in most vulnerable patients • Rebound / Relapse
Lagevrio™ (molnupiravir)	**$4.8B**[2]	**$5.0 - 5.5B**[2]	• Low efficacy: 30% • Safety concerns – Embryo-fetal toxicity – Bone and cartilage toxicity

COVID-19 Antivirals Market Likely to Remain Large, Due to:

- New variants drive COVID-19 waves
- Waning immunity from vaccines, monoclonal antibodies and prior infections
- Low rate of booster vaccination
- NDA approvals for EUA products will remove limitations to promotion
- Availability of new oral antivirals with an improved profile, such as bemnifosbuvir, has potential to simplify prescribing and expand across all patient populations

Sources: 1. Pfizer 3rd Quarter 2022 financial results press release, November 1, 2022. 2. Merck 3rd Quarter 2022 financial results press release, October 27, 2022. EUA – Emergency Use Authorization NDA – New Drug Application

ATEA Pharmaceuticals

US Market to Transition From Gov't Advance Purchase to Traditional Channels

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

Projected Annual COVID-19 Oral Antiviral Retail Demand[1]

# Reported Cases		# Retail Rx		Cost of Treatment (estimated)		Annual Revenue
21.6M	→	9.6M	×	$1k-$2k /Rx	=	~$10B - $20B

Expanded Market Opportunities

- Simplify prescribing for patients when Paxlovid drug-drug interactions (DDI) are a concern

Annual retail prescriptions (2021)[2] for commonly used drug classes in US where Paxlovid DDI is a concern

Cancer Therapies	Immunosuppressants & Immunomodulators	Oral Corticosteroids	HIV Antivirals	Anti Coagulants	Anti Arrhythmics	Calcium Blockers	Seizure Medications	Anti Psychotics
11M	12M	114M	10M	75M	10M	112M	164M	70M

- Stockpile

(1) Projections based on September 2022: CDC case rate, IQVIA NPA TRx. (2) IQVIA NPA 2021 TRx.

(2) Annual Prescriptions based on IQVIA NPA TRxs.

Bemnifosbuvir: Focused Strategy on the Highest Unmet Medical Need

Cornerstone Therapeutic for Oral Mono- and Combination Therapy

COVID-19 Monotherapy

Global Phase 3 registrational trial for potential EUA / NDA submission in U.S and similar regulatory pathways ex-U.S.

Bemnifosbuvir has potential to address key limitations of authorized oral therapies

- Drug-drug interactions
- Rebound / Relapse
- Resistance concerns
- Safety concerns

