Gilead Presents Additional Data on Investigational Antiviral Remdesivir for the Treatment of COVID-19

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-- Data Presented Includes a Comparative Analysis of Clinical Recovery and Mortality Outcomes from the Phase 3 SIMPLE Trial Versus Real-World Cohort of Severe COVID-19 Patients Receiving Standard of Care --

-- Traditionally Marginalized Racial/Ethnic Groups Treated with Remdesivir Had Similar Clinical Outcomes as Overall Patient Population --

FOSTER CITY, Calif.--(BUSINESS WIRE)--Jul. 10, 2020-- Gilead Sciences, Inc. (Nasdaq: GILD) today announced additional data on remdesivir, an investigational antiviral for the treatment of COVID-19, adding to the available body of knowledge on treatment outcomes with remdesivir. The data are being presented at the Virtual COVID-19 Conference as part of the 23rd International AIDS Conference (AIDS 2020: Virtual) and include a comparative analysis of the Phase 3 SIMPLE-Severe trial and a real-world retrospective cohort of patients with severe COVID-19. In this analysis, remdesivir was associated with an improvement in clinical recovery and a 62 percent reduction in the risk of mortality compared with standard of care – an important finding that requires confirmation in prospective clinical trials.

Separate subgroup analyses from the Phase 3 SIMPLE-Severe trial, including an evaluation of the safety and efficacy of remdesivir across different racial and ethnic patient subgroups treated in the United States, found that traditionally marginalized racial or ethnic groups treated with remdesivir in this study experienced similar clinical outcomes as the overall patient population in the study.

Gilead is also presenting new analyses of the company’s compassionate use program, which demonstrated that 83 percent of pediatric patients (n=77) and 92 percent of pregnant and postpartum women (n=86) with a broad spectrum of disease severity recovered by Day 28. No new safety signals were identified with remdesivir across these populations. To further the understanding of these results in individual patient cases, Gilead recently announced the initiation of a global, open-label Phase 2/3 trial to evaluate the safety, tolerability and pharmacokinetics of remdesivir in pediatric patients from birth to less than 18 years of age. Gilead is also collaborating on a study for pregnant women.

Due to the current public health emergency, the U.S. Food and Drug Administration (FDA) has issued an Emergency Use Authorization for remdesivir for the treatment of hospitalized patients with severe COVID-19; please see below for additional important warnings and information about the authorized use of remdesivir in the United States. In the United States, remdesivir is an investigational drug that has not been approved by the FDA, and the safety and efficacy of remdesivir for the treatment of COVID-19 has not been established.

“We are working to broaden our understanding of the full utility of remdesivir. To address the urgency of the continuing pandemic, we are sharing data with the research community as quickly as possible with the goal of providing transparent and timely updates on new developments with remdesivir,” said Merdad Parsey, MD, PhD, Chief Medical Officer, Gilead Sciences. “These data presented at the Virtual COVID-19 Conference shed additional light on the use of remdesivir in specific patient populations, including those that may be susceptible to higher rates of COVID-19 infection, as well as others that are particularly vulnerable, including children and pregnant and postpartum women.”

Comparative Analysis of Phase 3 SIMPLE-Severe Study and Real-World Retrospective Cohort of Patients Diagnosed with Severe COVID-19 Receiving Standard of Care

This comparative pre-planned analysis included 312 patients treated in the Phase 3 SIMPLE-Severe study and a separate real-world retrospective cohort of 818 patients with similar baseline characteristics and disease severity who received standard of care treatment in the same time period as the SIMPLE-Severe study. Patients were primarily located in North America (92 percent, remdesivir cohort vs. 91 percent, standard-of-care cohort), Europe (5 percent vs. 7 percent) and Asia (3 percent vs. 2 percent). The analysis demonstrated that remdesivir treatment was associated with significantly improved clinical recovery and a 62 percent reduction in the risk of mortality compared to standard of care. Findings from the comparative analysis showed that 74.4 percent of remdesivir-treated patients recovered by Day 14 versus 59.0 percent of patients receiving standard of care; recovery was defined as improvement in clinical status based on a 7-point ordinal scale. The mortality rate for patients treated with remdesivir in the analysis was 7.6 percent at Day 14 compared with 12.5 percent among patients not taking remdesivir (adjusted odds ratio 0.38, 95% confidence interval 0.22-0.68, p=0.001).

