



Unlocking Hidden Capacity

Sheema Noorain, Maria Paola Scaparra, Kathy Kotiadis & Emily Musara

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UNLOCKING HIDDEN CAPACITY

**SHEEMA NOORAIN,
MARIA PAOLA
SCAPARRA, KATHY
KOTIADIS, AND
EMILY MUSARA**

This is the successful story of how OR has helped in recent years to improve mental health service planning in the South East of England. When a mental health service needed to evaluate its performance and consider future expansion, combining optimisation with ‘structured engagement’ across organisational levels revealed capacity hiding in plain sight.

The Kent and Medway Mental Health NHS Trust’s Primary Care Mental Health service has been running for several years now, supporting people with mild to moderate mental health conditions across 65 GP clinic locations. With growing demand and persistent workforce challenges across the NHS,

the leadership team has been considering whether they needed to expand the clinical workforce.

Questions of immediate interest were: How is the service actually performing? Are we using our current capacity as effectively as we could be?

Might there be capacity hiding in plain sight that could be unlocked alongside any future expansion?

The urgency of this question reflected a broader and growing trend. NHS mental health referrals were rising sharply, while funding and workforce capacity failed to keep pace [1]. The service needed to understand its current state before making critical decisions about future direction.

What happened next challenged assumptions about how the service operated and revealed opportunities that had not been visible before.

THE NHS DATA PARADOX

The service was navigating the complex pressures facing mental healthcare across the NHS. Clinicians at the operational level were making daily allocation decisions based on their immediate caseloads. Team leads at the tactical level were balancing workloads without comprehensive utilisation data. Service managers at the strategic level were setting targets while lacking clear visibility into patterns across 65 locations. And commissioners at the policy level were making funding decisions based on aggregated numbers that masked operational realities.

Might there be capacity hiding in plain sight that could be unlocked alongside any future expansion?

The data existed. Electronic patient records captured every appointment, every referral, every clinician hour. But

the data sat in silos and there was a lack of a shared language to talk about what was actually happening across the system. Early analysis revealed striking patterns (Figure 1). One clinician was managing 11 patients across 8 different locations, frequently travelling to see just one patient at a site. Another location with 27 active referrals had four clinicians assigned, while a location with only 7 referrals also had four clinicians. When we looked at workload distribution, some clinicians in the same skill band were meeting 2% of demand while others were meeting 15%. But here is what struck us most: clinicians believed most appointments lasted over 60 minutes. The data showed something different, 75% of follow up appointments were completed in 45 minutes or less. The gap between perception and reality ran deep.

BRINGING PEOPLE TOGETHER

We began with a simple premise: the people closest to the problem know the most about it. But they each see only their piece. What if we could bring together stakeholders from all four

organisational levels such as policy, strategic, tactical, and operational, in structured workshops to build a shared understanding?

The workshops followed an adapted PartiSim approach [2,3]. PartiSim uses Soft Systems Methodology to engage stakeholders in discrete event simulation; we adapted the framework for optimisation modelling, known as PartiOpt [4–7]. We approached this not as consultation, but as co-creation designed for impact.

In the first of a series of facilitated workshops, we asked stakeholders to identify the service's core transformation. We found it to be: 'To provide the right intervention by the right professional at the right time and location.' Simple words that everyone could align behind. Then we asked them to draw what they saw, quite literally. Rich pictures emerged showing how clinicians, managers, and commissioners each perceived the system differently.

Through the workshops, stakeholders began to see patterns that had been invisible when each level operated in isolation. Analysis of appointment data and workload distribution revealed unassigned hours that no one had recognised. Participants had assumed they were working at capacity until they saw the evidence alongside each other's experiences.

These insights informed the development of a multi skill, multi location optimisation model [7]. The model captured the complexity of the service: 12 clinicians with different skill sets, 65 GP locations with varying demand, and constraints around travel time, working patterns, and appointment types. Through subsequent workshops, stakeholders validated and refined the model twice, ensuring it reflected operational realities rather than theoretical assumptions.

