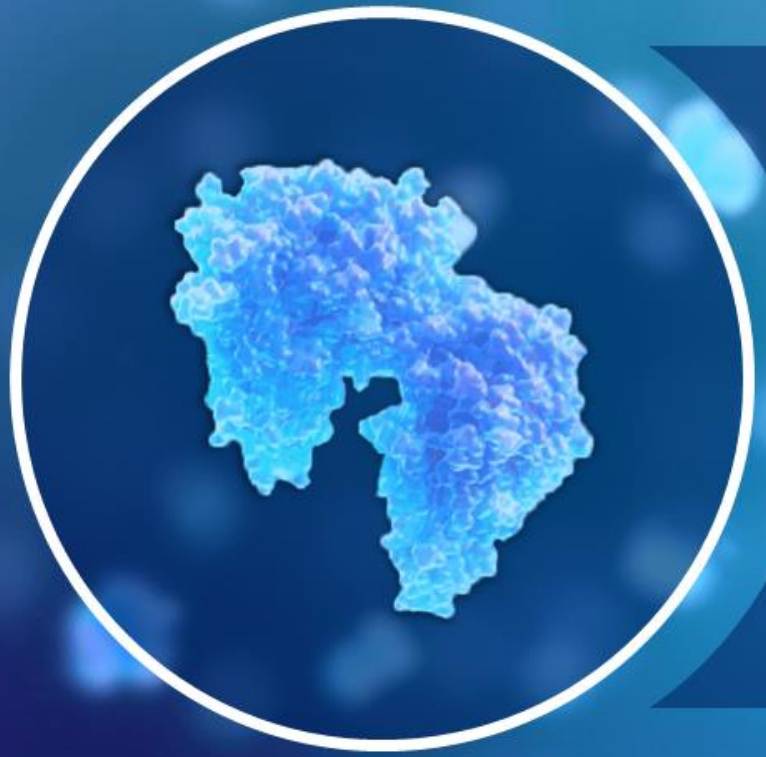
Humanigen



Humanigen, Inc.

LSX World Congress
May 10, 2022

Cautionary Note Regarding Forward-Looking Statements

All statements other than statements of historical facts contained in this presentation are forward-looking statements. Forward-looking statements reflect management's current knowledge, assumptions, judgment, and expectations regarding future performance or events. Although management believes that the expectations reflected in such statements are reasonable, they give no assurance that such expectations will prove to be correct, and you should be aware that actual events or results may differ materially from those contained in the forward-looking statements. Words such as "will," "expect," "intend," "plan," "potential," "possible," "goals," "accelerate," "continue," and similar expressions identify forward-looking statements, including, without limitation, statements regarding: Humanigen's beliefs as to the potential benefits of lenzilumab as a treatment for hospitalized COVID-19 patients; its beliefs as to the potential of lenzilumab to improve patient survival when used before ICU admission and progression of respiratory failure; statements regarding the therapeutic potential of targeting a single upstream cytokine earlier in the COVID-19 disease process; its efforts to request and receive Emergency Use Authorization or Conditional Marketing Authorization for lenzilumab in COVID-19 in the US and UK and other territories, as applicable its beliefs and projections regarding the need for lenzilumab as a therapeutic if authorized or approved; the company's projections for anticipated supply of lenzilumab through the end of 2022; the effectiveness of its preparations to commercialize lenzilumab in the UK and other markets, if CMA or other marketing approval were granted; its efforts to mitigate its manufacturing expenses pending receipt of a marketing authorization or approval from a regulatory agency such as MHRA, EMA or FDA; its ability to resolve payment disputes with certain of its CMOs and other service providers on favorable terms; and its other plans to initiate or participate in planned clinical trials and otherwise explore the effectiveness of lenzilumab and other candidates in its development portfolio as therapies for other inflammation and immune-oncology indications.

Forward-looking statements are subject to a number of risks and uncertainties including, but not limited to, the risks inherent in the company's lack of profitability and need for additional capital to conduct its business; its dependence on partners to further the development of its product candidates; the uncertainties inherent in the development, attainment of the requisite regulatory authorizations and approvals and launch of any new pharmaceutical product; challenges associated with manufacturing and commercializing a biologic such as lenzilumab; the outcome of pending or future litigation; and the various risks and uncertainties described in the "Risk Factors" sections and elsewhere in Humanigen's periodic and other filings with the Securities and Exchange Commission.

All forward-looking statements are expressly qualified in their entirety by this cautionary notice. You should not rely upon any forward-looking statements as predictions of future events. The Company undertakes no obligation to revise or update any forward-looking statements made in this presentation to reflect events or circumstances after the date hereof or to reflect new information or the occurrence of unanticipated events, except as required by law.

Humanigen and LENZ®

- LENZ (lenzilumab) is a neutralizing antibody that targets GM-CSF, which plays a pathogenetic role in cytokine storm found in various indications
- In COVID-19, we believe LENZ offers a 'future-proof' treatment because it targets the host immune system rather than virus itself, thereby making it a variant agnostic approach
- LENZ has demonstrated significant benefit over and above existing standard of care in COVID-19 and, importantly, with a safety profile comparable to placebo[1]
- Humanigen believes that COVID-19 will become a serious endemic disease and will continue to impact society, healthcare systems and patients
- LENZ could potentially save countless lives globally, generate billions of dollars in recurring annual revenue, while also offering healthcare systems a cost-effective medicine[2] that in our view may be an essential countermeasure for government stockpiling
- LENZ is also in late-stage development for CAR-T and acute Graft versus Host Disease, areas of significant unmet need for patients, healthcare professionals and payers, while potentially generating substantial additional value

1. https://www.thelancet.com/journals/lanres/article/PIIS2213-2600(21)00494-X/fulltext
2. https://www.tandfonline.com/doi/full/10.1080/13696998.2022.2030148

Lenzilumab COVID Multinational Clinical Pipeline

	Study Name	Phase	Status	Centers	Partners
Lenzilumab	LIVE-AIR REGISTRATIONAL	3	Completed 520 patients	24 US 11 Brazil	Company sponsored
	ACTIV-5/BET-B REGISTRATIONAL	2/3	Enrollment Complete >400 patients CRP<150 mg/L	53 US 2 South Korea	NIH sponsored
	C-SMART	3	FPD 2Q22 72 patients	5 sites Australia	Peter MacCallum Cancer Centre sponsored
	Korean Pharmacokinetic Bridging Study	1	FPD March 2022 20 Healthy Human Volunteers	1 site South Korea	KPM Tech Partner Company sponsored