“This comparative analysis provides valuable additional information regarding the benefit of remdesivir compared with standard of care alone,” said Susan Olender, MD, Columbia University Irving Medical Center. “While not as vigorous as a randomized controlled trial, this analysis importantly draws from a real-world setting and serves as an important adjunct to clinical trial data, adding to our collective understanding of this virus and reflecting the extraordinary pace of the ongoing pandemic.”

The results of this comparative analysis add to the previously presented National Institute of Allergy and Infectious Disease (NIAID) randomized, double-blind, placebo-controlled study in hospitalized patients with COVID-19, which showed that remdesivir shortened time to recovery by an average of four days as compared to placebo (11 vs. 15 days; p<0.001). In the NIAID study, patients taking remdesivir trended toward lower mortality compared with those in the placebo group, but this result did not reach statistical significance (7.1 percent vs. 11.9 percent at Day 14; p=0.07).

Analyses from the Phase 3 SIMPLE-Severe Study

The Phase 3 SIMPLE-Severe trial evaluated the safety and efficacy of 5-day and 10-day dosing durations of remdesivir administered intravenously in hospitalized patients with severe manifestations of COVID-19. The initial phase of the study randomized 397 patients in a 1:1 ratio to receive either a 5-day or a 10-day treatment course of remdesivir in addition to standard of care. The results were published in The New England Journal of Medicine in May. An expansion phase of the study was added to enroll up to 5,600 additional patients, including those on mechanical ventilation; results from the expansion phase are pending.

Additional new data on the safety and efficacy of remdesivir presented at the Virtual COVID-19 Conference feature subgroup analyses, including race and ethnicity of patients treated in the United States, and global baseline characteristics associated with improved clinical status, and concomitant use...
of hydroxychloroquine.

In this study, 229 patients were enrolled at trial sites in the United States; clinical improvement was defined as a ≥ 2-point improvement on a 7-point ordinal scale. Among these patients, rates of clinical improvement at Day 14 were 84 percent in African American patients (n=43), 76 percent in Hispanic white (HW) patients (n=17), 67 percent in Asian patients (n=18), 67 percent in non-Hispanic white (NHW) patients (n=119) and 63 percent in patients who did not identify with any of these groups (n=32). Key efficacy and safety results with remdesivir treatment across race and ethnicity in the United States are included in the following table.

### Mortality, Clinical Improvement and Discharge by Race – U.S. Patients Only at Day 14

<table>
<thead>
<tr>
<th>Race</th>
<th>NHW (n=119)</th>
<th>Black (n=43)</th>
<th>HW (n=17)</th>
<th>Asian (n=18)</th>
<th>Other (n=32)</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 2-point clinical improvement</td>
<td>80 (67%)</td>
<td>36 (84%)</td>
<td>13 (76%)</td>
<td>12 (67%)</td>
<td>20 (63%)</td>
</tr>
<tr>
<td>Discharge</td>
<td>80 (67%)</td>
<td>32 (74%)</td>
<td>13 (76%)</td>
<td>12 (67%)</td>
<td>20 (63%)</td>
</tr>
<tr>
<td>Death</td>
<td>13 (11%)</td>
<td>3 (7%)</td>
<td>1 (6%)</td>
<td>2 (11%)</td>
<td>3 (9%)</td>
</tr>
</tbody>
</table>

Among the 397 patients who received remdesivir treatment globally, Black race, age under 65 years, treatment outside of Italy and requirement of only low-flow oxygen support or room air at baseline were factors significantly associated with clinical improvement of at least two points at Day 14.

