THROUGHPUT MODEL

The Throughput Model is a Quantitative calculation based on CASES, NET NEW CASES, DEATHS, and RECOVERIES. It is broken-up into five categories that factor the primary variables against whether deaths are higher than recoveries or vice-versa, if there are net new cases, and the relation between recoveries and cases (e.g. if they have caught up with one another).

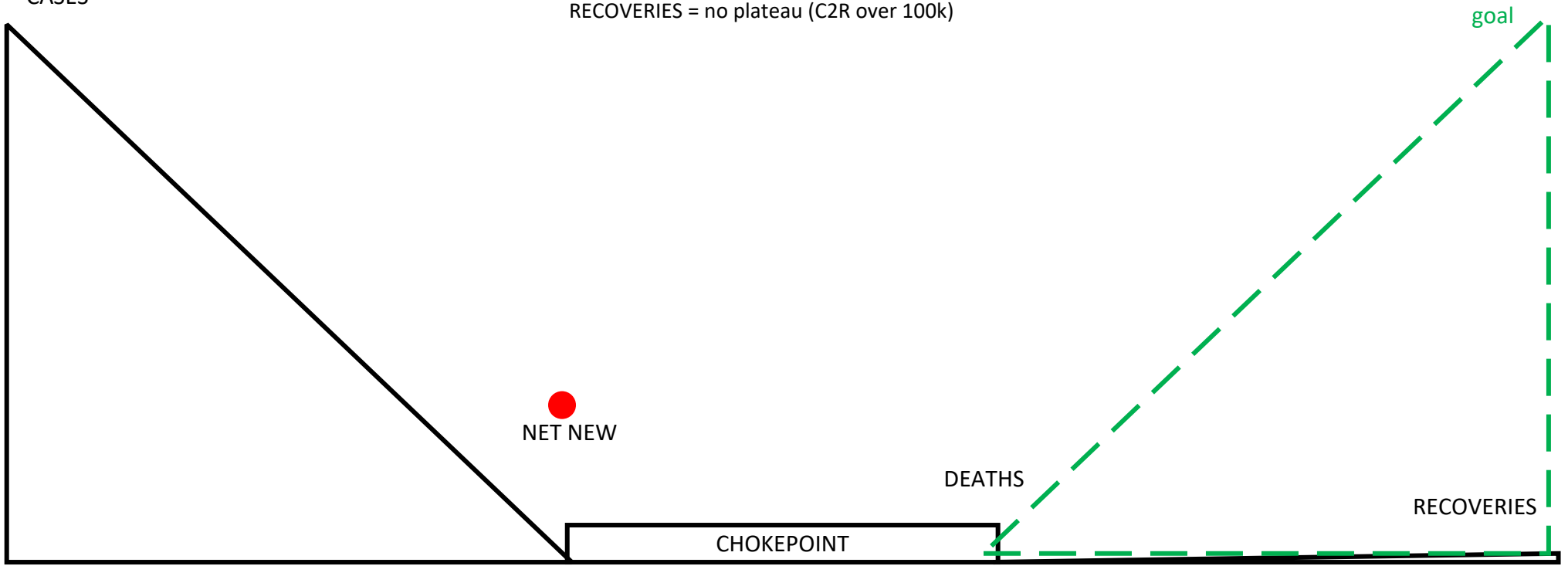
The origin of "throughput" comes from supply chain distribution concepts. The more volume IN should equate to more volume OUT. In-between both is a CHOKE POINT where various factors can cause a slowdown in throughput production. This Throughput Model works in a similar fashion regarding a pandemic such as Covid-19. The more INFLUX of NET NEW cases equates to an OUTFLUX of DEATHS or RECOVERIES. The chokepoint is QUALITATIVE with hospital care and capacity. If either is compromised, recovery rates slow down or are non-existent. If there are more deaths than recoveries, hospital care is non-existent (or fully compromised). The goal of the Throughput Model is to identify if there are chokepoints (overworked, understaffed, unsupported hospitals), higher/lower death rates, and higher/lower recovery rates compared to new cases.

Data analysis proves there is a positive correlation between high cases and high deaths or high recoveries. States that are keeping up with their new cases have good throughput (good care with no chokepoints). States that are NOT keeping up with their new cases have bad throughput (insufficient care with chokepoints). Currently, there is a vaccine that should show a downward trend in NET NEW cases over time. The goal is for the (right) triangle to be matched by a (left) triangle with ZERO NET NEW cases.

