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## Changes in Body Mass Index with Longer-term Integrase Inhibitor Use: a Longitudinal Analysis of REPRIEVE data

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### Background

Integrase-strand-transfer-inhibitors, or INSTIs for short, are becoming a popular choice of antiretroviral therapy (ART) medications. INSTI medications block a protein in HIV that is needed for the virus to replicate. Some studies have shown that people with HIV (PWH) who have never taken ART and start taking an INSTI gain weight. This weight gain typically occurs within the first 12 months after starting an INSTI and may be a “return to health,” or a recovery of weight that was lost due to HIV. It is unclear whether taking an INSTI medication long-term might lead to ongoing weight gain.

### Goals of the Study

Our goal was to assess changes in body mass index (BMI) over a 2-year period during the REPRIEVE Trial for study participants taking an INSTI for 0-2, 2-5, and 5+ years. The REPRIEVE Trial is a global clinical research study testing whether treatment with a statin medication (cholesterol-lowering medication) helps prevent heart disease among PWH.

#### ➤ The participants:

- 5475 participants (2492 were taking an INSTI-based ART regimen at study entry)
- 77% male
- Average age: 51 years
- Average body mass index (BMI): 27.5 kg/m<sup>2</sup>

#### ➤ The findings:

1. Over a 2-year follow-up period, the average change in BMI was less than 0.5 kg/m<sup>2</sup> for PWH taking an INSTI and for PWH taking a non-INSTI regimen.
  - a. After adjusting for BMI at study entry, the change in BMI over the 2-year period was not significantly higher for PWH taking an INSTI compared to those taking a non-INSTI regimen (+0.004 kg/m<sup>2</sup>).
2. Among key populations including female and Black participants, the 2-year change in BMI associated with taking an INSTI was less than 0.5 kg/m<sup>2</sup> overall after adjusting for participants' BMI at study entry.
3. The majority of participants had achieved viral suppression, suggesting that any weight gain during the follow-up period was not due to a “return to health.”

**In Summary:** The change in BMI associated with INSTI use over a 2-year follow-up period was minimal among PWH with shorter- and longer-term INSTI use. There was not a significant difference in change in BMI between INSTI-users and non-INSTI users who were on their regimen for more than 2 years at study entry. These findings extend our understanding of INSTI-related weight gain by evaluating the change in BMI among long-term INSTI users and suggest that long-term INSTI use may not be associated with continued weight gain among PWH.

REPRIEVE Trial Website: [reprivetrial.org](http://reprivetrial.org)

*The findings shared in this summary are from the REPRIEVE population at a specific point in time. These findings are descriptive and not intended to change clinical care. If you have questions about what you've read, please talk to members of the REPRIEVE study team at your local site or a health care provider*