

GLAXOSMITHKLINE PLC  
Form 6-K  
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FORM 6-K

SECURITIES AND EXCHANGE COMMISSION  
Washington D.C. 20549

Report of Foreign Issuer

Pursuant to Rule 13a-16 or 15d-16 of  
the Securities Exchange Act of 1934

For period ending 08 March 2019

GlaxoSmithKline plc  
(Name of registrant)

980 Great West Road, Brentford, Middlesex, TW8 9GS  
(Address of principal executive offices)

Indicate by check mark whether the registrant files or  
will file annual reports under cover Form 20-F or Form 40-F

Form 20-F  Form 40-F

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Indicate by check mark whether the registrant by furnishing the  
information contained in this Form is also thereby furnishing the  
information to the Commission pursuant to Rule 12g3-2(b) under the  
Securities Exchange Act of 1934.

Yes No

Issued: 7 March 2019, London UK - LSE Announcement

ViiV Healthcare presents positive, 48-week data from two pivotal phase III studies showing long-acting, injectable two-drug regimen of cabotegravir and rilpivirine has similar efficacy to daily, three-drug oral treatment in adults living with HIV-1 infection

Comprehensive data from ATLAS and FLAIR studies presented today at the 2019 Conference on Retroviruses and Opportunistic Infections show investigational long-acting injectable to be effective in maintaining viral suppression

London, 7 March 2019 - ViiV Healthcare today presented comprehensive 48-week data from the ATLAS (Antiretroviral Therapy as Long-Acting Suppression) and FLAIR (First Long-Acting Injectable Regimen) pivotal phase III studies of the novel, investigational, long-acting regimen of cabotegravir and rilpivirine. These two studies met their primary endpoints, showing that the combination of ViiV Healthcare's cabotegravir and Janssen's rilpivirine, injected every four weeks, was non-inferior in maintaining viral suppression in adults infected with human immunodeficiency virus type-1 (HIV-1) when compared to a standard of care, daily, oral three-drug regimen. These data were presented today at the 2019 Conference on Retroviruses and Opportunistic Infections (CROI) in Seattle, Washington.

John C. Pottage, Jr., M.D., Chief Scientific and Medical Officer of ViiV Healthcare, said: "With FLAIR and ATLAS, we now have positive results from two pivotal phase III studies demonstrating that this long-acting, once-monthly injectable regimen has similar efficacy, safety and tolerability to a daily oral three-drug regimen for the treatment of HIV. We are also encouraged by patient preference data showing that nearly all participants who switched to the long-acting injectable regimen preferred it over their prior oral therapy. If approved, this two-drug regimen would give people living with HIV one month between each dose of antiretroviral therapy, changing HIV treatment from 365 dosing days per year, to just 12. We look forward to submitting applications to regulatory authorities later this year."

#### ATLAS 48-week efficacy and safety results

The global, pivotal, phase III ATLAS study met its primary endpoint, with cabotegravir and rilpivirine demonstrating non-inferiority to an oral three-drug regimen of two nucleoside reverse transcriptase inhibitors (NRTIs) plus a third agent, as measured by the proportion of participants with plasma HIV-1 RNA  $\geq 50$  copies per millilitre (c/mL) using the FDA Snapshot algorithm at Week 48 (cabotegravir + rilpivirine: 5/308 [1.6%], current antiretroviral therapy [CAR]: 3/308 [1.0%], adjusted difference: 0.6%, 95% confidence interval [CI]: -1.2, 2.5). The study found virologic suppression rates (HIV-1 RNA  $< 50$  c/mL) at Week 48 were similar between treatment arms (cabotegravir + rilpivirine: 285/308 [92.5%], CAR: 294/308 [95.5%], adjusted difference: -3%, 95% CI: -6.7, 0.7).