With the model in place, stakeholders systematically tested scenarios. Not through presentations or reports, but rather through

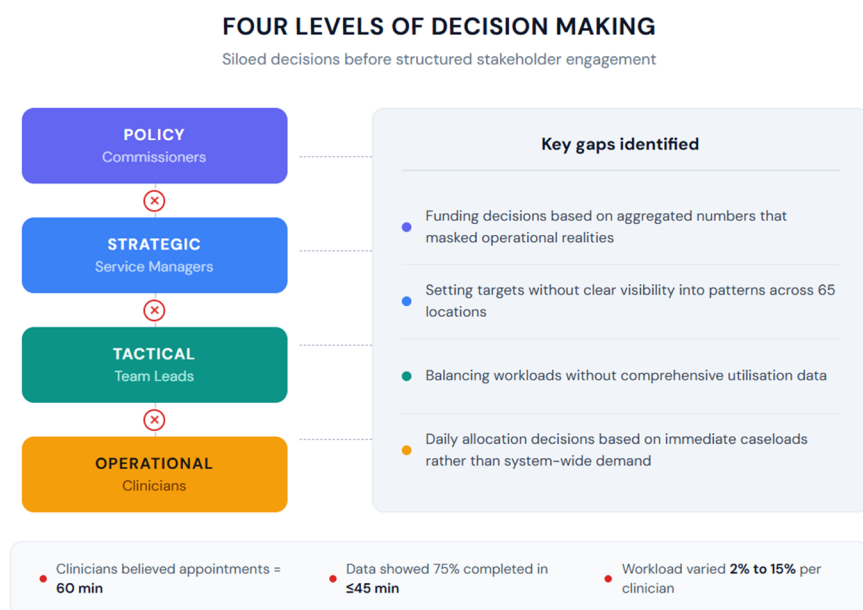


FIGURE 1 FRAGMENTED DECISION MAKING ACROSS FOUR ORGANISATIONAL LEVELS OF THE PRIMARY CARE MENTAL HEALTH SERVICE

collaborative problem solving. When we asked about appointment durations, clinicians initially defended their 60-minute estimates. Then we showed them their own historical data. The disconnect was clear: if 75% of follow up appointments were completed in 45 minutes or less, why was scheduling based on 60-minute assumptions?

The workshops (Figure 2) revealed the potential to direct clinicians to where demand was highest, using the optimisation model to identify which locations had the most referrals and calibrate resources accordingly. The insight was not new, but the shared visibility was. Stakeholders recognised the gap between practice and assumption. This challenged their view that service operations were organised to a satisfactory degree.

FROM INSIGHTS TO IMPACT

The numbers told a compelling story. By testing scenarios with stakeholders, we identified a 14 to 16% potential utilisation improvement, without hiring a single additional clinician [7]. In the most efficient scenario, the

service achieved only 2.2% unassigned hours across the entire workforce while meeting all appointment demand.

The optimisation model was the artefact. The transformation was the process.

But the real transformation went deeper than utilisation rates. Before, workload distribution varied wildly, from 2% to 15% of total demand per clinician. After implementing standardised approaches informed by the workshops, clinicians in the same skill band handled 9 to 11% of demand each [7]. The 13-percentage point gap narrowed to just 2 percentage points.

Stakeholders acknowledged that the existing service fell short and expressed a need for standard operating procedures. The workshops created the space to develop those procedures together, with participants recognising the value of using this information to set benchmarks for monitoring performance against targets [4].

The engagement process revealed organisational learning that extended far beyond the immediate optimisation problem:

- Enhanced business intelligence: The service now had systematic tracking of clinician utilisation patterns, something that had not existed before.
- Data gaps identified: Stakeholders realised that critical operational information, like actual working patterns and location specific demand, simply was not being captured. They committed to fixing that.
- Shared language created: For the first time, commissioners, managers, team leads, and clinicians could talk about service performance using the same concepts and metrics.
- Ongoing scenario testing capability: The service could now systematically evaluate ‘what if’ questions before making operational changes

Stakeholders who co-create the model also co-own the solution (Figure 3).