COVID-19 Combination Therapy

Combination antiviral cohort of Phase 3 trial will inform development strategy

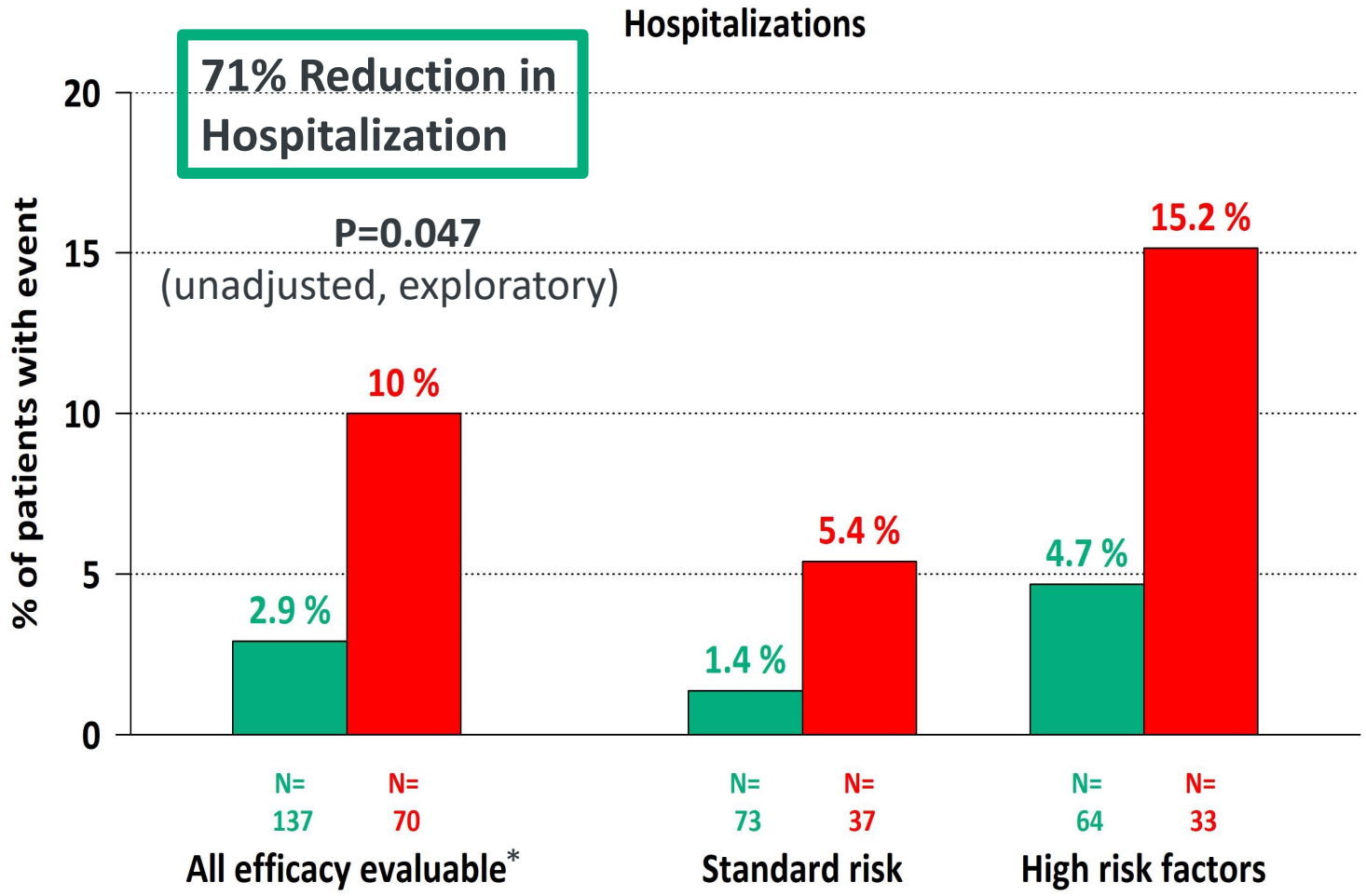
Atea at the forefront of developing oral combination therapy for specific COVID-19 patient populations

- Additive benefit indicated *in vitro* with bemnifosbuvir + direct acting antivirals including protease inhibitors (PIs)
- Advancing internal PI program for combination therapy with bemnifosbuvir

Bemnifosbuvir is well suited for mono- and combination therapy

EUA – Emergency Use Authorization NDA – New Drug Application

MORNINGSKY Results: 71% Reduction in Hospitalization for Bemnifosbuvir vs. Placebo (Secondary Endpoint; All Efficacy Evaluable)