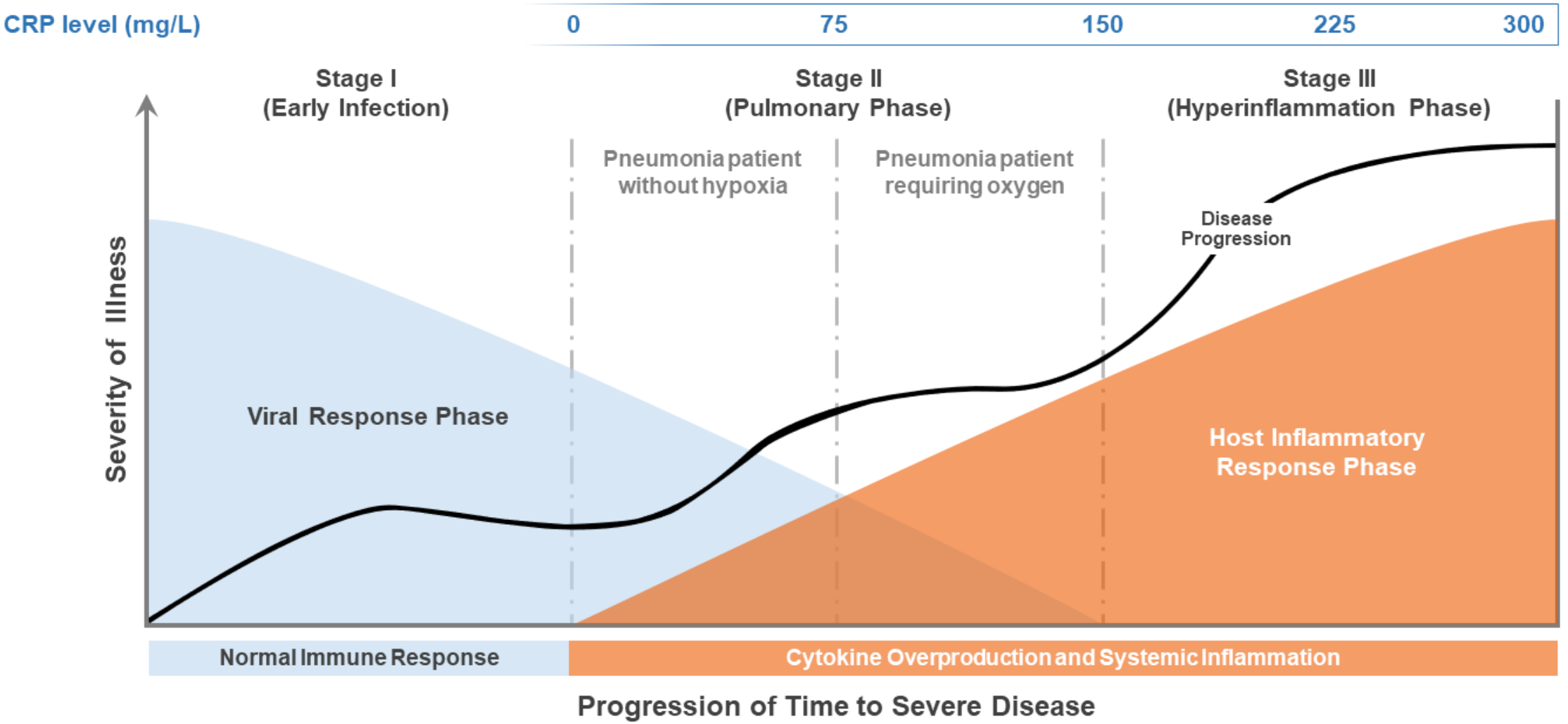
Non-COVID Clinical Pipeline: 4 Trials with Multinational Reach

	Study Name and Indication	Phase	Status	Centers	Partners
Lenzilumab	**SHIELD** Prophylaxis with Yescarta and Tecartus CAR-T therapies in non-Hodgkin lymphomas **REGISTRATIONAL**	3	**FPD 2Q22** **160+ patients**	**Up to 30 US sites**	MAYO CLINIC, JOHNS HOPKINS UNIVERSITY **Company Sponsored**
	RATinG Prevention/Treatment of Acute GvHD **POTENTIALLY REGISTRATIONAL**	2/3	**FPD 2Q22** **240 patients**	**Up to 22 UK sites**	IMPACT, UNIVERSITY OF BIRMINGHAM **Primarily Partner Sponsored**
	PREACH-M Chronic myelomonocytic leukemia	2/3	**FPD** **October 2021** **72 patients**	**5 Australian sites**	SAHMRI, THE UNIVERSITY of ADELAIDE **Primarily Partner Sponsored**
Ifabotuzumab-ADC	**Solid Tumors Basket Study**	1	**Planning in Progress**	**Australian sites TBD**	Olivia Newton-John Cancer Research Institute **Company Sponsored**

LENZ® Updates

Clinical Trials	**ACTIV-5/BET-B**	Topline data 2Q22
	C-SMART	Lenzilumab shipped to Australia
	Korean PK study	First patient dosed March 2022
	SHIELD	Protocol with FDA, first patient to be dosed 2Q22
	RATinG	First patient to be dosed 2Q22
Regulatory	**United States**	Pre-EUA meeting with FDA completed
	United Kingdom	Drug substance PPQ report completed, drug product PPQ in process
	European Union	Full CMA submission 3Q22
Access	**LenzMAP**	Named patient program live in 17 countries
	France Supply Chain	Partnership with Cenexi announced to assist in France/European Union

Elevated C-Reactive Protein (CRP), a Biomarker for Progression to Hyper-Inflammatory Response When Immunomodulators are Needed in COVID-19



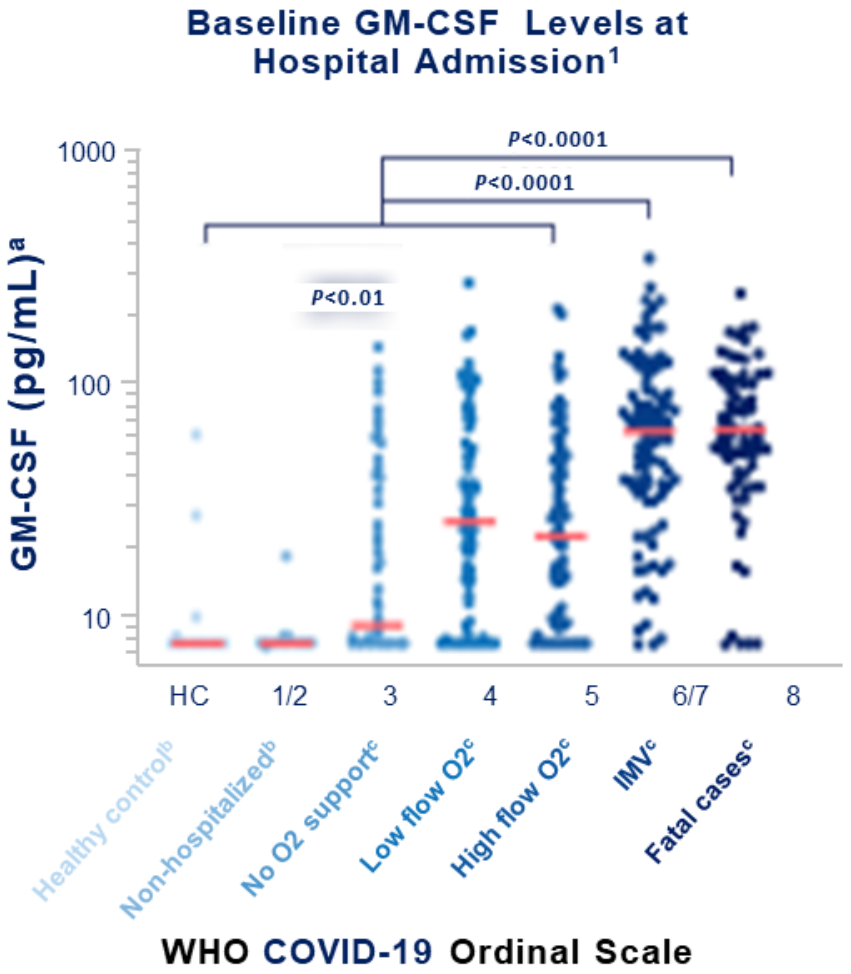
Source: Adapted from Siddiqi, H. & Mehra, M. (2020) "COVID-19 illness in native and immunosuppressed states: A clinical–therapeutic staging proposal". *The Journal of Heart and Lung Transplantation* https://dx.doi.org/10.1016%2Fj.healun.2020.03.012