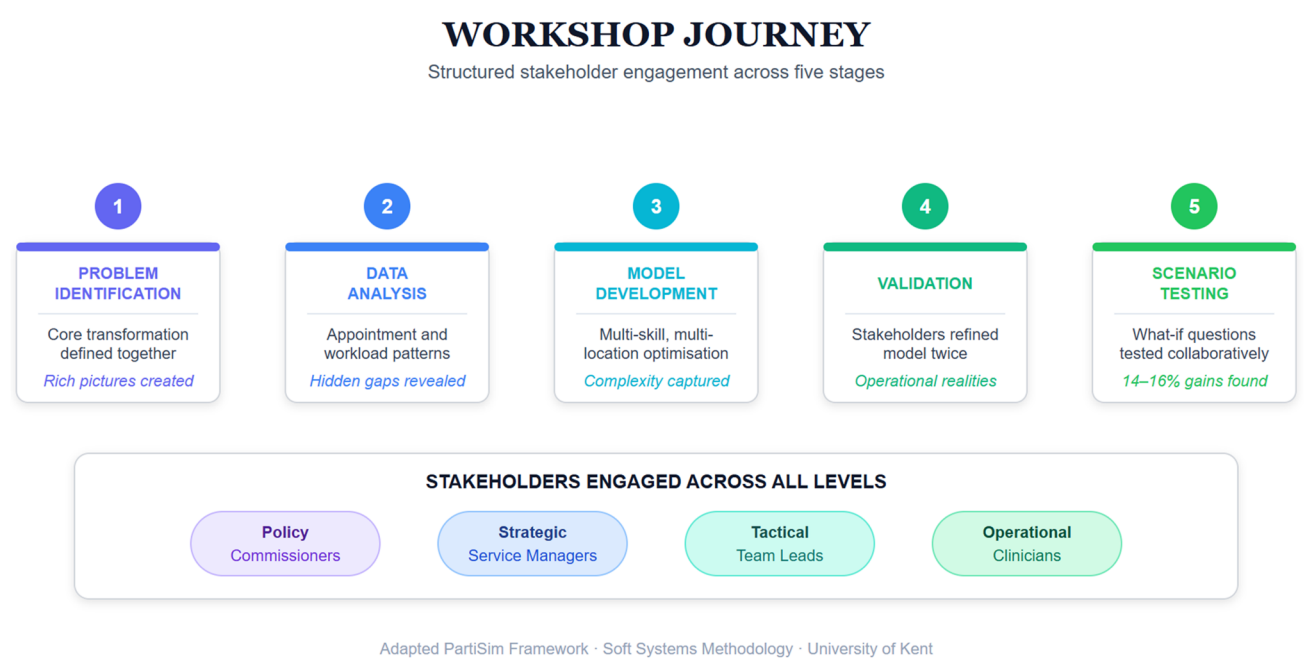
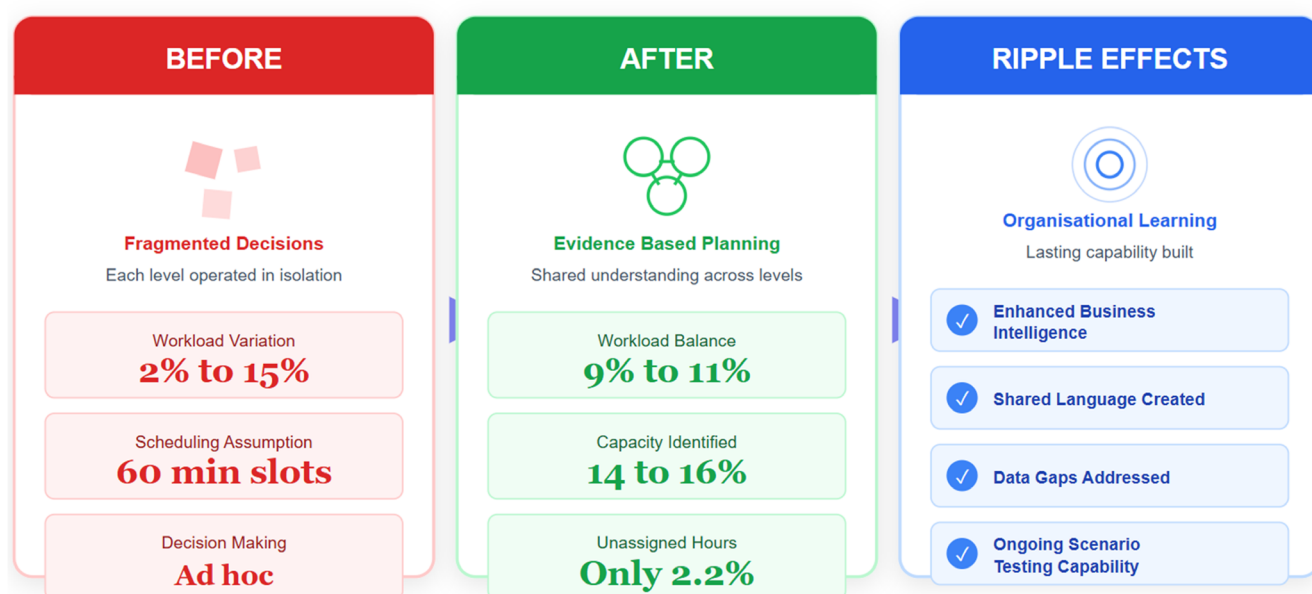