Confirmed virologic failure (CVF) was infrequent. Three participants (approximately 1% of the study population) who received long-acting cabotegravir plus rilpivirine developed CVF with subsequent identification of resistance mutations to one or both agents. In two of these cases, pre-existing NNRTI resistance was identified. Two of the three individuals were from Russia and all three had HIV-1 A subtypes, which are seen frequently in Russia, Eastern Europe and East Africa; however, they are seen infrequently in other parts of the world. This unexpected pattern warrants further investigation. In the oral CAR arm, there were four participants who developed CVF, three of whom developed drug resistance mutations.

Treatment with cabotegravir and rilpivirine was generally well-tolerated, with low rates of serious adverse events (SAEs) (13/308 [4.2%]) and adverse event (AE) withdrawals (10/308 [3.2%]). Of the participants who received cabotegravir and rilpivirine injections, 83% (250/303) reported an injection site reaction (ISR) at some point through the 48-week study. A majority of injections did not result in ISRs being reported, as out of a total of 6978 injections

administered during the 48-week study, 1460 ISRs were reported. Most ISR events (98.5%) were mild or moderate (mild: 1156/1460, moderate: 283/1460) and lasted an average of three days. Four participants (1.3%) withdrew for injection-related events.

Patient treatment satisfaction significantly improved after switching to the long-acting injectable from the previous oral therapy compared to remaining on oral therapy at Week 44 based on the HIV Treatment Satisfaction Questionnaire (HIVTSQs mean difference 5.68; 95% CI [4.37, 6.9];  $p < 0.001$ ). Patient preference data from a single-item question administered at Week 48 showed that 266/308 (86.4%) preferred the long-acting injectable regimen whereas 7/308 (2.3%) preferred their previous oral therapy.

Susan Swindells, MBBS, Professor, Department of Internal Medicine, Section of Infectious Diseases at the University of Nebraska Medical Center and ATLAS principal investigator, said: "The positive safety and efficacy results from the ATLAS study reinforce the potential of cabotegravir and rilpivirine as the first long-acting, injectable option for people living with HIV. This novel approach may help alleviate the burden often associated with daily oral treatment regimens and contribute to making HIV a smaller part of peoples' lives."

#### FLAIR 48-week efficacy and safety results

The global, pivotal, phase III FLAIR study met its primary endpoint, with cabotegravir and rilpivirine demonstrating non-inferiority to Triumeq (abacavir/dolutegravir/lamivudine-ABC/DTG/3TC), as measured by the proportion of participants with plasma HIV-1 RNA  $\geq 50$  c/mL using the FDA Snapshot algorithm at Week 48 (cabotegravir + rilpivirine: 6/283 [2.1%], Triumeq 7/283 [2.5%], adjusted difference: -0.4%, 95% CI: -2.8, 2.1). The study found virologic suppression rates (HIV-1 RNA  $< 50$  c/mL) at Week 48 were similar between treatment arms (cabotegravir + rilpivirine: 265/283 [93.6%], Triumeq: 264/283 [93.3%], adjusted difference: 0.4%. 95% CI: -3.7, 4.5).

CVF was infrequent across both treatment arms. Of the individuals who received long-acting cabotegravir plus rilpivirine, there were three confirmed virologic failures (approximately 1% of the study population), all of whom had treatment-emergent, NNRTI and INSTI resistance. All of these individuals were from Russia and had HIV-1 subtype A1, which is seen frequently in Russia, Eastern Europe and East Africa; however, it is seen infrequently in other parts of the world. This unexpected pattern warrants further investigation. Three participants in the Triumeq arm developed CVF with no treatment emergent resistance.

Treatment with cabotegravir and rilpivirine was generally well-tolerated, with low rates of SAEs (18/283 [6.4%]) and AEs leading to withdrawal (9/283 [3.2%]). Of the participants who received cabotegravir and rilpivirine injections, 86 percent (239/278) reported an ISR at some point through the 48-week study. A majority of injections did not result in an ISR being reported, with a total of 7704 injections administered during the 48-week study resulting in 2203 ISR events. Nearly all ISRs (99.4%) were mild or moderate (mild: 1907/2203, moderate: 282/2203), with a median duration of three days and the frequency of these events decreasing over time. Four participants (1.4%) withdrew for injection-related events.