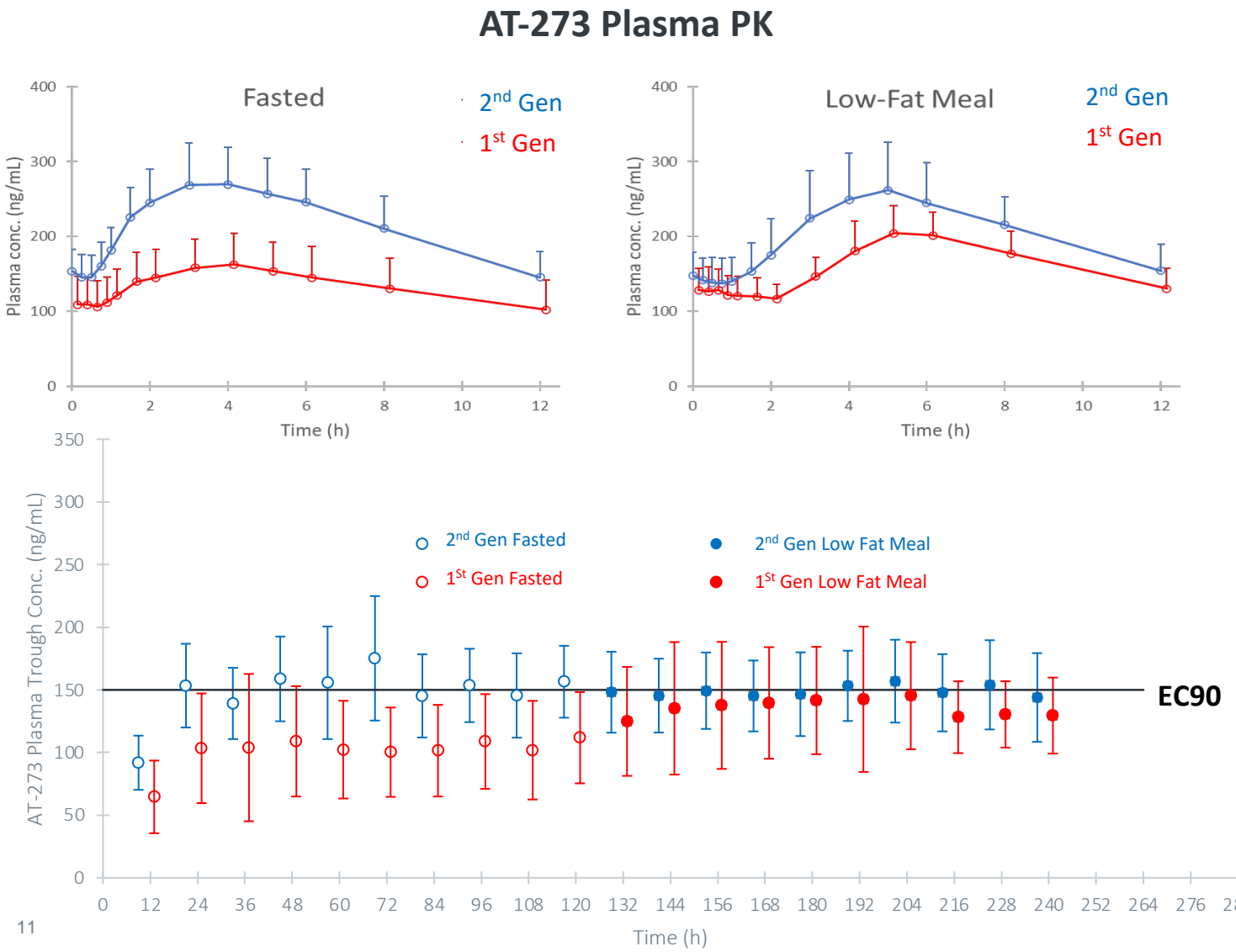
- **82% reduction** in hospitalization in subgroup analyses in patients >40 yrs old for bemnifosbuvir vs. placebo
- No deaths were observed in study

Placebo

Bemnifosbuvir 550 mg BID

*Included patients who were randomized, received study drug and tested positive for SARS-CoV-2

