Bonus: Colliders, selection bias, and loss to follow-up

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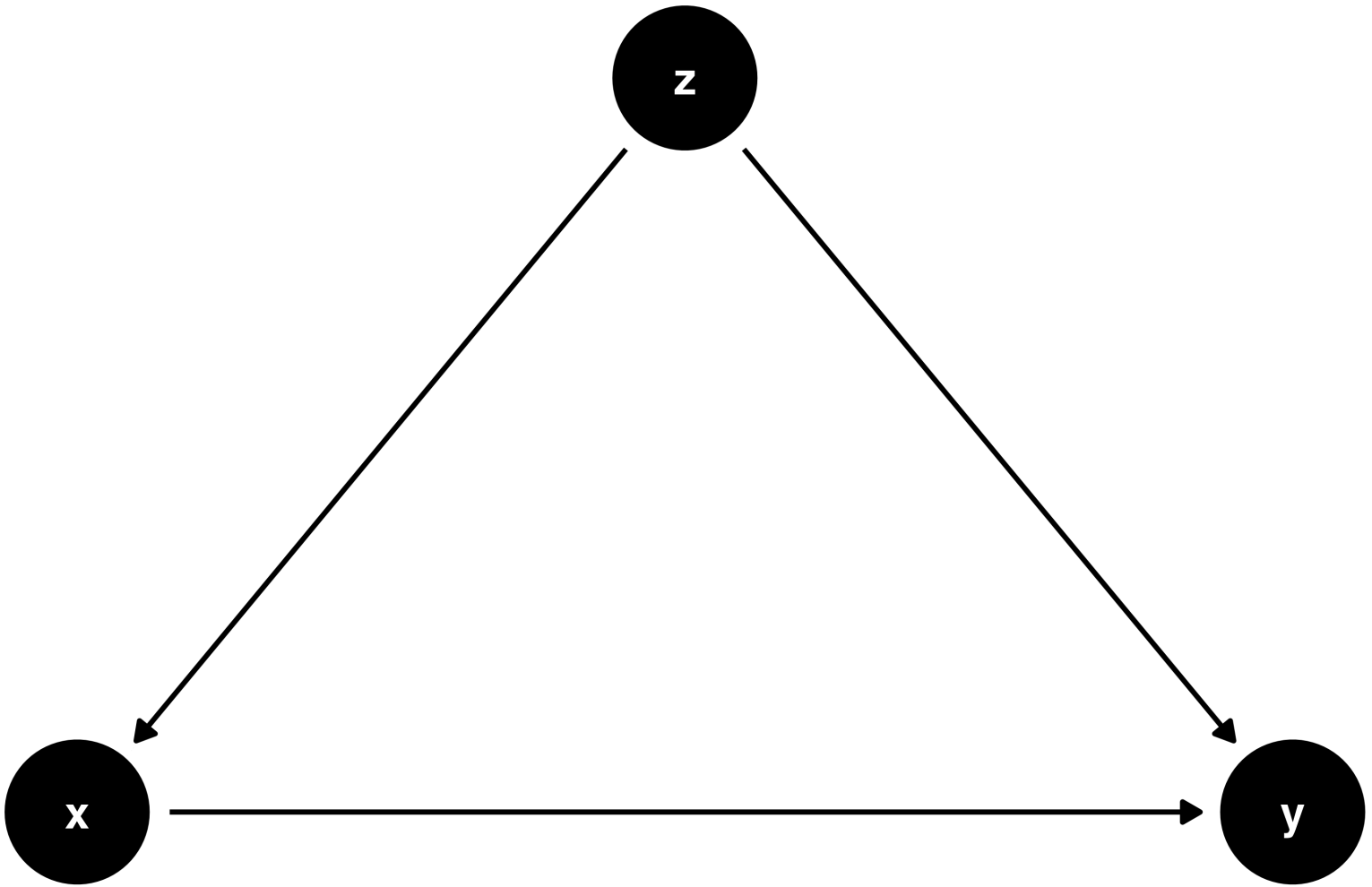
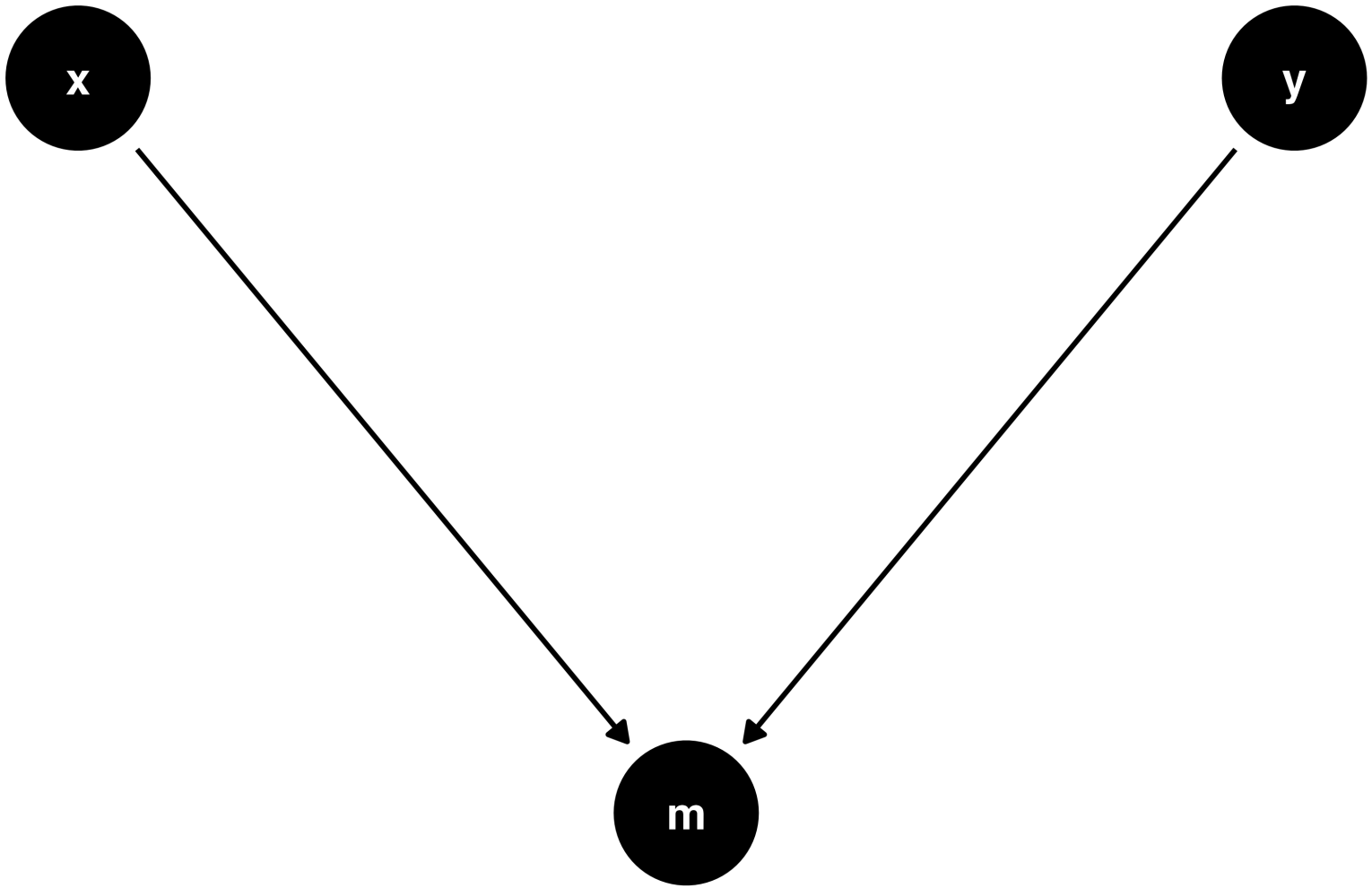