Patient treatment satisfaction significantly improved after switching to the long-acting injectable from the previous oral therapy compared to remaining on oral therapy at Week 48 based on the HIV Treatment Satisfaction Questionnaire (HIVTSQc mean difference 4.1; 95% CI [2.8, 5.5],  $p < 0.001$ ). Patient preference data from a single-item question administered at Week 48 showed that 257/283 (90.8%) preferred the long-acting injectable regimen whereas 2/283 (0.7%) preferred their previous oral therapy.

Chloe Orkin, M.D., Consultant Physician and Clinical Professor at Queen Mary University of London and FLAIR principal investigator, said: "The robust results of the FLAIR study lend further evidence to the potential of cabotegravir and rilpivirine as an alternative option for people currently on daily, oral therapy. This long-acting, injectable two-drug regimen may provide an opportunity to change the paradigm for people living with HIV by breaking the cycle of a daily pill, which has been a defining characteristic of HIV therapy for several decades."

In addition to the once-monthly dosing schedule being evaluated in the ATLAS study, ViiV Healthcare is investigating the long-acting, two-drug regimen of cabotegravir and rilpivirine administered every two months in the ATLAS-2M study. The company plans to use the data from the FLAIR and ATLAS studies for future regulatory submissions.

This investigational, long-acting, injectable regimen is being co-developed as part of a collaboration with Janssen Sciences Ireland UC and is not approved by regulatory authorities anywhere in the world.

#### Notes to editors

##### About ATLAS (NCT02951052)

The ATLAS study is part of ViiV Healthcare's innovative clinical trial programme for two-drug regimens. The study includes 616 men and women living with HIV and is being conducted at research centres in Argentina, Australia, Canada, France, Germany, Italy, Mexico, Russia, South Africa, South Korea, Spain, Sweden, and the United States.

ATLAS is a phase III, open-label, active-controlled, multicentre, parallel-group, non-inferiority study designed to assess the antiviral activity and safety of a two-drug regimen of long-acting, injectable cabotegravir and rilpivirine dosed every four weeks compared to continuation of current oral anti-retroviral therapy (ART) of two nucleoside reverse transcriptase inhibitors (NRTIs) plus an integrase strand transfer inhibitor (INI), non-nucleoside reverse transcriptase inhibitor (NNRTI), or protease inhibitor (PI) among virally suppressed individuals. The primary endpoint for ATLAS is the proportion of participants with plasma HIV-1 RNA  $\geq 50$  c/mL per the FDA Snapshot algorithm at Week 48 (Missing, Switch, or Discontinuation = Failure, Intent-to-Treat Exposed [ITT-E] population). Subjects were required to be virally suppressed for six months or greater, on first or second regimen, with no prior failure.

For further information please see <https://clinicaltrials.gov/ct2/show/NCT02951052>.

##### About FLAIR (NCT02938520)

FLAIR includes 566 men and women living with HIV and is being conducted at research centres in Canada, France, Germany, Italy, Japan, the Netherlands, Russia, South Africa, Spain, the United Kingdom, and the United States.

FLAIR is a phase III, randomised, open-label, multicentre, parallel-group, non-inferiority study designed to assess the antiviral activity and safety of a two-drug regimen of intramuscular, long-acting, injectable cabotegravir and rilpivirine in virologically suppressed adults living with HIV, following 20 weeks of induction therapy with Triumeq. The primary endpoint for FLAIR is the proportion of participants with plasma HIV-1 RNA  $\geq 50$  c/mL per the FDA Snapshot algorithm at Week 48 (Missing, Switch, or Discontinuation = Failure, Intent-to-Treat Exposed [ITT-E] population).

For further information please see <https://clinicaltrials.gov/ct2/show/NCT02938520>.

##### About cabotegravir

Cabotegravir is an investigational integrase inhibitor (INI) and is not approved by regulatory authorities anywhere in the world. Cabotegravir is being developed by ViiV Healthcare for the treatment and prevention of HIV. It is being evaluated as a long-acting formulation for intramuscular injection and also as a once-daily oral tablet for use as a lead-in, to establish the tolerability of cabotegravir prior to long-acting injection.