note: some states are inconsistent with their RECOVERIES reporting

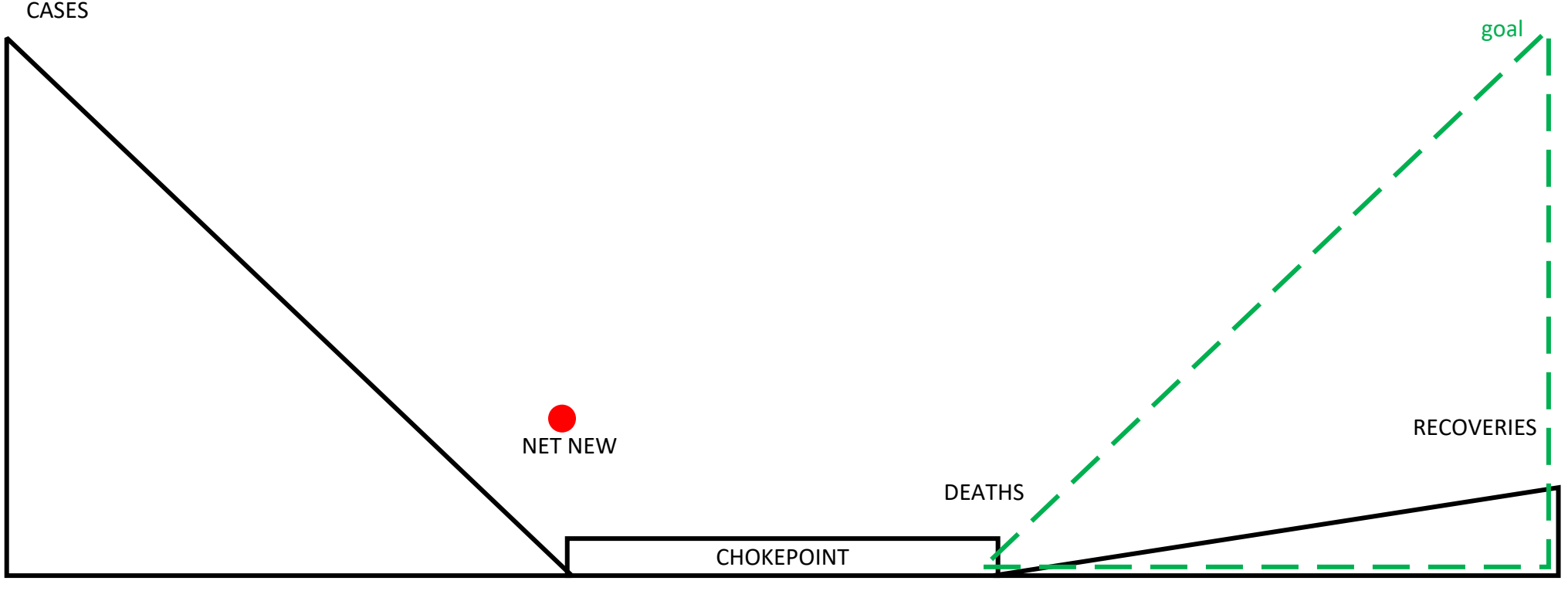
THROUGHPUT MODEL
Stage One: PANDEMIC START

This initial stage shows higher CASES than RECOVERIES, high NET NEW CASES, and higher DEATHS than RECOVERIES = no plateau (C2R over 100k)