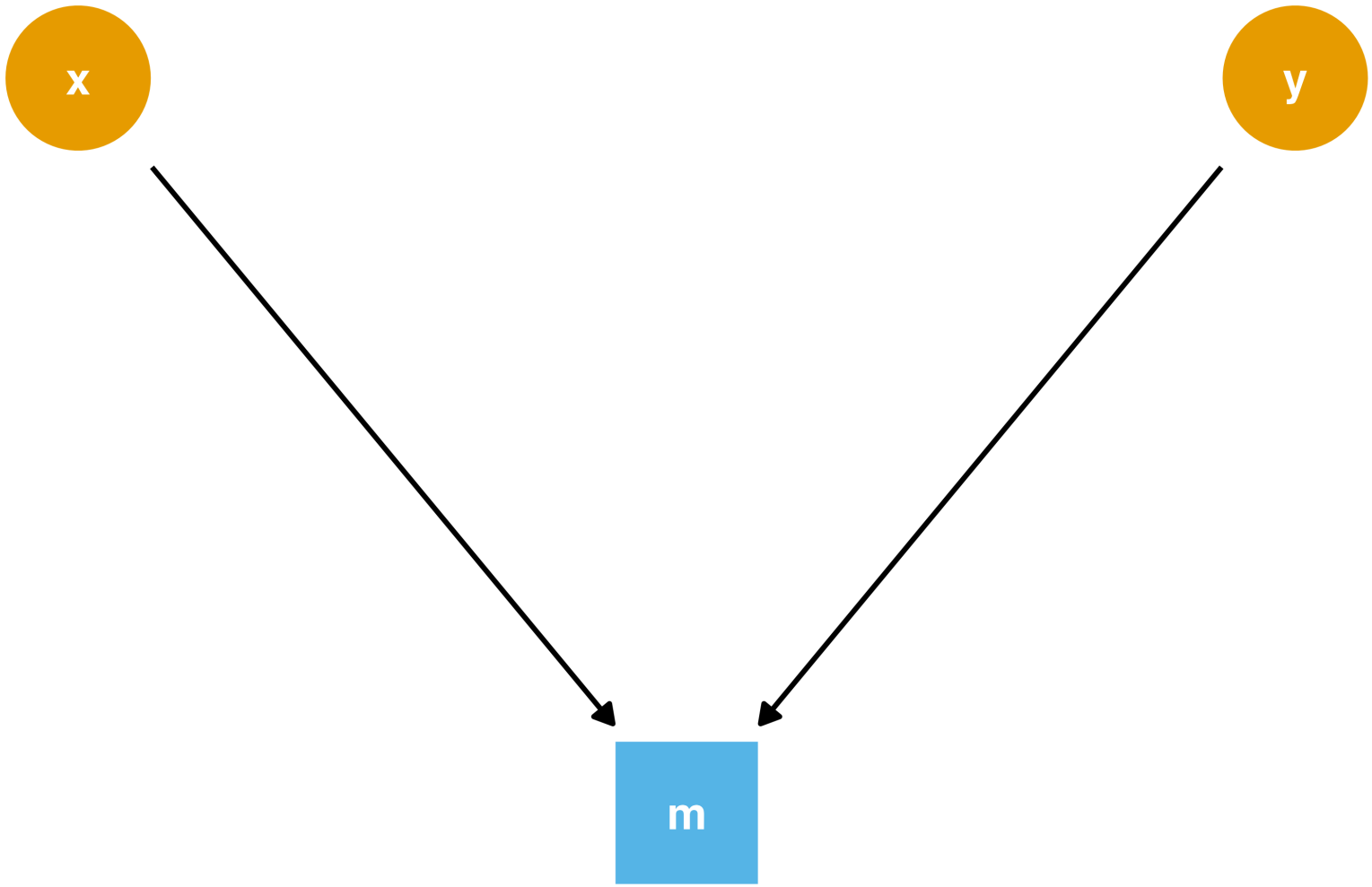
Confounders and chains