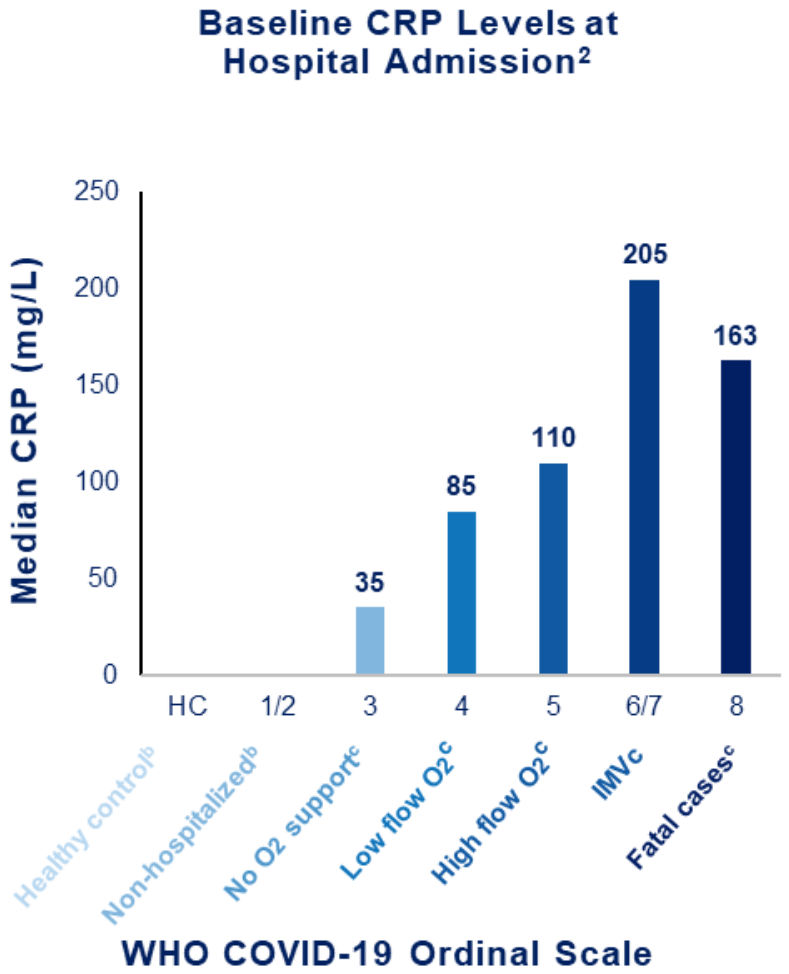
Baseline GM-CSF and CRP Levels Correlate with COVID-19 Disease Severity

Elevation of CRP often occurs before disease progression

Higher CRP levels at hospital admission associated with baseline severity

CRP trajectory during hospitalization correlates with disease progression





a Solid horizontal bars indicate median values
b CRP levels were not available for non-hospitalized patients or healthy controls
c Hospitalized patients

1. Thwaites RS, et al. *Sci Immunol*. 2021;6(57):eabg9873. **2.** Humanigen LIVE-AIR data on file

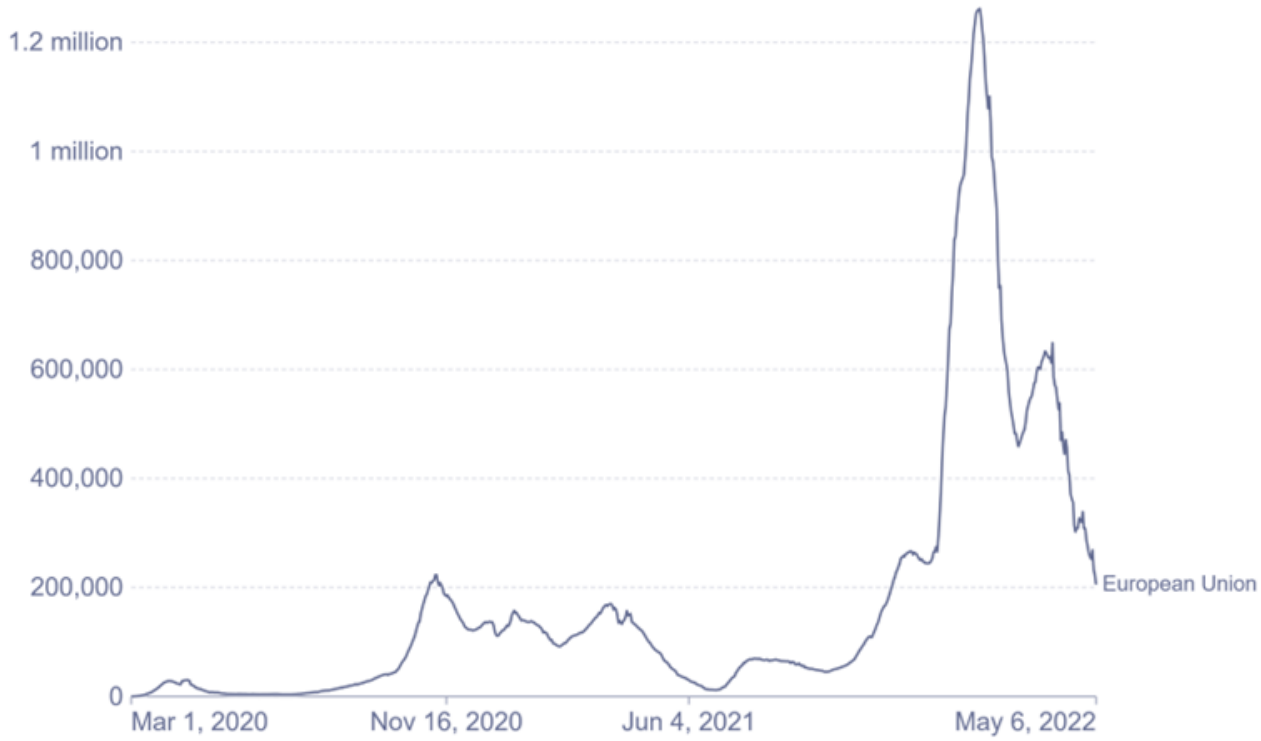
COVID-19: A Significant and Continuing Problem in the EU