##### About rilpivirine

EDURANT® (rilpivirine) is a once daily non-nucleoside reverse transcriptase inhibitor (NNRTI) used for the treatment of human immunodeficiency virus (HIV-1) infection in combination with other antiretroviral agents in antiretroviral treatment-naïve adult patients with a viral load  $\leq 100,000$  HIV RNA copies/mL. Long-acting injectable rilpivirine is not approved by regulatory authorities anywhere in the world.

Rilpivirine was developed by Janssen Sciences Ireland UC, one of the Janssen Pharmaceutical Companies of Johnson & Johnson. Rilpivirine is approved in the U.S. and E.U. as EDURANT® as a 25mg tablet taken once-a-day and is always taken with a meal. The most common side effects of EDURANT include: depression, headache, trouble sleeping (insomnia) and rash.

#### Important Safety Information (ISI) for EDURANT® (Rilpivirine)

Note: this is taken from the US label and local variations apply. Please refer to applicable local labelling.

#### Professional Indication(s) and Important Safety Information INDICATIONS AND USAGE

EDURANT® (rilpivirine), in combination with other antiretroviral agents, is a non-nucleoside reverse transcriptase inhibitor (NNRTI) indicated for the treatment of human immunodeficiency virus type 1 (HIV-1) infection in antiretroviral treatment-naïve patients 12 years of age and older and weighing at least 35 kg with HIV-1 RNA less than or equal to 100,000 copies/mL at the start of therapy.

The following points should be considered when initiating therapy with EDURANT®:

More EDURANT®-treated subjects with HIV-1 RNA greater than 100,000 copies/mL at the start of therapy experienced virologic failure (HIV-1 RNA  $\geq$ 50 copies/mL) compared to EDURANT®-treated subjects with HIV-1 RNA less than or equal to 100,000 copies/mL

EDURANT® is not recommended for patients less than 12 years of age.

#### CONTRAINDICATIONS

Coadministration of EDURANT® with the following drugs is contraindicated because significant decreases in rilpivirine plasma concentrations may occur due to CYP3A enzyme induction or gastric pH increase, which may result in loss of virologic response and possible resistance and cross-resistance: carbamazepine, oxcarbazepine, phenobarbital, phenytoin, rifampin, rifapentine, proton pump inhibitors such as esomeprazole, lansoprazole, omeprazole, pantoprazole, and rabeprazole, systemic dexamethasone (more than single dose), and products containing St. John's wort (*Hypericum perforatum*)

#### Warnings and Precautions

**Skin and Hypersensitivity Reactions:** Severe skin and hypersensitivity reactions have been reported during the postmarketing experience, including cases of Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS), with rilpivirine-containing regimens. While some skin reactions were accompanied by constitutional symptoms such as fever, other skin reactions were associated with organ dysfunctions, including elevations in hepatic serum biochemistries. EDURANT® should be discontinued immediately if signs or symptoms of severe skin or hypersensitivity reactions develop, including but not limited to, severe rash or rash accompanied by fever, blisters, mucosal involvement, conjunctivitis, facial edema, angioedema, hepatitis or eosinophilia. Clinical status including laboratory parameters should be monitored and appropriate therapy should be initiated

**Hepatotoxicity:** Hepatic adverse events were reported. Patients with underlying hepatic disease, including hepatitis B or C, or marked elevations in transaminases before treatment may be at increased risk for worsening or development of transaminase elevations. Monitor liver function tests (LFTs) before and during treatment. A few hepatotoxicity

cases occurred in patients with no pre-existing hepatic disease or other identifiable risk factors; therefore, monitoring of LFTs should be considered in all patients

**Depressive Disorders:** Severe depressive disorders, defined as depressed mood, depression, dysphoria, major depression, mood altered, negative thoughts, suicide attempt, and suicidal ideation, have been reported with EDURANT®. Immediate medical evaluation is recommended for severe depressive symptoms