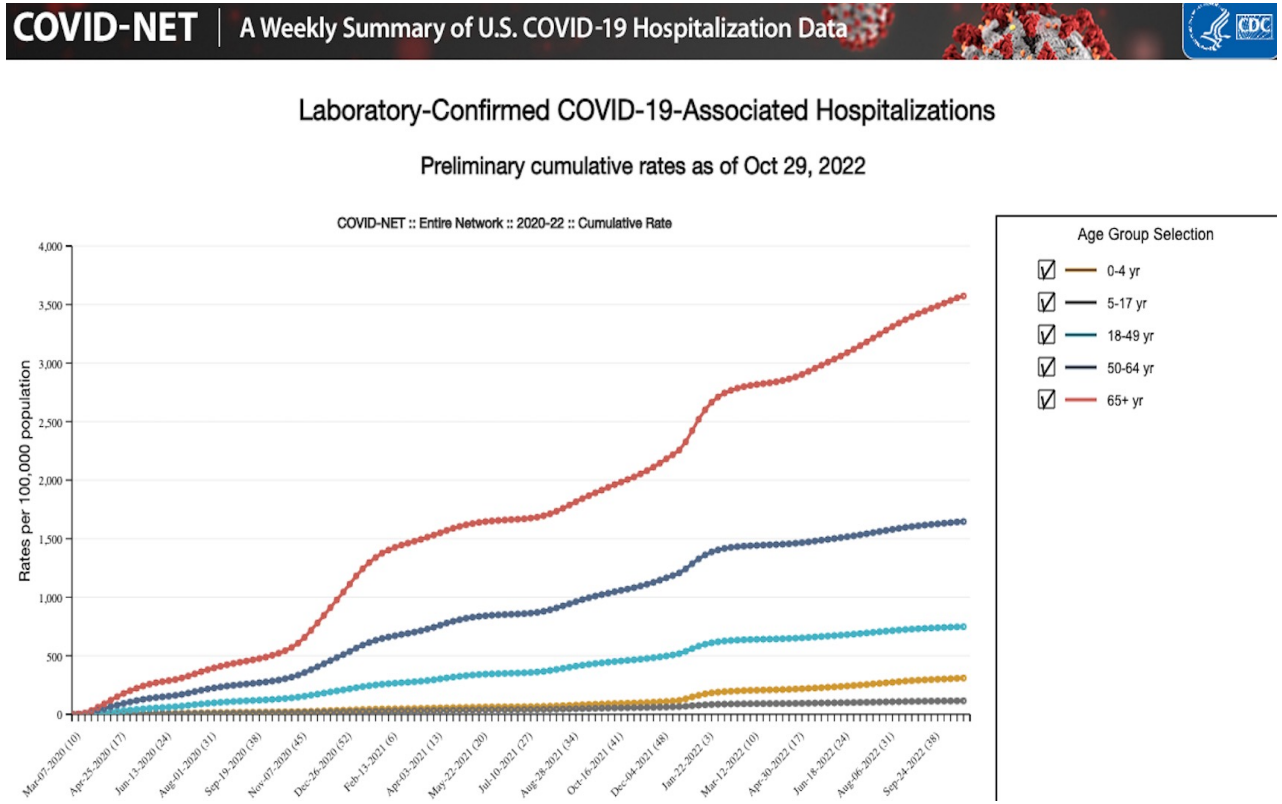
Bemnifosbuvir 2nd Gen Tablet (550 mg) Achieved Higher Plasma Exposure vs 1st Gen (550 mg) in Healthy Volunteers

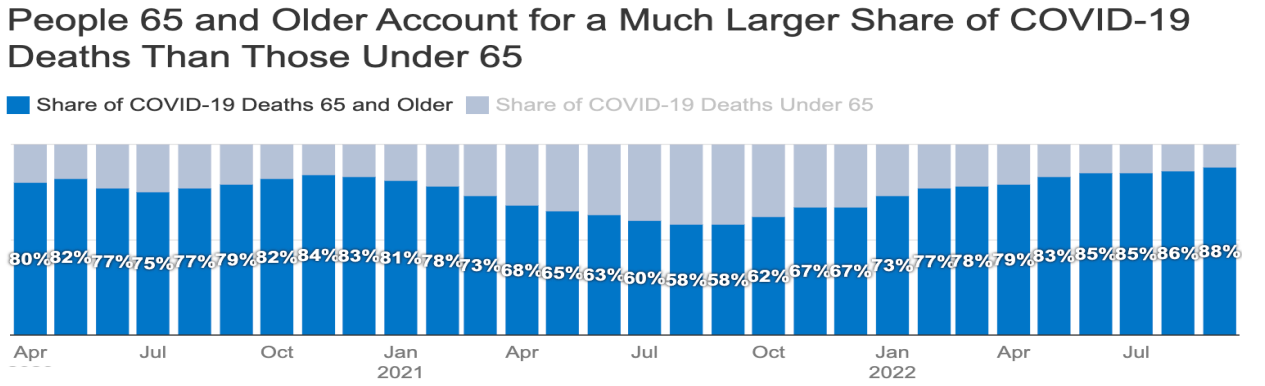


- Steady State: fasted or with low-fat meal in healthy volunteers (n=12)
  - 2nd Gen tablet resulted in higher plasma exposure
  - 2nd Gen bemnifosbuvir 550 mg BID x 10 days was well tolerated
- 2nd Gen tablet achieved higher plasma trough concentrations of active surrogate metabolite AT-273 (> EC90 of bemnifosbuvir in inhibiting SARS-CoV-2 replication) **without any food effect regardless of fat content**
- 2nd Gen tablet to be used in SUNRISE 3 global Phase 3 trial