Colliders



Colliders



Let’s prove it!

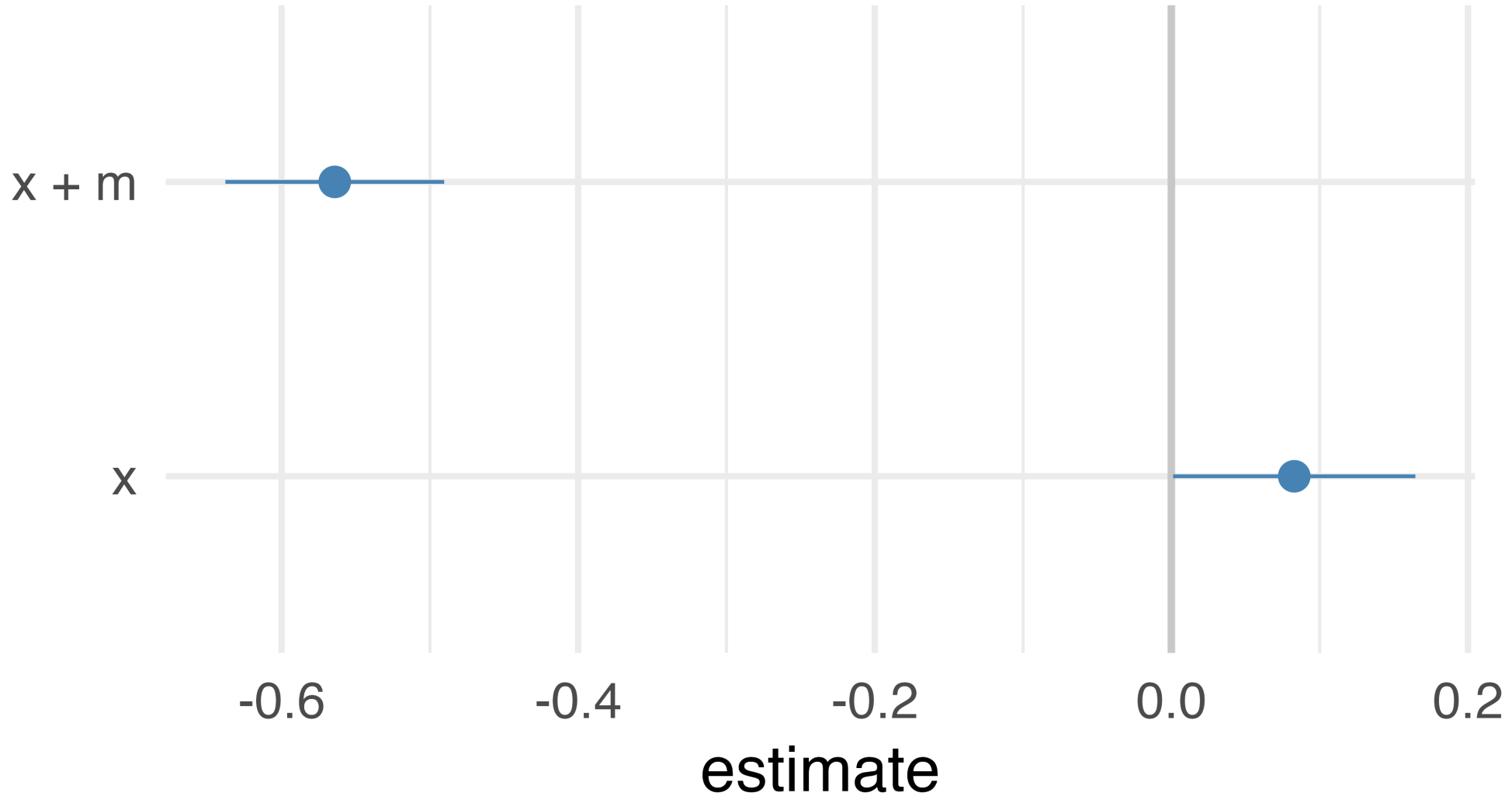
```
set.seed(1234)
collider_data <- collider_triangle() |>
  simulate_data(-.6)
```