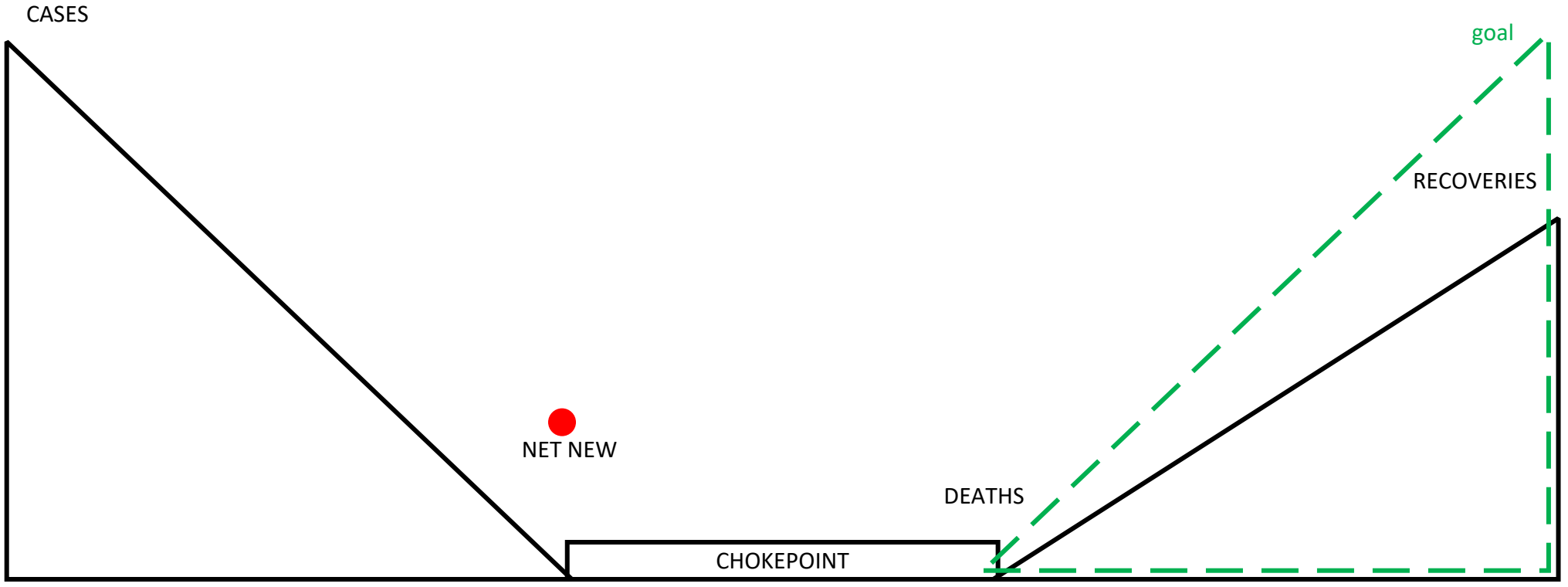
THROUGHPUT MODEL
Stage Two: BEHIND PACE

This second stage indicates higher RECOVERIES than DEATHS but higher CASES than RECOVERIES = no plateau (C2R over 100k)



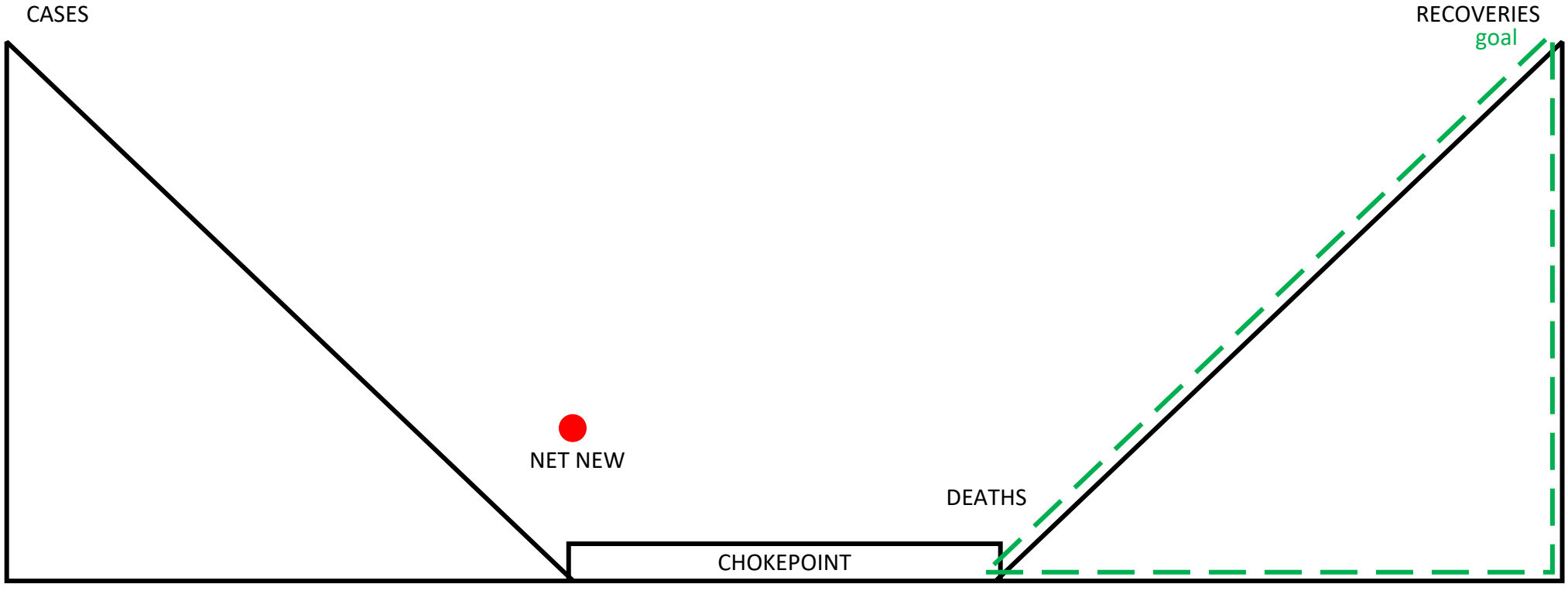
THROUGHPUT MODEL
Stage Three: KEEPING PACE

This third stage indicates higher RECOVERIES than DEATHS and nearly as many RECOVERIES as CASES = near plateau (C2R under 100k)



THROUGHPUT MODEL
Stage Four: NEAR GOAL

This fourth stage indicates higher RECOVERIES than DEATHS and as many RECOVERIES as CASES = plateau (C2R = 0)



THROUGHPUT MODEL
Stage Five: GOAL

This final stage indicates CASES and RECOVERIES have plateaud with no NET NEW CASES (C2R = 0)