Over the past 12 months,
>107+ MM additional cases
of COVID-19 in the EU[1]

Over the past 12 months,
>1.69 MM hospitalizations
with COVID-19 in the EU[2]

Over the past 12 months,
>394,200 deaths
related to COVID-19 in the EU[1]

Daily New Confirmed COVID-19 Cases 7-Day Rolling Average[3]



1. Our World in Data: Coronavirus (COVID-19) Cases https://ourworldindata.org/covid-cases. (Accessed 2022-May-07)
2. Calculated based on data from European Centre for Disease Prevention and Control: Data on hospital and ICU admission rates and current occupancy for COVID-19. https://www.ecdc.europa.eu/en/publications-data/download-data-hospital-and-icu-admission-rates-and-current-occupancy-covid-19 (Accessed January 13, 2022).
3. John Hopkins University CSSE COVID-19 Data

Flu Provides Example of Endemic Market

Burden of Influenza[1]

Estimated Range of Flu Seasons In U.S. 2010-11 through 2019-20

Season	Hospitalizations	Deaths
2010-2011	290,000	37,000
2011-2012	140,000	12,000
2012-2013	570,000	43,000
2013-2014	350,000	38,000
2014-2015	590,000	51,000
2015-2016	280,000	23,000
2016-2017	500,000	38,000
2017-2018	710,000	52,000
2018-2019	380,000	28,000
2019-2020*	380,000*	20,000*
Average	**419,000**	**34,200**

Despite vaccines and antivirals, there is still a sustainable need for effective therapeutics

The Nature of a Virus

- Vaccines are not 100% effective
- Vaccine efficacy proven to wane
- Immune escape variant may emerge from vaccinated population experiencing breakthrough infections

COVID mutates 2X–10X faster than flu[2] and is significantly more transmissible thereby increasing the likelihood COVID-19 will remain a significant public health issue for years, despite vaccines and individual immunity

*CDC estimates from the 2019-2020 season are preliminary and may change as data are finalized

1. CDC: Disease Burden of Influenza. Hospitalization and death numbers are estimates (Accessed April 6, 2022). https://www.cdc.gov/flu/about/burden/index.html
2. Trevor Bedford, Fred Hutchinson Cancer Research Center, presentation to FDA Vaccines and Related Biological Products Advisory Committee on April 6, 2022

High Number of Hospitalizations Projected in U.S. for 2H22

COVID-19 ScenarioModelingHub

COVID-19 Scenario Modeling Hub Round 13 is an ensemble of eight models from six universities

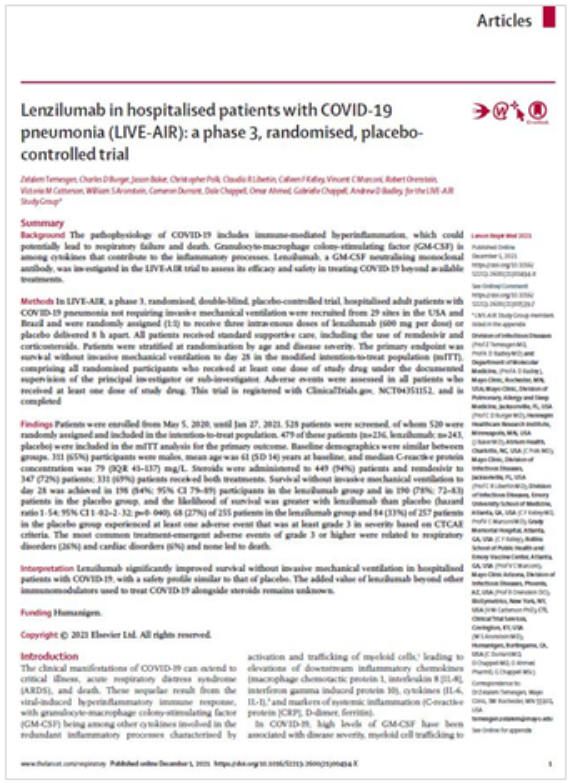
Creating ensemble projections from multiple COVID-19 models provides more reliable projections than any single model alone[1]

2022 U.S. Scenario Example

955,675	+	**728,426**	=	**1,684,101**
Actual Hospitalizations[2] (YTD: Jan. 1 – May 7, 2022)		Projected Hospitalizations[3] (May 8 – Dec. 31, 2022)		Actual + Projected Hospitalizations (Jan. – Dec. 2022)

1. https://covid19scenariomodelinghub.org/about.html (Accessed May 8, 2022)
2. https://covid.cdc.gov/covid-data-tracker/?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fcases-updates%2Fvariant-proportions.html#new-hospital-admissions (Accessed May 8, 2022)
3. Average of 3 ensembles each using 4 scenarios from Round 13 model specific plots with uncertainty level set to "none", extracted from https://covid19scenariomodelinghub.org/viz.html (Accessed May 8, 2022)

The Lancet Respiratory Medicine: Peer-Reviewed LIVE-AIR Phase 3 Publication



Articles

Lenzilumab in hospitalised patients with COVID-19 pneumonia (LIVE-AIR): a phase 3, randomised, placebo-controlled trial

Zelalem Temesgen, Charles D Burger, Jason Baker, Christopher Polk, Claudio R Libertin, Colleen F Kelley, Vincent C Marconi, Robert Orenstein, Victoria M Cotterson, William S Arronstein, Cameron Dunnick, Dale Chappell, Omar Ahmed, Gabrielle Chappell, Andrew D Badley, for the LIVE-AIR Study Group*

Summary

Background The pathophysiology of COVID-19 includes immune-mediated hyperinflammation, which could potentially lead to respiratory failure and death. Granulocyte-macrophage colony-stimulating factor (GM-CSF) is among cytokines that contribute to the inflammatory processes. Lenzilumab, a GM-CSF neutralising monoclonal antibody, was investigated in the LIVE-AIR trial to assess its efficacy and safety in treating COVID-19 beyond available treatments.

Methods In LIVE-AIR, a phase 3, randomised, double-blind, placebo-controlled trial, hospitalised adult patients with COVID-19 pneumonia not requiring invasive mechanical ventilation were recruited from 29 sites in the USA and Brazil and were randomly assigned (1:1) to receive three intravenous doses of lenzilumab (600 mg per dose) or placebo delivered 8 h apart. All patients received standard supportive care, including the use of remdesivir and corticosteroids. Patients were stratified at randomisation by age and disease severity. The primary endpoint was survival without invasive mechanical ventilation to day 28 in the modified intention-to-treat population (mITT), comprising all randomised participants who received at least one dose of study drug under the documented supervision of the principal investigator or sub-investigator. Adverse events were assessed in all patients who received at least one dose of study drug. This trial is registered with ClinicalTrials.gov, NCT04351152, and is completed

Findings Patients were enrolled from May 5, 2020, until Jan 27, 2021. 528 patients were screened, of whom 520 were randomly assigned and included in the intention-to-treat population. 479 of these patients (n=236, lenzilumab; n=243, placebo) were included in the mITT analysis for the primary outcome. Baseline demographics were similar between groups. 311 (65%) participants were males, mean age was 61 (SD 14) years at baseline, and median C-reactive protein concentration was 79 (IQR 43–137) mg/L. Steroids were administered to 449 (94%) patients and remdesivir to 347 (72%) patients; 331 (69%) patients received both treatments. Survival without invasive mechanical ventilation to day 28 was achieved in 198 (84%; 95% CI 79–89) participants in the lenzilumab group and in 190 (78%; 72–83) patients in the placebo group, and the likelihood of survival was greater with lenzilumab than placebo (hazard ratio 1·54; 95% CI 1·02–2·32; p=0·040). 68 (27%) of 255 patients in the lenzilumab group and 84 (33%) of 257 patients in the placebo group experienced at least one adverse event that was at least grade 3 in severity based on CTCAE criteria. The most common treatment-emergent adverse events of grade 3 or higher were related to respiratory disorders (26%) and cardiac disorders (6%) and none led to death.