Let's prove it!

```
1 collider_data
```

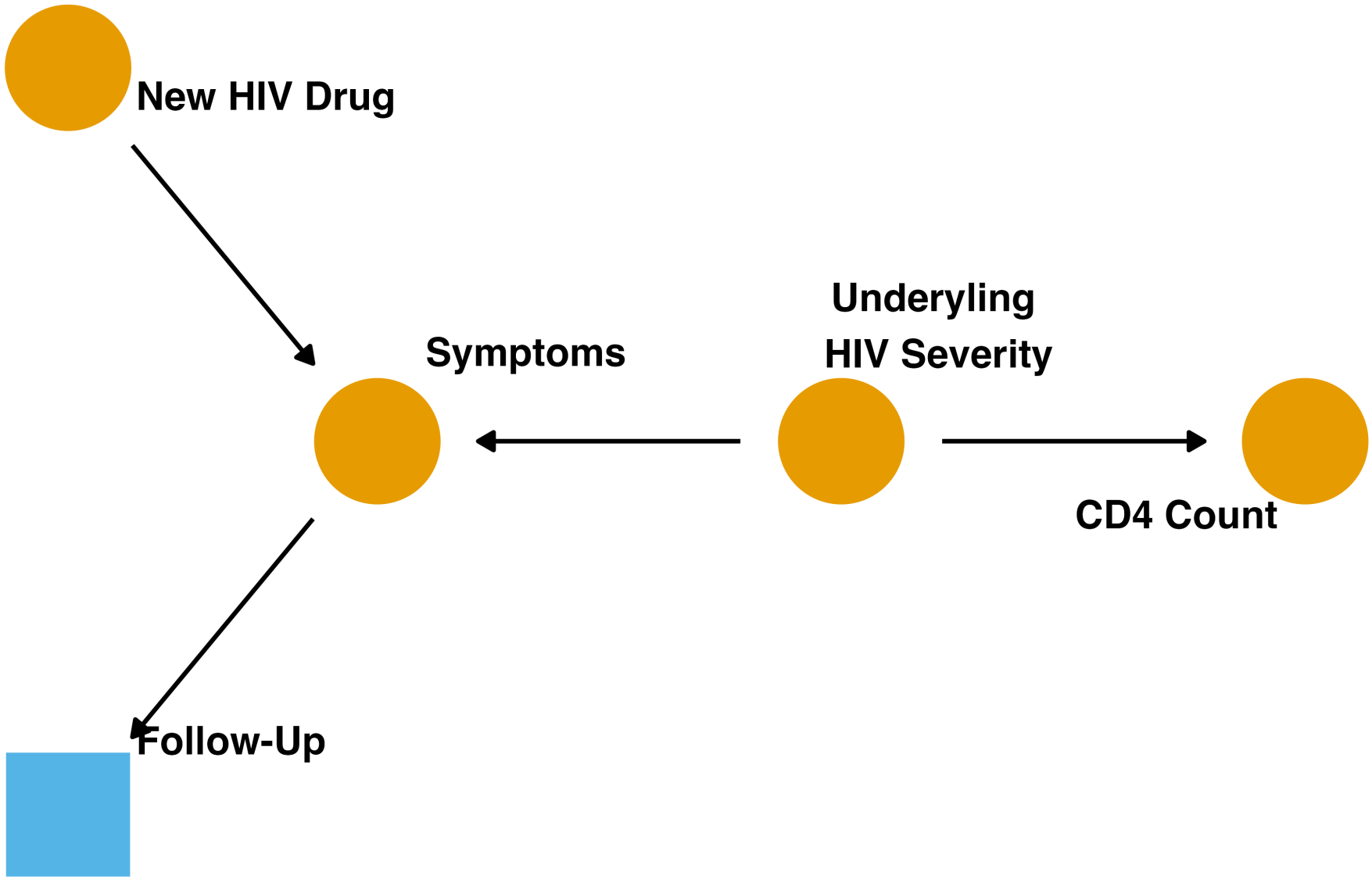
```
# A tibble: 500 × 3
         m        x        y
     <dbl>    <dbl>    <dbl>
 1 -0.829   0.359    1.75
 2  0.184   0.619   -1.11
 3  1.47   -0.940    0.0642
 4 -2.43    1.55     1.39
 5  0.219  -1.69     0.832
 6  1.01    0.199   -0.145
 7 -0.811   1.29    -0.872
 8 -0.464   0.0675   0.763
 9 -0.357   0.264    0.766
10 -0.978   0.531    0.506
# ℹ 490
```

Let's prove it!



correct effect size: 0

Loss to follow-up



Adjusting for selection bias

1. Fit a probability of censoring model, e.g. *glm(censoring ~ predictors, family = binomial())*
2. Create weights using inverse probability strategy
3. Use weights in your causal model

We won't do it here, but you can include many types of weights in a given model. Just take their product, e.g. *multiply inverse propensity of treatment weights by inverse propensity of censoring weights*.

Your Turn

Work through Your Turns 1-3 in `13-bonus-selection-bias.qmd`

10:00