Where are the deficiencies in care? (another viewpoint)

***Aim:***

*What is the contribution of each stage of care on overall DALYs / mortality?*

*The interventions we have designed to intervene along HIV care may have an attentuated impact due to upstream / downstream weaknesses in care. For example, we have a powerful ART Outreach intervention that brings back 100% of people lost from care, yet it doesn’t have a huge impact on DALYs averted in the model, this is due to the small proportion of individuals that ever initiate ART due to upstream leaks in care at baseline. I want to understand how important each “stage” of care is, starting from the baseline ‘leaky’ cascade and making each stage in turn ‘perfect’ while keeping all others at baseline values to visualise the impact on DALYs and mortality.*

**Method:**

1. *Calculate the number of DALYs accrued between 2010 and 2030 along with mortality in the baseline leaky cascade scenario.*
2. *In the absence of interventions, test the contribution of each “stage” of care, on DALYs accrued and mortality, while keeping all remaining parameters are baseline values. For example, for testing pre-ART retention: set pre-ART retention to be perfect but keep upstream and downstream care at baseline levels.*
3. *Test the impact of our interventions on each “stage” of care on DALYs accrued and mortality. For example, again for testing pre-ART retention: test the impact of the pre-ART outreach intervention on reducing DALYs accrued and mortality while keeping all other parameters at baseline levels (this is identical to running an intervention as we have done in the paper).*

# Results

***“Baseline Care”***

Baseline= \_\_\_\_\_ DALYs accrued between 2010 and 2030.

**Contribution of each stage of care to DALYs accrued and mortality**

Starting with our baseline care scenario, I split care into 5 discrete stages:

***Perfect HIV-Testing*** *–* HIV-testing rates are set to baseline levels but everyone attends an HIV clinic for testing the day they acquire HIV (if time >2004). All other parameters are at baseline levels.

***Perfect Linkage*** *–* Linkage is perfect, but all other parameters are at baseline levels.

***Perfect Pre-ART Retention*** *–* Pre-ART retention levels are perfect, but all other parameters are at baseline levels.

***Perfect ART Retention*** *–* No ART dropout occurs, but all other parameters are at baseline levels.

***Perfect ART Adherence*** *–* Adherence to ART is 100%, but all other parameters are at baseline levels.

**Impact on DALYs averted…**

*(also look at DALYs averted as a proportion of DALYs averted by ‘perfect care’ in each stage)*

**Impact on mortality**

jjo11:cascade:CareCascadeV2:December:18th:LeaksNew:plots:additionalDalysDueToImperfectCare.pdfjjo11:cascade:CareCascadeV2:December:18th:LeaksNew:plots:mortalityDueToImperfectCare.pdf

Figure 2.

Figure 1.