Interpretation Lenzilumab significantly improved survival without invasive mechanical ventilation in hospitalised patients with COVID-19, with a safety profile similar to that of placebo. The added value of lenzilumab beyond other immunomodulators used to treat COVID-19 alongside steroids remains unknown.

Funding Humanigen.

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Introduction

The clinical manifestations of COVID-19 can extend to critical illness, acute respiratory distress syndrome (ARDS), and death. These sequelae result from the viral-induced hyperinflammatory immune response, with granulocyte-macrophage colony-stimulating factor (GM-CSF) being among other cytokines involved in the redundant inflammatory processes characterised by activation and trafficking of myeloid cells,[1] leading to elevations of downstream inflammatory chemokines (macrophage chemotactic protein 1, interleukin 8 [IL-8], interferon gamma induced protein 10), cytokines (IL-6, IL-1),[2] and markers of systemic inflammation (C-reactive protein [CRP], D-dimer, ferritin).

In COVID-19, high levels of GM-CSF have been associated with disease severity, myeloid cell trafficking to

View Article

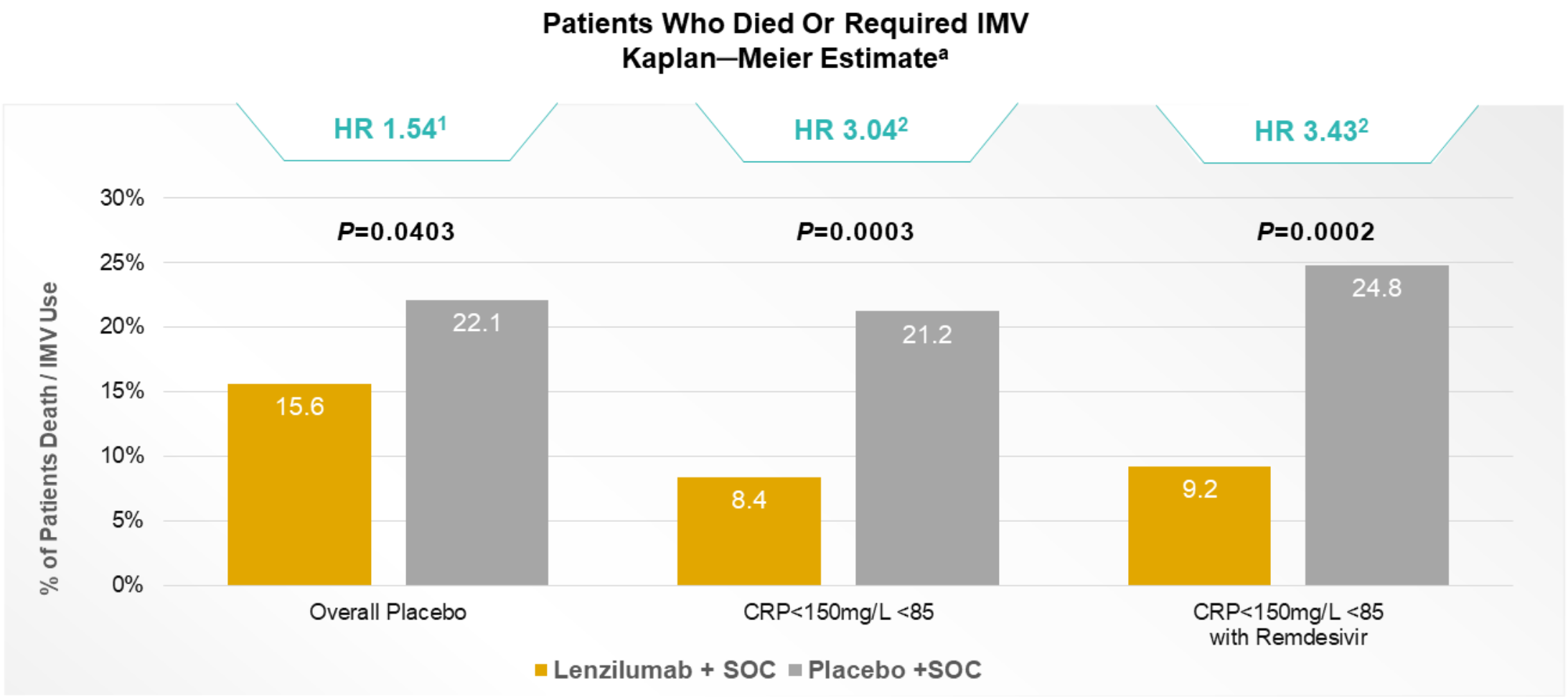
> "LIVE-AIR showed that lenzilumab treatment of hospitalised patients with COVID-19 can improve the likelihood of survival without the need for mechanical ventilation, with a safety profile similar to that of placebo"

> "60% of LIVE-AIR patients were on room air or low-flow oxygen support. … (Raising) the possibility that lenzilumab might be positioned for use before ICU admission and progression of respiratory failure requiring high-flow oxygen and non-invasive or invasive ventilation"

> "Findings might indicate the therapeutic potential of targeting a single upstream cytokine earlier in the disease process, guided by baseline CRP. … The study contributes to the emerging body of evidence about how CRP concentrations relate to the pathogenesis of COVID-19 and to patient and treatment selection"

Temesgen Z., et al. Lancet Respir Med 2021. Published Online December 1, 2021. https://doi.org/10.1016/S2213-2600(21)00494-X