**Fat Redistribution:** Redistribution and/or accumulation of body fat have been observed in patients receiving ARV therapy. The causal relationship, mechanism, and long-term consequences of these events have not been established

**Immune Reconstitution Syndrome** has been reported in patients treated with combination ARV therapy, including EDURANT®. Autoimmune disorders (such as Graves disease, polymyositis, and Guillain-Barre syndrome) have also been reported to occur in the setting of immune reconstitution; however, the time to onset is more variable and can occur many months after initiation of treatment

### Drug Interactions

EDURANT® should be used with caution when coadministered with drugs that may reduce the exposure of rilpivirine, such as antacids and H<sub>2</sub>-receptor antagonists

Concomitant use of EDURANT® with rifabutin may cause a decrease in the plasma concentrations of rilpivirine. Please read the Dosage and Administration Section of the Prescribing Information for more details regarding the concomitant use of EDURANT® and rifabutin

EDURANT® should be used with caution when coadministered with a drug with a known risk of Torsade de Pointes

EDURANT® should not be used in combination with NNRTIs

This is not a complete list of potential drug interactions.

Please see full Prescribing Information for more details.

### Use in Specific Populations

**Hepatic Impairment:** EDURANT® should be used with caution in patients with severe hepatic impairment (Child-Pugh Class C) as pharmacokinetics of EDURANT® have not been evaluated in these patients

**Pregnancy:** In a clinical trial, total rilpivirine exposures were generally lower during pregnancy compared to the postpartum period

**Lactation:** Women infected with HIV should be instructed not to breastfeed due to the potential for HIV transmission

This list of uses in specific populations is not complete.

Please refer to the EDURANT® Prescribing Information for additional information.

### Adverse Reactions

The most common adverse drug reactions reported (incidence >2%) of at least moderate intensity (≥ Grade 2) in patients taking EDURANT® through 96 weeks were depressive disorders (5%), headache (3%), insomnia (3%), and

rash (3%)

This is not a complete list of all adverse drug reactions reported with the use of EDURANT®.

Please refer to the full Prescribing Information for a complete list of adverse drug reactions.

Full US prescribing information including is available at:

<http://www.janssenlabels.com/package-insert/product-monograph/prescribing-information/EDURANT-pi.pdf>

For the EU Summary of Product Characteristics, please visit:

[http://www.ema.europa.eu/docs/en\\_GB/document\\_library/EPAR\\_-\\_Product\\_Information/human/002264/WC500118874.pdf](http://www.ema.europa.eu/docs/en_GB/document_library/EPAR_-_Product_Information/human/002264/WC500118874.pdf)

#### About ViiV Healthcare

ViiV Healthcare is a global specialist HIV company established in November 2009 by GlaxoSmithKline (LSE: GSK) and Pfizer (NYSE: PFE) dedicated to delivering advances in treatment and care for people living with HIV and for people who are at risk of becoming infected with HIV. Shionogi joined as a shareholder in October 2012. The company's aim is to take a deeper and broader interest in HIV/AIDS than any company has done before and take a new approach to deliver effective and innovative medicines for HIV treatment and prevention, as well as support communities affected by HIV.

For more information on the company, its management, portfolio, pipeline, and commitment, please visit [www.viivhealthcare.com](http://www.viivhealthcare.com).

#### Cautionary statement regarding forward-looking statements

GSK cautions investors that any forward-looking statements or projections made by GSK, including those made in this announcement, are subject to risks and uncertainties that may cause actual results to differ materially from those projected. Such factors include, but are not limited to, those described under Item 3.D 'Principal risks and uncertainties' in the company's Annual Report on Form 20-F for 2017.

#### About GSK

GSK - one of the world's leading research-based pharmaceutical and healthcare companies - is committed to improving the quality of human life by enabling people to do more, feel better and live longer. For further information please visit [www.gsk.com](http://www.gsk.com).

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SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorised.

GlaxoSmithKline plc  
(Registrant)

Date: March 08, 2019

By: VICTORIA WHYTE

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Victoria Whyte  
Authorised Signatory for and on  
behalf of GlaxoSmithKline plc