Following the availability of in vitro data demonstrating chloroquine inhibits the antiviral activity of remdesivir in a dose-dependent manner, Gilead conducted an analysis of clinical outcomes with patients who were treated with both remdesivir and hydroxychloroquine concomitantly, versus patients who were treated with remdesivir and who did not receive concomitant hydroxychloroquine. Through a median follow-up of 14 days, the rates and likelihood of recovery were lower in patients who received concomitant hydroxychloroquine compared with patients treated with remdesivir who did not receive hydroxychloroquine (57 percent vs. 69 percent, covariate-adjusted HR [95% CI] 0.61 [0.45, 0.83], p=0.002). Concomitant hydroxychloroquine use was not associated with increased mortality in the 14-day analysis window. The analysis also showed that patients in the concomitant hydroxychloroquine group experienced overall higher rates of adverse events. After adjusting for baseline variables, this difference was significant for Grade 3-4 adverse events.

### Additional Data from Gilead’s Compassionate Use Program for Remdesivir

Gilead has previously reported the safety and efficacy results in 53 patients hospitalized with severe COVID-19 who were receiving remdesivir treatment as part of the company’s compassionate use program. Additional analyses from the compassionate use program are being presented at the conference, including data on the use of remdesivir in pediatric patients and in pregnant and postpartum women. In these analyses, recovery was defined as improvement to room air for patients who required oxygen support at baseline, and discharge for those not requiring oxygen support at baseline.

An analysis of 77 pediatric patients treated with remdesivir in the compassionate use program demonstrated that the vast majority improved in clinical status by Day 28, with 73 percent discharged from the hospital. By Day 28, 12 percent remained hospitalized but on ambient air and four percent had died. Of the 39 pediatric patients who required invasive mechanical ventilation at baseline, 80 percent of these critically ill patients recovered; of the 38 patients not requiring invasive ventilation, 87 percent recovered.

Among the 86 pregnant and postpartum women treated with remdesivir in the compassionate use program (median age of 33), 96 percent of pregnant and 89 percent of postpartum women achieved improvement in oxygen support levels. Pregnant and postpartum women who had more severe illness at baseline achieved similarly high rates of clinical recovery, at 93 percent and 89 percent, respectively. Pregnant women not on invasive oxygen support at baseline had the shortest median time to recovery (5 days), and both pregnant and postpartum women on invasive ventilation at baseline had similar median times to recovery (13 days). No new safety signals were identified; the most common AEs were due to underlying disease and most laboratory abnormalities were Grades 1–2.

### About Remdesivir

Remdesivir is an antiviral product that is being studied in multiple ongoing international clinical trials. In recognition of the current public health emergency and based on available clinical data, the approval status of remdesivir varies by country. In countries where remdesivir has not been approved by the regional health authority, remdesivir is an investigational drug, and the safety and efficacy of remdesivir have not been established.

### Important Information about Remdesivir in the United States

In the United States, remdesivir (GS-5734™) is authorized for use under an Emergency Use Authorization (EUA) only for the treatment of patients with suspected or laboratory-confirmed SARS-CoV-2 infection and severe COVID-19. Severe disease is defined as patients with an oxygen saturation (SpO2) ≤ 94% on room air or requiring supplemental oxygen or requiring mechanical ventilation or requiring extracorporeal membrane oxygenation (ECMO). Remdesivir is authorized for adult or pediatric patients who are admitted to a hospital and for whom use of an IV agent is clinically appropriate, as remdesivir must be administered intravenously.