Target Patient Segment: CRP<150mg/L



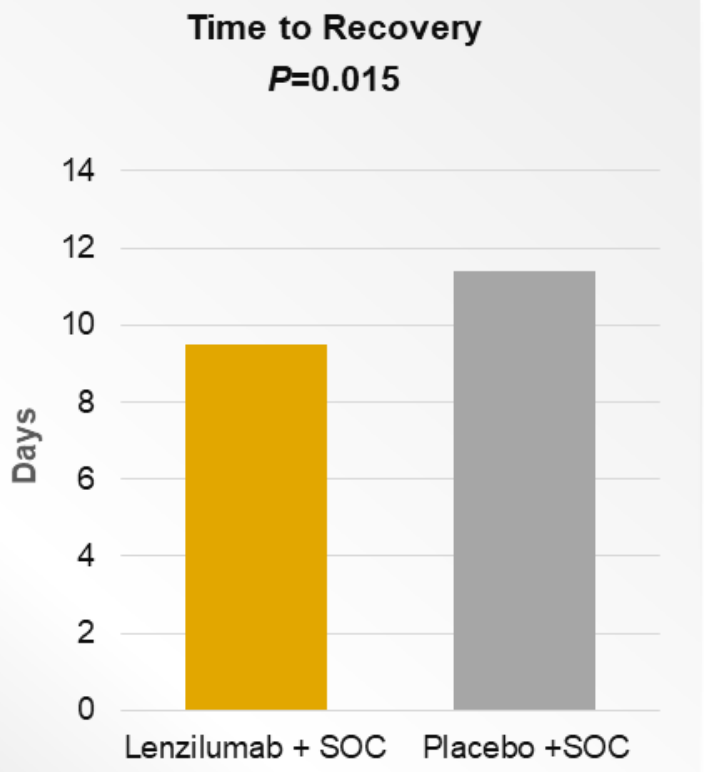
a. All data censored at 28 days following enrolment. All data reported for the mITT population and subgroups of the mITT population, Kaplan-Meier estimates for proportion of patients

Note: CRP = C-reactive protein; IMV = invasive mechanical ventilation; mITT = modified intent-to-treat

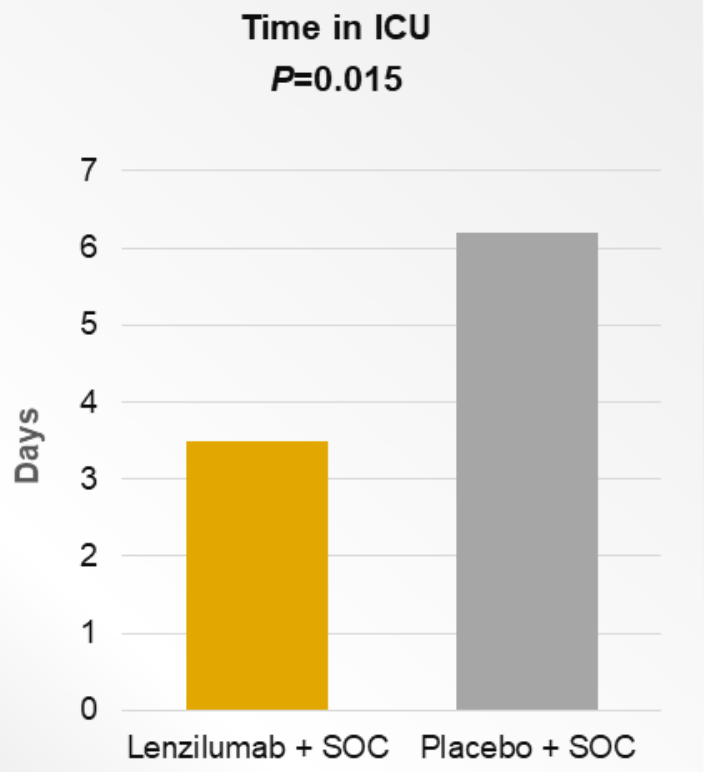
1. Temesgen Z., et al. Lancet Respir Med 2021. Published Online December 1, 2021. https://doi.org/10.1016/S2213-2600(21)00494-X
2. Humanigen Inc. *Clinical Study Report Day 28 Results*. (Aug 2021).

Economic Benefits in Target Patient Population

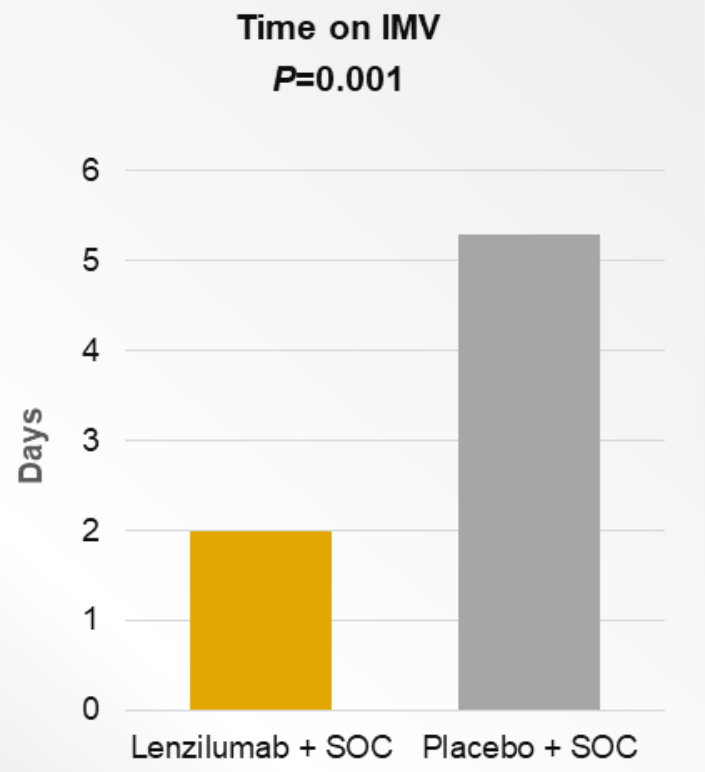
2 Bed Days Saved



3 ICU Days Saved



3 IMV Days Saved



Clinical benefits translate to a net **cost savings £1,162** per patient with or without remdesivir

Source: Graphs Humanigen data on file; Cost savings from Kilcoyne A., et al. ClinicoEconomics and Outcomes Research posted online April 14, 2022. https://doi.org/10.2147/CEOR.S360741

Estimated Clinical Benefits of Lenzilumab + Remdesivir vs. Standard of Care Alone

	Base case: aged < 85 years with CRP < 150 mg/L, receiving remdesivir
Failure to achieve SWOV[a]	
Lenzilumab plus SOC	9.2%
SOC alone	24.8%
NNT for one patient to achieve SWOV	6
Ventilator use	
Lenzilumab plus SOC	8.9%
SOC alone	24.4%
Reduced IMV use	15.5%
Mortality[a]	
Lenzilumab plus SOC	7.5%
SOC alone	17.3%
NNT for one life saved	10

