Neighbourhoods as Disruptive Innovation Platforms

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Exploring scaling theory and disruptive innovation as a blueprint for NHS neighbourhood development

Introduction

For several decades, successive NHS strategies have articulated broadly similar ambitions for the future of health and care. These ambitions have typically included moving care closer to home, improving prevention, strengthening integration between organisations, and making greater use of digital technology. The latest direction of travel within the NHS once again reinforces these themes through a renewed emphasis on:

- shifting care from hospital to community settings
- moving from analogue to digital models of delivery
- and transitioning from sickness treatment towards prevention and population health management.

Despite broad consensus around these ambitions, **transformational change across the NHS has repeatedly proven difficult to achieve** at scale. While important improvements have occurred within individual services and organisations, the wider architecture of care delivery remains dominated by **institutionally centred models designed primarily around episodes of illness rather than long-term population wellbeing.**

This raises an important strategic question. If the case for transformation has been widely accepted for many years, why has meaningful large-scale change remained so limited?

One explanation is that the NHS has often approached transformation primarily as a problem of organisational improvement rather than system redesign. Most transformation programmes seek to improve coordination between existing institutions while leaving the deeper structures of incentives, accountability, resource allocation and operational logic largely unchanged. As a result, new models frequently become absorbed into existing ways of working rather than creating fundamentally different approaches to care delivery.

This paper argues that understanding this challenge requires looking beyond conventional healthcare management theory towards broader ideas about how complex systems scale, adapt and innovate.

Drawing on the work of Geoffrey West in Scale, Clayton Christensen in The Innovator's Dilemma and The Innovator's Prescription, and Fred Brooks in The Mythical Man-Month, the paper proposes that the NHS currently behaves largely as a sublinear, sustaining-innovation system. In other words, it is structurally optimised to improve and sustain existing institutional models, but significantly less capable of enabling disruptive change that alters how value is created across populations.

The paper further argues that neighbourhoods should not primarily be understood as operational delivery units or coordination mechanisms. Instead, they should be designed as disruptive innovation platforms: protected, high-interaction environments capable of generating new value networks, faster learning cycles and more adaptive models of population health delivery.

The central proposition is therefore that neighbourhoods represent one of the few realistic opportunities for the NHS to create genuinely new operating dynamics alongside its existing institutional architecture.

Scaling, networks and the behaviour of complex systems

A useful starting point for understanding transformation within the NHS comes from Geoffrey West's work on scaling theory. In *Scale*, West explores how different kinds of systems, including biological organisms, cities and economies, demonstrate remarkably consistent mathematical relationships between size and performance.

At the centre of this work is the idea that the behaviour of systems is determined not simply by their size, but by the structure of the networks through which energy, information, people and resources flow.

West expresses this relationship through the scaling equation:

$Y = Y_0 M^{\beta}$

In this equation:

- *Y* represents output
- *M* represents scale or size
- and *β* describes how outputs change as systems grow.

The critical insight lies in the value of β. When β is less than 1, systems become more efficient as they scale but experience diminishing adaptive returns over time. Biological organisms typically display this behaviour because they rely on hierarchical distribution systems designed to optimise reliability and energy efficiency. When β exceeds 1, however, systems exhibit accelerating returns, meaning outputs such as innovation, economic activity and learning increase faster than scale itself.

Cities are perhaps the clearest example of this phenomenon. As cities grow, the density and diversity of interactions between people increases disproportionately, generating new ideas, innovation and economic productivity at rates that exceed population growth alone.

West's central argument is therefore highly relevant to health systems. The adaptive capacity of a system is shaped not primarily by leadership intention or organisational design in isolation, but by the density, diversity and structure of interactions across the system itself. The key element is connectiveness and opportunity for positive feedback loops driving increase output.

This distinction is important because much NHS transformation activity continues to focus on structural reorganisation, governance arrangements and institutional redesign, rather than the underlying interaction dynamics that determine learning and adaptation.

