**Supplement Text S2**. Description of calculations to estimate the economic burden of BV-associated sequelae among Black and White women in the United States.

Preterm births

We estimated the economic burden of BV-associated preterm births among Black and White women in the United States as

$\sum\_{race}^{}number of births\_{race}×prop. of births that are preterm\_{race}×PAF\_{race}×cost$ (1)

The component pieces of this calculation and associated parameters are described below. All parameters pertain to the US setting.

**Table 1**. Parameters obtained directly from published sources for use in equation (1) above or to estimate derived parameters in Table 2 below

|  |  |  |
| --- | --- | --- |
| **Parameter** | **Estimate** | **Source** |
| Relative risk of preterm delivery | 2.19 | (20) |
| BV prevalence among Black pregnant women | 0.490 a | -- |
| BV prevalence among White pregnant women | 0.199 a | -- |
| Number of births among Black women, 2015 | 640,079 | (21) |
| Number of births among White women, 2015 | 3,012,855 | (21) |
| Proportion of births that are preterm among Black women | 0.140 | (22) |
| Proportion of births that are preterm among White women | 0.090 | (22) |
| Cost of a non-low birthweight preterm birth | $7,960.48 | (107s) |
| Cost of a low birthweight (LBW) preterm birth | $36,222.56 | (107s) |
| Proportion of births that are preterm among all women | 0.0985 | (23) |
| Proportion of births that are LBW among all women | 0.0817 | (23) |

a As estimated in our meta-analysis

Table 2 below includes parameters derived from parameters in Table 1 for subsequent use in equation (1). In order to estimate the weighted average cost per preterm birth, we first estimate the proportion of all preterm births that are low birthweight, assuming that this proportion is the same for Black and White women, as $\frac{Proportion of births that are low birthweight among all US women}{Proportion of births that are preterm among all US women}$. We then estimate weighted average cost per preterm birth as $\left(cost\_{LBW}\*prop. births LBW\right)+(cost\_{non-LBW}\*\left(1-prop. births LBW\right))$.

We estimate the race-specific population attributable fraction (PAF) of BV-associated preterm births as $\frac{prevalence\_{race}\*(relative risk-1)}{prevalence\_{race}\*\left(relative risk-1\right)+1}$.

**Table 2**. Derived parameters

|  |  |  |
| --- | --- | --- |
| **Parameter** | **Estimate** | **Source** |
| Proportion of preterm births that are low birthweight | 0.8290 | (23) |
| Average cost per preterm birth | $31,402.23 | (107s, 23) |
| Population attributable fraction (PAF), pregnant Black women | 0.37 | (20, a) |
| Population attributable fraction (PAF), pregnant White women | 0.19 | (20, a) |

a Prevalence as estimated in our meta-analysis

Prevalent HIV infections

We estimated the economic burden of BV-associated prevalent HIV infections among Black and White women in the United States as

$\sum\_{race}^{}number of women living with HIV\_{race}×PAF\_{race}×cost$ (2)

The component pieces of this calculation and associated parameters are described below. All parameters pertain to the US setting.

**Table 3**. Parameters obtained directly from published sources for use in equation (2) above or to estimate derived parameters in Table 4 below

|  |  |  |
| --- | --- | --- |
| **Parameter** | **Estimate** | **Source** |
| Annual cost of HIV care (2017 USD) | $25,990 | (110s) |
| Hazard ratio of HIV acquisition | 1.69 | (12) |
| BV prevalence among Black women | 0.332 a | -- |
| BV prevalence among White women | 0.227 a | -- |
| Number of Black women diagnosed with HIV, 2015 | 137,998 | (24) |
| Number of White women diagnosed with HIV, 2015 | 38,992 | (24) |
| Proportion of women living with HIV who have been diagnosed, 2014 | 0.88 | (24) |

a As estimated in our meta-analysis

Table 4 below includes parameters derived from parameters in Table 3 for subsequent use in equation (2). The number of women living with HIV is estimated as $\frac{number of women diagnosed with HIV\_{race}}{proportion of women living with HIV who have been diagnosed}$. This formula assumes that the proportion of women living with HIV who have been diagnosed is the same for both Black and White women, as race-specific estimates for this quantity were not available. The population attributable fraction of BV-associated prevalent HIV infections is estimated as $\frac{prevalence\_{race}\*(relative risk-1)}{prevalence\_{race}\*\left(relative risk-1\right)+1}$.

**Table 4**. Derived parameters

|  |  |  |
| --- | --- | --- |
| **Parameter** | **Estimate** | **Source** |
| Number of Black women living with HIV, 2015 | 156,816 | (24) |
| Number of White women living with HIV, 2015 | 44,309 | (24) |
| Population attributable fraction, Black women | 0.19 | (12, a) |
| Population attributable fraction, White women | 0.14 | (12, a) |

a Prevalence as estimated in our meta-analysis