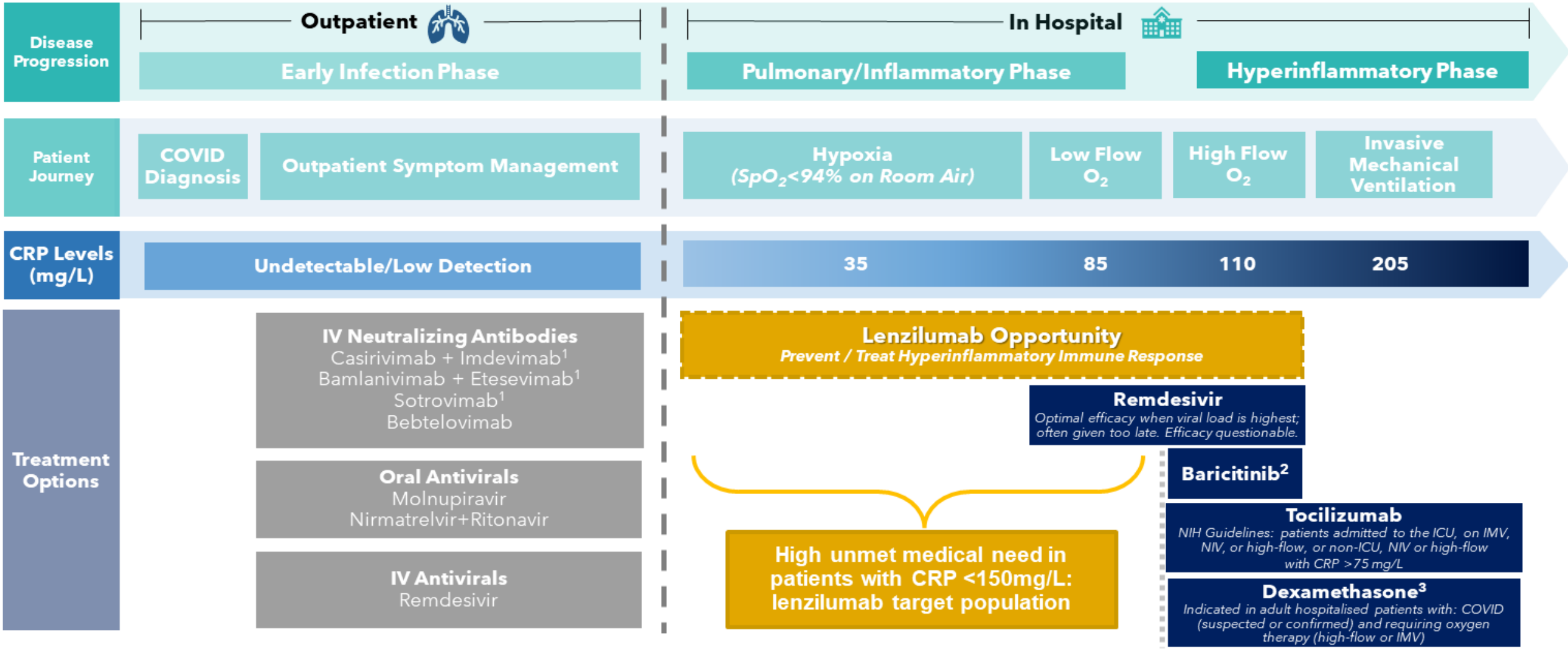
Clinical benefits translate to a net **cost savings £3,127** per patient also treated with remdesivir

CRP, C-reactive protein; IMV, invasive mechanical ventilation; NNT, number needed to treat; SOC, standard of care; SWOV, survival without ventilation.

a. These values were derived from Kaplan-Meier analysis.

Source: Table from Kilcoyne A., et al. Journal of Medical Economics posted online January 17, 2022. https://doi.org/10.1080/13696998.2022.2030148; Cost savings from Kilcoyne A., et al. *ClinicoEconomics and Outcomes Research* posted online April 14, 2022. https://doi.org/10.2147/CEOR.S360741

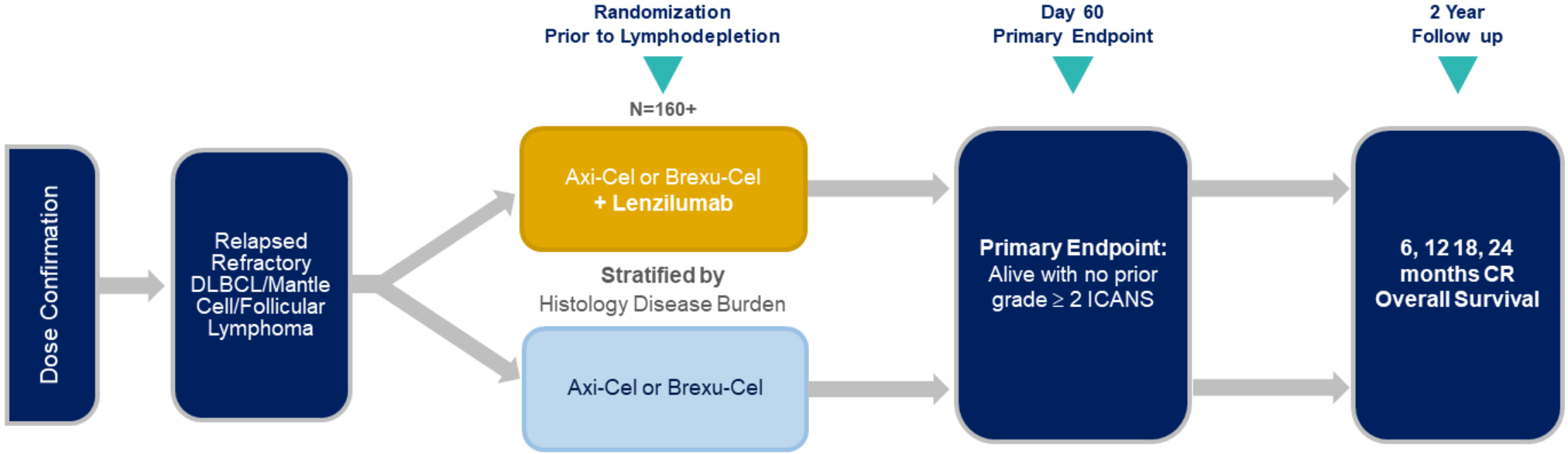
Current U.S. COVID-19 Treatments Highlight Unmet Need And Opportunity For Lenzilumab



1. No longer authorized due to diminished or lack of efficacy with Omicron or sub-variants
2. Baricitnib not recommended by NIH for patients on low-flow
3. Dexamethasone shown to be harmful on low-flow patients Eur Jour R DOI:10.1183/13993003.02532-2021

SHIELD Phase 3 Study of Lenzilumab with Yescarta (Axi-Cel) and Tecartus (Brexu-Cel)

- FDA registration pathway for Phase 3 clinical development of lenzilumab for the prevention CAR-T therapy related toxicities including Immune Effector Cell Associated Neurotoxicity (ICANS)
- Randomized, double-blind, placebo-controlled trial designed to inform a label that reflects:
  - Clinical benefit of lenzilumab
  - Economic benefit as measured by reduction in healthcare resource utilization