Disruptive innovation and the limits of incumbent systems

While West helps explain how systems scale and adapt, Clayton Christensen's work helps explain why large institutions frequently struggle to transform even when the need for change is well understood.

In '*The Innovator's Dilemma*' and '*The Innovator's Prescription'*, Christensen argues that established organisations are rarely resistant to innovation because of poor leadership or lack of ambition. Instead, they are structurally optimised to improve the very models that made them successful in the first place.

Incumbent systems become highly effective at 'sustaining innovations'. They may improve quality, efficiency and performance within existing institutional and economic structures. However, this same optimisation makes disruptive innovation difficult because disruptive models often:

- begin as simpler or lower-cost alternatives
- may initially perform poorly against established metrics
- and challenge existing professional, operational and financial assumptions.

As a result, disruptive innovations are frequently marginalised, absorbed into existing structures, or judged against inappropriate criteria before they are mature enough to demonstrate their full value.

Christensen argues that successful disruption therefore usually requires the creation of new value networks: environments in which different incentives, operating models and definitions of success can emerge outside the constraints of incumbent institutional logic.

This has major implications for healthcare. Many of the NHS's most significant challenges - including multimorbidity, frailty, behavioural health and prevention - do not fit neatly within traditional hospital-centred or pathway-based models of care. These challenges require continuous adaptation, behavioural support, local coordination and interventions that extend beyond organisational boundaries.

Christensen's concept of "jobs to be done" is particularly relevant here. Rather than organising care around services or specialties, systems should organise around the real-world problems people are trying to solve in their lives, such as:

- maintaining independence
- avoiding escalation and crisis
- managing multiple conditions simultaneously
- or sustaining mental wellbeing and social participation.

This represents a profound shift in how value is understood within health systems and hints at a move from activity to outcomes, as ambition and measurement.

Complexity, coordination and institutional drag

The work of Fred Brooks provides a further layer of insight into why large-scale transformation becomes increasingly difficult as organisational systems expand.

In *The Mythical Man-Month*, Brooks explored how coordination complexity grows disproportionately as systems become larger and more interconnected. Although Brooks was writing primarily about software engineering, the underlying principles apply equally to large institutional systems.

As organisations scale, communication pathways multiply rapidly. Decision-making becomes slower, interfaces become more numerous, and increasing amounts of organisational energy are consumed by coordination activity rather than productive adaptation.

This dynamic is highly recognisable within the NHS. Over time, efforts to improve integration have often produced additional governance structures, reporting requirements, oversight mechanisms and organisational interfaces. While these arrangements are usually created with positive intent, they can unintentionally increase coordination burden faster than they increase adaptive capability.

Brooks also argued that complex systems require conceptual integrity: a coherent operational philosophy capable of aligning different components around a shared logic. Without this integrity, systems become fragmented collections of compromises that struggle to adapt effectively.

This insight is particularly important for neighbourhood development. If neighbourhoods are introduced simply as additional coordination layers within the existing architecture of the NHS, they risk reproducing the very fragmentation they are intended to address. Their effectiveness depends on whether they are allowed to operate according to a genuinely different logic centred on population outcomes, rapid adaptation and collaborative problem-solving. Can they pull resource in from partners, as required, or will they be forced to try and coordinate current services and resources?

The NHS as a sublinear, sustaining-innovation system

Taken together, these theories suggest that the NHS currently operates primarily as a sublinear, sustaining-innovation system.

This should not be interpreted as a criticism of the NHS's achievements. The existing architecture of the NHS has been highly effective at delivering large-scale episodic care with consistency, reliability and relatively high levels of technical quality. Hierarchical organisational models, pathway-based care and tightly managed

institutional performance frameworks are well suited to environments where standardisation, control and predictable delivery are essential.

Unfortunately, the same characteristics that support reliability and efficiency can also inhibit adaptability.

The NHS remains heavily shaped by:

- hierarchical organisational structures
- activity-based performance measures
- institutionally defined incentives
- siloed accountability arrangements
- and service models organised around professional and organisational boundaries.