Primary Endpoint of SUNRISE-3: COVID-19 Hospitalization or Death

- COVID-19 is 3rd leading cause of death after heart disease and cancer[1]; ~75% of COVID-19 deaths are 65 years+[2]
- Currently, ~350-400 people dying daily in the US[3]
- CDC: 50% hospitalized 65 years+ had at least three vaccine shots, rates 3X higher in unvaccinated adults[4]
- In immunocompromised patients, ~20% hospitalized with Omicron[5]





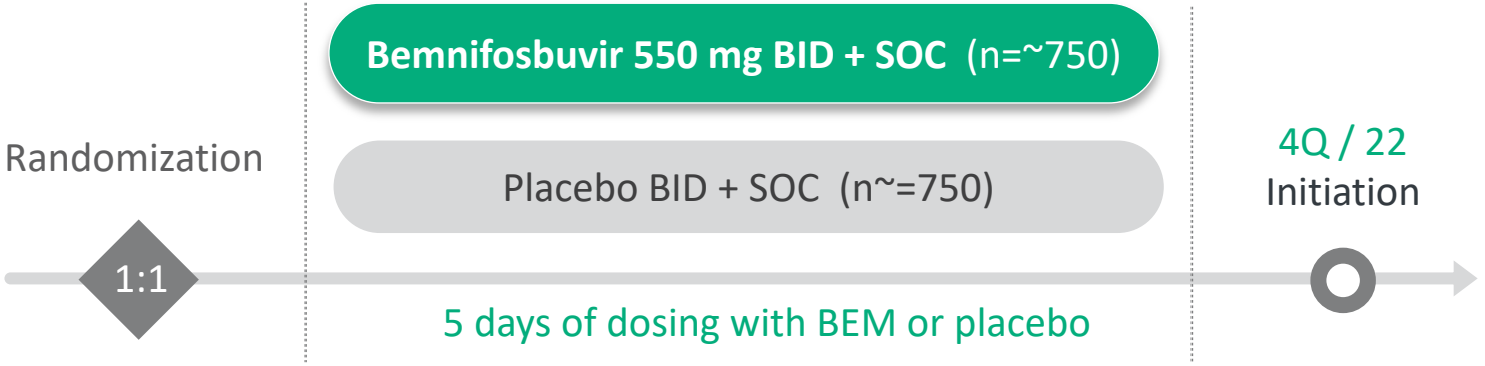
1. https://www.cdc.gov/media/releases/2022/s0422-third-leading-cause.html (Accessed 30 Sep 2022)
2. Provisional COVID-19 Deaths by Sex and Age – CDC Data Sets. https://data.cdc.gov/widgets/9bhg-hcku?mobile_redirect=true (Accessed 30 Sep 2022)
3. https://covid.cdc.gov/covid-data-tracker/#trends_weeklydeaths_select_00 (Accessed 14 Nov 2022)
4. https://www.cdc.gov/mmwr/volumes/71/wr/mm7134a3.htm
5. Mahale SRK et al. Clin Infect Dis. 2022; Jul 23;ciac571. doi: 10.1093/cid/ciac571d

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

Innovative Phase 3 Trial Design Assessing Mono- and Combination Therapy

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
- Study drug (bemnifosbuvir or placebo) to be initiated at the same time as locally available standard of care (SOC)
- Two study populations derived from the type of SOC received:
  - "Supportive care population" – *monotherapy* (primary analysis)
  - "Combination antiviral population" – *combination therapy* (secondary analysis, local SOC includes treatment with other compatible antiviral drugs against COVID-19)
- Interim analysis to be conducted

Primary Endpoint:

- All-cause hospitalization or death through Day 29 in supportive care population (n ≥1,300 patients)

Secondary Endpoints (assessed in each population):

- COVID-19 complications
- Medically attended visits
- Symptom rebound / relapse
- Viral load rebound

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

Enrollment Anticipated in Q4 2022

- **Patient population enriched for those at the highest risk for COVID-19 disease progression**

  Older patients (≥80 yrs), older patients (≥ 65 yrs) with ≥ one major COVID-19 risk factor, and immunocompromised (≥ 18 yrs), all regardless of vaccination status

  – Enriched population represents patients currently being hospitalized

- **Extensive global footprint**

  Targeting up to approximately 300 sites in 25 countries, including US, Europe, Japan and rest of the world

- **Phase 3 protocol submitted under U.S. Investigational New Drug (IND) application**