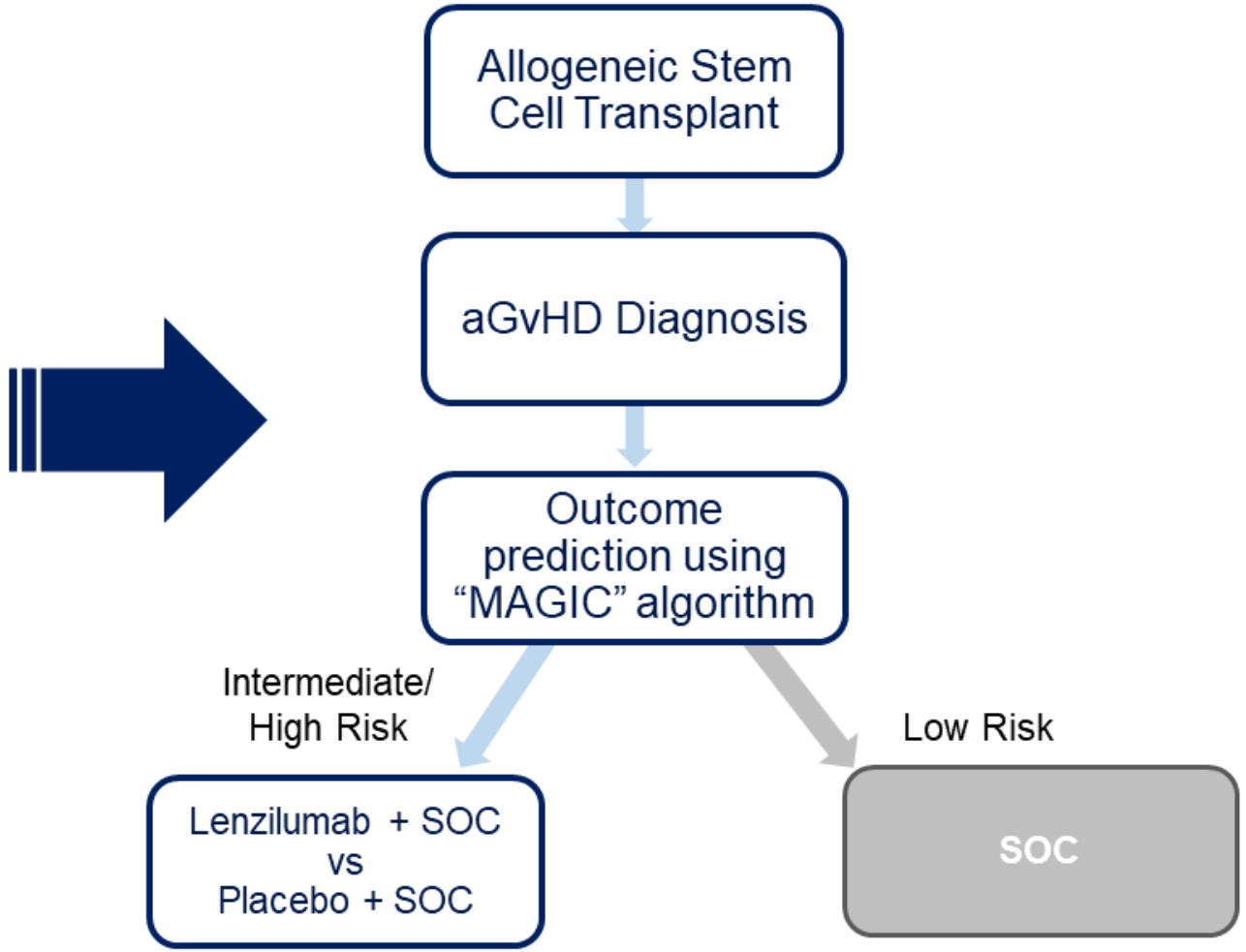


RATinG Study: Addressing High Unmet Need in aGvHD

To be conducted in collaboration with the IMPACT Group in UK

IMPACT
THE UK'S STEM CELL TRANSPLANT CLINICAL TRIALS PLATFORM

- 22 sites selected
- UK regulatory submission completed
- First patient to be dosed 2Q22



PREACH–M Trial Phase 2/3 for CMML: Recruitment Commenced October 2021

CMML is an aggressive Cancer[1]

~13 cases per 100,000 persons per year[2]

Incidence higher with age[1]

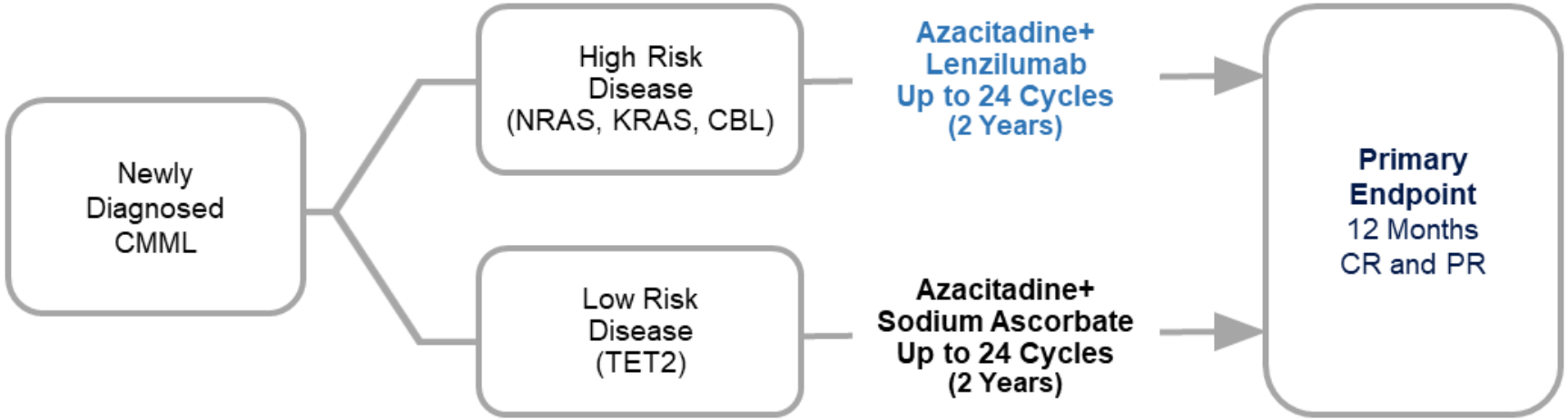
Survival remains dismal[1]

Effective therapies needed[3]

Partners

SAHMRI
South Australian Health & Medical Research Institute

THE UNIVERSITY of ADELAIDE



Note: CMML-Chronic Myelomonocytic Leukemia

TET2, NRAS, KRAS, and CBL are gene mutations found in CMML patients

1. Murthy et al, Leukemia Lymphoma, 2017 Jul;58(7):1648-1654 **2.** SEER Hematopoietic and Lymphoid Neoplasm Database (cancer.gov) **3.** Aim of first-ever CMML study – to improve survival, Leukemia Foundation – Australia News Story, June 3, 2021 https://www.leukaemia.org.au/stories/aim-of-first-ever-cmml-study-to-improve-survival/

Initial 2022 Goals

Regulatory

- ○ Topline results from ACTIV-5/BET-B 2Q22
- ○ File amendment to EUA with FDA
- ○ Respond to MHRA requests for additional information

Clinical

- ✓ COVID PK study in Korean patients
- ○ SHIELD Phase 3 CAR-T study
- ○ RATinG Phase 2/3 aGvHD study
- ○ C-SMART COVID in cancer patients

Publications / Other

- ✓ Peer-reviewed publication of U.S. Health Economics in COVID
- ✓ LenzMAP portal live
- ✓ Peer-reviewed publication of U.K. Health Economics in COVID
- ○ Peer-reviewed publication of CRP<150mg/L from LIVE-AIR

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Thank You For Your Attention