Remdesivir is an investigational drug that has not been approved by the FDA for any use, and the safety and efficacy of remdesivir for the treatment of COVID-19 have not been established. This authorization is temporary and may be revoked, and does not take the place of the formal new drug application submission, review and approval process. For information about the authorized use of remdesivir and mandatory requirements of the EUA in the U.S., please review the Fact Sheets and FDA Letter of Authorization available at [www.gilead.com/remdesivir](http://www.gilead.com/remdesivir).

There are limited clinical data available for remdesivir. Serious and unexpected adverse events may occur that have not been previously reported with
remdesivir use. Hypersensitivity reactions, including infusion-related and anaphylactic reactions, have been observed during and following administration of remdesivir. The use of remdesivir is contraindicated in patients with known hypersensitivity to remdesivir. Transaminase elevations have been observed in healthy volunteers and patients with COVID-19 in clinical trials who received remdesivir. Patients should have appropriate clinical and laboratory monitoring to aid in early detection of any potential adverse events. Monitor renal and hepatic function prior to initiating and daily during therapy with remdesivir; additionally monitor serum chemistries and hematology daily during therapy. Do not initiate remdesivir in patients with ALT ≥5x ULN or with an eGFR <30 mL/min. The decision to continue or discontinue remdesivir therapy after development of an adverse event should be made based on the clinical risk/benefit assessment for the individual patient.

Due to a risk of reduced antiviral activity, coadministration of remdesivir and chloroquine phosphate or hydroxychloroquine sulfate is not recommended.

Healthcare providers and/or their designee are responsible for mandatory FDA MedWatch reporting of all medication errors and serious adverse events or deaths occurring during remdesivir treatment and considered to be potentially attributable to remdesivir. These events must be reported within 7 calendar days from the onset of the event. MedWatch adverse event reports can be submitted to FDA online at www.fda.gov/medwatch or by calling 1-800-FDA-1088.

**About Gilead Sciences**

Gilead Sciences, Inc. is a research-based biopharmaceutical company that discovers, develops and commercializes innovative medicines in areas of unmet medical need. The company strives to transform and simplify care for people with life-threatening illnesses around the world. Gilead has operations in more than 35 countries worldwide, with headquarters in Foster City, California.

For more information on Gilead's response to the coronavirus outbreak please visit the company’s dedicated page: [https://www.gilead.com/purpose/advancing-global-health/covid-19](https://www.gilead.com/purpose/advancing-global-health/covid-19).

**Forward Looking Statement**

This press release includes forward-looking statements, within the meaning of the Private Securities Litigation Reform Act of 1995, that are subject to risks, uncertainties and other factors. Remdesivir is an investigational drug that has not been approved by the FDA for any use, and it is not yet known if remdesivir is safe or effective for the treatment of COVID-19. There is the possibility of unfavorable results from ongoing and additional clinical trials involving remdesivir and the possibility that Gilead and other parties may be unable to complete one or more of such trials in the currently anticipated timelines or at all. Further, it is possible that Gilead may make a strategic decision to discontinue development of remdesivir or that FDA and other regulatory agencies may not approve remdesivir, and any marketing approvals, if granted, may have significant limitations on its use. As a result, remdesivir may never be successfully commercialized. These risks, uncertainties and other factors could cause actual results to differ materially from those referred to in the forward-looking statements. The reader is cautioned not to rely on these forward-looking statements. These and other risks are described in detail in Gilead’s Quarterly Report on Form 10-Q for the quarter ended March 31, 2020, as filed with the U.S. Securities and Exchange Commission. All forward-looking statements are based on information currently available to Gilead, and Gilead assumes no obligation to update any such forward-looking statements.

*For more information about the emergency use of remdesivir in the United States, please see the Emergency Use Authorization Fact Sheets available at [www.gilead.com/remdesivir](https://www.gilead.com/remdesivir).*

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*For more information about Gilead, please visit the company’s website at [www.gilead.com](https://www.gilead.com), follow Gilead on Twitter (@GileadSciences) or call Gilead Public Affairs at 1-800-GILEAD-5 or 1-650-574-3000.*

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