These structures are less well suited to challenges requiring:

- continuous adaptation
- prevention-oriented approaches
- behavioural change
- and coordinated responses across multiple sectors and determinants of health.

From a scaling perspective, the NHS largely retains interaction patterns associated with sublinear systems. Learning cycles remain relatively slow, interactions between organisations are often transactional, and innovation is constrained by institutional boundaries.

From a disruptive innovation perspective, emerging models are frequently evaluated using incumbent performance frameworks designed around existing, fragmented institutional priorities. As a result, innovations that focus on prevention, continuity or lower-cost community intervention can struggle to demonstrate value within systems still dominated by acute activity and institutional throughput.

This creates a form of institutional gravity in which workforce, capital, operational influence and political accountability remain concentrated within large incumbent providers. Transformation efforts are therefore repeatedly drawn back towards sustaining existing organisational models rather than creating fundamentally new ways of delivering value.

The result is a focus on incremental improvement rather than transformational redesign.

Reframing neighbourhoods

Current discussions around NHS neighbourhoods often focus on operational integration. Neighbourhoods are commonly described in terms of multidisciplinary teams, local coordination, integrated care delivery and closer partnership working between organisations.

While these developments are important, **they are unlikely on their own to produce transformational change.**

This paper argues that neighbourhoods should instead be understood as disruptive, high-interaction innovation systems operating alongside the core NHS architecture.

Their importance lies not simply in decentralisation or localism, but in their potential to create:

- new value networks
- denser interaction patterns
- faster learning cycles
- and more adaptive approaches to population health management.

The critical distinction is that neighbourhoods should not merely coordinate existing services more effectively. They should create environments in which fundamentally different operational behaviours become possible and innovative leaders will be able to draw on the muti-partner resources necessary to succeed.

From pathways to population capability

A defining feature of neighbourhood-based systems is the shift from organisation-centred pathways towards problem-centred population goals or 'Value-based Outcomes'.

Traditional NHS models are typically organised around institutions, specialties and clinical pathways. While these approaches work well for many acute and episodic conditions, they are less effective for complex population challenges that cut across organisational boundaries.

Neighbourhoods create the possibility of organising around shared population "jobs to be done", such as:

- maintaining independence among frail older people
- reducing escalation among children and young people with mental health needs
- stabilising high-intensity service users
- and preventing avoidable deterioration in people with multiple long-term conditions.

This reframing changes the underlying logic of care delivery. The focus moves:

- from activity to outcomes
- from episodes to continuity
- from institutional throughput to population capability
- and from organisational performance to collective impact (or Value).

Importantly, this also changes how success is measured. Prevention-oriented systems may initially appear less productive when viewed through traditional institutional metrics because their value emerges through avoided demand,

improved resilience and reduced escalation over time. This does not necessarily mean resources are spent on two completely different time zones (Prevention vs Reactivity), but could represent the ability to increase the amount of proactivity in any encounter and thus become more preventative over time.

Neighbourhoods as super-linear systems

The most important insight from West's work is that innovation emerges from interaction density rather than organisational size alone.

Neighbourhoods therefore matter not because they are smaller administrative units, but because they create the conditions for more intensive and diverse interactions between professionals, organisations and communities.

This includes:

- more frequent collaboration
- shorter feedback loops
- faster problem-solving
- and greater ability to recombine resources around emerging needs.

Successful neighbourhood systems are therefore likely to **depend less on formal organisational restructuring and more on creating the conditions for adaptive interaction.**

This requires:

- multidisciplinary adjacency and real time communication
- operational flexibility
- shared intelligence
- rapid decision-making
- and permission for local experimentation and resource use.

The goal is not simply better coordination. It is the creation of environments capable of generating super-linear learning and innovation dynamics over time.

Designing disruptive neighbourhood systems

If neighbourhoods are to function as genuine disruptive innovation platforms, they require structural conditions that differ significantly from many existing NHS operating models.

First, neighbourhoods require meaningful operational autonomy. This includes delegated budgets, flexibility in workforce deployment, and the ability to redirect resources dynamically in response to local population needs. Without genuine

control over resources and decision-making, neighbourhoods risk becoming dependent operational arms of larger institutions.

