

Finding the inherent simplicity in outpatients

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Blog post



1 Introduction

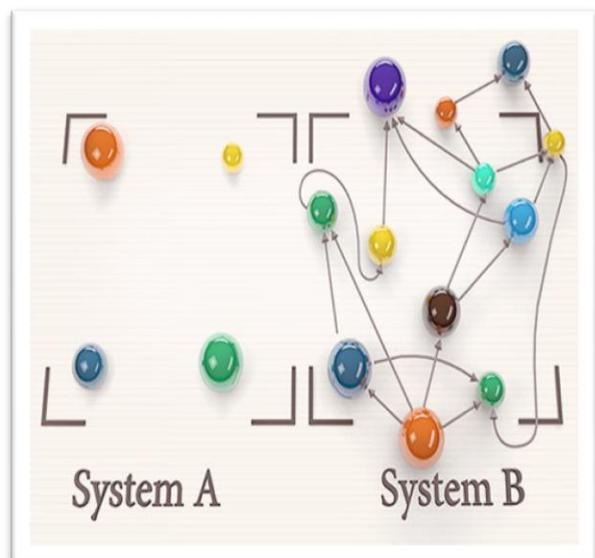
Where are the few elements that are irrefutably the cause of poor quality and untimely care across all patients and putting already overstretched staff under unnecessary pressure?

Throughout *Pride and Joy* I try to demonstrate that however complex a system may appear, there are only ever a few elements in a goal-oriented system that have the power to truly impact the performance of the whole system; this is the inherent simplicity of a system – the constraint(s). In this blog I will explain more about the concept of inherent simplicity and its application in the outpatient environment.

Let us consider two systems: System A and System B

System A has four separate circles of different colours and sizes. System B comprises many different circles of different colours and sizes, with many arrows going in many directions. Which system is more complex?

As Dr Goldratt explains in his satellite programme, *Necessary and Sufficient*, “The common prevailing definition for the word complexity is: the more data elements that are needed to fully describe a system, the more complex a system is.” In other words, if you can explain a system in just a few sentences it is a simple system but if you need many pages to describe it then you have a complex system.



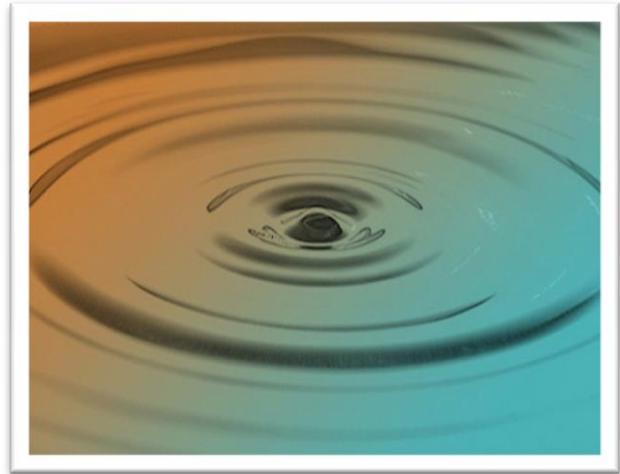
When someone uses this definition of complexity it seems obvious that System B is the more complex; it is far more difficult to explain System B than it is to explain System A.

However, we live in a world where things affect other things. More interestingly, one thing can cause a multitude of other effects – some positive, some negative. By drilling down to the few elements that are causing the most effects across the whole system, we find the inherent simplicity – the few elements that drive the performance of the system. This is why I claim in *Pride and Joy* that trying to address the multitude of negative effects playing out across the system with individual responses is futile. It is far better to focus all our attention on digging down, through cause and effect analysis, to expose the underpinning cause of the multitude and magnitude of negative effects.

The amount of data present should not be connected with the level of difficulty there is to control and predict the behaviour of the system. Instead, it is the more degrees of freedom the system has that tells us how complex the system is. The

degrees of freedom are the elements you need to affect in order to impact the entire system. System A has four separate elements. Under closer examination we can see system B has one.

Reality can seem very complex but if you start with the view that in any system – an organisation, a supply chain, a healthcare system – there are only a few elements that can truly impact the performance of the whole system, you can begin to see the difference between the cause of a situation and the many different effects (or inevitable outcomes) that stem from it. The key is to focus efforts on identifying and addressing the root causes: the constraint(s) and in so doing expose the inherent simplicity.



2 An example: the outpatient system

Under the first definition, 'the more data elements needed to fully describe a system, the more complex a system is', the outpatient system would appear very complex indeed. There are literally tens of thousands of patients in the system at any moment in time and, unfortunately in many health systems, thousands more waiting their turn. As the process is one of diagnosis, by definition the pathway each individual will follow is not predetermined and will emerge as the diagnosis progresses. In one instance the first meeting with the consultant may be sufficient or after a few tests the cause of the illness is known and the treatment required is simple, but in other instances the patient could undergo a whole series of tests under one consultant only to conclude the patient needs to be referred to another consultant for a new round of tests. Equally, the final treatment plan could involve the efforts of many different resources over time and in different geographies: some parts of the treatment plan may need to be carried out in the hospital and possibly others when the patient is at home.

Attempting to describe the system by describing the flows of each patient and the resources required at each step in each patient's journey would take a very long time and would require constant upgrade as the very next patient either leaves or joins the system.

However, this is clearly a goal-oriented system and as Dr Goldratt explained, 'in a goal-oriented system there are relatively few elements of the system that can affect the performance of the system'. If we are interested in a process of improving the system then rather than starting by trying to understand the system under the first definition, we should start by trying to determine the common cause of the major and long-running undesirable effects.

In the outpatients arena these are more obvious to us: quality of care and timeliness of care are often the most concerning and obvious long-running undesirable effects.

In many instances this is why a 'target' was initially instigated as the concerns over untimely care were growing at an alarming rate. However, setting a target does not alleviate a third common undesirable effect: many staff were already feeling under constant pressure and 'overloaded'.

In chapter twelve of *Pride and Joy*, Stevie shows that, in the outpatient process, by setting a patient-centred and clinically based time to complete the treatment we can quickly identify what was the most common cause resulting in the most deviation from this expectation. Interestingly, this analysis often reveals that although many patients take longer than they should there are also a considerable number of instances when non-urgent patients took less time than expected. This often helps us quickly focus on the few resources, tasks or policies that are causing the mis-synchronisation and disruptions, and can help us focus our improvement efforts. If our analysis is correct then corrective actions in these few places (which include eliminating the inappropriate local performance measures) should deliver a major breakthrough in relatively short timescales. It is worth remembering that the mis-synchronisation is often itself caused by the local optimisation, exaggerated by local performance measures.

The examination of timeliness (both early and late) rather than simply being a target can be a truly enlightening route to rapidly uncovering the relatively few constraint(s) and create a process of on-going improvement. Interestingly, better timeliness (eliminating unnecessary early appointments) also opens up more space in the booking schedules and improves quality of care in two ways. Firstly, more rapid diagnosis will result in more rapid treatment and hopefully faster alleviation of the symptoms, but we are also aware that poor quality care and even catastrophic mistakes are more likely to occur when many staff are under constant time pressure.

More timely care achieved by addressing the underlying causes of delay and disruption will result in freeing up critical clinical time that can be used to also provide higher quality and more patient-centred care whilst simultaneously reducing the stress and pressure on often already overstretched staff.