  Clinical trial application submissions (CTAs) in other countries being submitted

ATEA Pharmaceuticals

AT-752

Program Update:
Phase 2 Clinical Development for Dengue

Dengue Fever Has Significant Disease Burden and High Unmet Medical Need

Dengue oral antiviral therapeutic has potential for > $500MM global market opportunity

Most Prevalent Mosquito-Borne Viral Disease

>100
Countries where dengue is endemic[1]

~4B
People live in high-risk areas[1]

$8-$9B
Annual global economic burden[2]

~400M
Estimated infected annually[3]

12-44%
Mortality rate for severe dengue if left untreated[4]

Robust US Travel Market Potential[5]

Over 400K
missionaries deployed across the globe

Over 173K
US troops in 159 countries

66M
US International leisure travelers annually

4K
Peace Corps volunteers in 60 countries

600K Malarone (atovaquone/proguanil) TRxs dispensed in the US in 2019[6]

Large Endemic Market with No Antiviral Treatments Available

While many of the highly endemic countries are lower income countries, high incidence and responsible pricing can represent significant market potential

$1B Takeda's Dengue vaccine, Qdegna™ peak sales estimates[7]

1. WHO, 2. The global economic burden of dengue: a systematic analysis: *Donald S Shepard, Eduardo A Undurraga, Yara A Halasa, Jeffrey D Stanaway: Lancet Infect Dis* 2016; 16: 935–41 3. CDC
4. Dengue and dengue haemorrhagic fever: *José G Rigau-Pérez, Gary G Clark, Duane J Gubler, Paul Reiter, Eduard J Sanders, A Vance Vorndam:* THE LANCET • Vol 352 • September 19, 1998 971
5. GlobalData 6. IQVIA NSP 7. Takeda March 2021 Investor Presentation

AT-752: U.S. FDA Fast Track Designation for Treatment of Dengue

Two Ongoing Trials – Completion of Patient Enrollment Expected Around Year-End 2022

DEFEND-2: Global Phase 2 Proof-of-Concept Treatment for Dengue Study

- Enrolling adult patients with dengue fever (n=up to 60, n=20 per cohort)
- Randomized, double-blind, placebo-controlled trial being conducted in dengue endemic countries
- Oral administration of AT-752 for 5 days
- **Objectives:** antiviral activity, safety, and PK
  - Primary endpoint:
    Change in dengue virus viral load from baseline
  - Exploratory:
    viremia, NS1 levels, fever

Human Challenge Infection Model

- Enrolling healthy subjects between 18-55 years old
- Being conducted exclusively in the United States
- The study is designed to evaluate the effect of AT-752 in healthy volunteers who are challenged with an attenuated DENV-1 virus strain after receiving AT-752 or placebo
- 12 subjects being randomized 2:1, treatment vs placebo

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

ATEA Pharmaceuticals

2021 Hepatitis C Global Market Approached $4 Billion in Net Sales

US Accounts for ~50% of Global DAA Sales

With a best-in-class profile, bemnifosbuvir + ruzasvir has potential to command significant market share

Large Number of Patients

- In the US, ~ 2 million patients undiagnosed
- ~75% of diagnosed patients are untreated
- Incidence of acute HCV is rising in US

Uncrowded Market

- Mavyret® and Epclusa® seen as clinically equivalent
- Mavyret® NRx share ~42%; Epclusa® NRx share ~53%
- Non-clinical differences such as food effect, duration of therapy and packaging can affect prescribing behavior

Net Pricing Remains High

- Net therapy costs range between $11,000-$17,000 in US
- Net pricing has stabilized following introduction of authorized copies

Concentrated US Prescriber Base

- ~6,000 prescribers write ~80% of DAA prescriptions
- Top 10 prescribers account for 5% of total prescription market

Sources: IQVIA Analytics Link, Gilead 2021 Investor Report, AbbVie 2021 Investor Report, Atea Custom Research August 2022, IQVIA Exponent

HCV Development for Bemnifosbuvir + Ruzasvir Update

Potential Best-in-Class Pan-genotypic Regimen

- **Clinical trial applications expected to be submitted late 2022, initiation of Phase 2 trial to follow**
- **Phase 2 combination program expected to evaluate convenient and short treatment duration in non-cirrhotic and compensated cirrhosis patients**

