This research article makes a significant advance in the study of reversal of antibiotic resistance, in colonies of homogeneous microbes. The quality of the work, reinforced by positive peers reviews [Ref 1] [Ref 2], shows reversal rates at 60%, a rate much higher than shown with previous work.

There are three simplifications in this research work that minimize the applicable value of the results. One, bacterial or microbial colonies are never homogeneous, which the study uses as a basis. Inter-microbe interaction that leads to stronger defenses to antibiotics must be a relevant part of such studies for they will almost certainly skew the growth rates and reversal rates. Two, the ambient, biological and chemical environment in which the results were generated are significantly simpler than with a human body or hospital situation where a microbe colony typically thrives. Third, microbes tend to react to antibiotic stimuli in ways that is not predictable in 24 hours terms, a term to which the research was limited. Over a period of a few days, microbes tend to find ways of reversing initial effects, including mutation over multiday terms, a term that was not studied.

While the work in its current form is relevant to being an early research step and not immediately applicable to real life situations, we strongly support the piecewise study of complex problems using algorithmic approaches.