Second, neighbourhoods require protected innovation space. Disruptive models frequently underperform against incumbent metrics in their early stages because they prioritise accessibility, prevention and continuity over institutional throughput. If neighbourhoods are subjected immediately to the same performance pressures as traditional services, there is a significant risk that disruptive potential will be suppressed before alternative models can mature.

Third, neighbourhoods require shared intelligence systems capable of supporting continuous learning. This means moving beyond retrospective performance reporting towards near real-time population insight capable of identifying emerging risks, intervention effectiveness and changing patterns of demand.

Finally, neighbourhood leadership requires a different orientation from traditional organisational management. Leaders increasingly become network orchestrators whose role is to enable collaboration, remove barriers, facilitate learning and create the conditions for adaptation across organisational boundaries. There also needs to be thought about accountability. Is accountability about money or population health? Where does it sit? The developing leadership also needs to be given the necessary disruptive freedom by incumbent organisations.

A practical neighbourhood model

In practical terms, a neighbourhood model might operate across populations of approximately 30,000–50,000 residents and bring together multidisciplinary teams spanning health, social care, community services and the voluntary sector.

Operationally, the emphasis would be placed on:

- continuous shared problem-solving
- rapid feedback loops
- and collective ownership of population outcomes.

Initial pilots within places such as Leeds could focus on cohorts where traditional service models struggle most visibly, including:

- high-intensity service users
- frailty and ageing well
- and children and young people’s mental health.

Importantly, success would not be judged solely through short-term reductions in activity. Evaluation would instead focus on evidence of:

- increased adaptive capability
- Team development and satisfaction
- improved population resilience
- reduced crisis dependence
- faster learning cycles

- and movement of care outside traditional institutional settings.

Strategic implications

The implications of this approach are substantial.

First, it suggests that transformation may require the development of parallel operating systems rather than continued attempts to reform incumbent institutional models alone. Historically, many transformation programmes have attempted to embed disruptive models within existing organisational architectures, where they are subsequently constrained by established incentives, governance arrangements and operational priorities.

Second, it implies that neighbourhoods will require significantly greater autonomy than many current models provide. Symbolic delegation without meaningful control over resources, incentives and operating rules is unlikely to generate genuinely disruptive capability.

Third, it reframes the role of system leadership. Leadership increasingly becomes less about managing individual organisations and more about designing the conditions in which adaptive networks can emerge and evolve.

Finally, it challenges some conventional assumptions about productivity and integration. Integration alone does not necessarily increase adaptive capability. Systems can become more administratively connected while remaining operationally constrained by incumbent incentives and organisational boundaries.

What matters most is the quality of interaction within high-performing, agile teams. This depends on:

- strong, trust-based relationships
- frequent feedback
- shared learning across partners

Because these teams are multi-agency, they need sufficient freedom from incumbent institutions to work in adaptive ways. At times, this may mean supporting approaches that sit uneasily with the immediate priorities or stability of individual organisations.

Conclusion

The NHS faces a strategic challenge that is fundamentally about network redesign rather than incremental optimisation.

Existing organisational structures are highly effective at sustaining institutional models of episodic care, but are less capable of delivering the adaptive, prevention-oriented and population-based approaches increasingly required to address modern patterns of health need.

The combined insights of Geoffrey West, Clayton Christensen and Fred Brooks suggest that meaningful transformation depends on:

- creating new value networks
- increasing adaptive interaction density
- reducing coordination friction
- and enabling disruptive models to develop outside the constraints of incumbent organisational economics.

Neighbourhoods represent one of the few realistic opportunities to achieve these conditions simultaneously.

Their strategic importance lies not simply in local integration, but in their potential to function as disruptive, super-linear innovation systems capable of generating disproportionate improvements in population health, learning and long-term sustainability.

The central policy question is therefore not whether neighbourhoods should exist, but whether the NHS is willing to devolve sufficient authority, legitimacy and resource for them to operate as genuinely new models of health and care delivery.