Bemnifosbuvir + Ruzasvir Competitive Profile

Convenient and short duration protease inhibitor-free treatment

Potential for first RBV-free therapy for decompensated disease

- ✓ Bemnifosbuvir is the most potent nucleotide inhibitor to-date being developed for HCV[1]
- ✓ Ruzasvir is a highly potent Phase 2/3-ready drug candidate
- ✓ Potential for best-in-class pan-genotypic fixed-dose combination

1, Good SS et al (2020) Preclinical evaluation of AT-527, a novel guanosine nucleotide prodrug with potent, pan-genotypic activity against hepatitis C virus. PLoS ONE 15(1): e0227104. https://doi.org/10.1371/journal.pone.0227104

Closing Remarks

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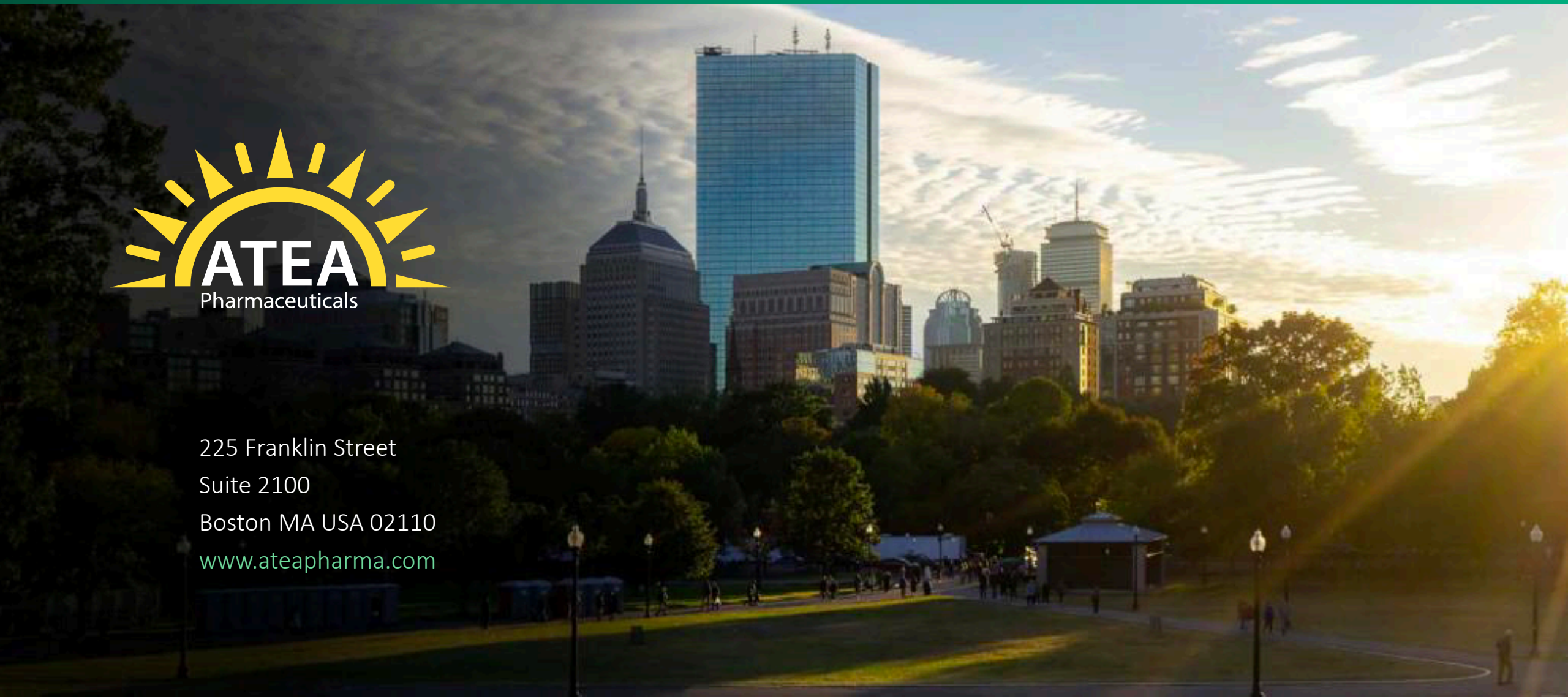

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