FIGURE 2 THE STRUCTURED WORKSHOP JOURNEY FROM PROBLEM IDENTIFICATION TO SCENARIO TESTING

TRANSFORMATION IMPACT

From fragmented decisions to evidence based planning



Kent and Medway Mental Health NHS Trust • Primary Care Mental Health Service • 12 clinicians across 65 locations

FIGURE 3 SUMMARY OF IMPACT

BEYOND MENTAL HEALTH

What makes this collaborative work transferable is the systemic engagement across organisational levels. The approach has clear applicability to any NHS service wrestling with similar challenges:

- Multi-site delivery with geographic dispersion.
- Constrained workforce with varied skill levels and employment patterns.
- Fragmented decision-making where each level operates with incomplete information.
- Gap between operational perceptions and data reality.

Community health services face remarkably similar patterns: distributed teams, multiple locations, varied patient needs, siloed operational knowledge. Integrated care systems grappling with workforce planning across organisational boundaries could adapt the four level engagement approach. Any service attempting to answer the

question ‘how do we do more with what we have?’ requires first answering ‘What is it we are actually doing?’

The methodology follows a clear progression: structured problem identification (what challenges do we face?), systematic translation of operational knowledge (what do we know that is not captured?), collaborative scenario testing (what if we tried this?), and validation with the people who will implement the changes. The tools such as rich pictures, performance measurement frameworks, systematic constraint identification, provide structure without imposing answers.

Stakeholders who co-create the model also co-own the solution.

The approach works because it builds on the operational knowledge practitioners already possess while making that knowledge visible and actionable across organisational levels. It provides structure for systematic

engagement while allowing services to define their own solutions based on their specific contexts and constraints (Figure 4).

Today, the service manager still interrogates the service performance data, but addressing different questions. The service still faces the pressures common across NHS mental healthcare. Demand continues to rise, workforce challenges persist, and the system is evolving rapidly. The NHS 10-Year Health Plan is shifting mental health services toward neighbourhood based community models with 24/7 access [8]. New Mental Health Act legislation emphasises increased community provision and support [9]. Digital transformation is accelerating, with AI powered chatbots like Limbic Access already demonstrating success in NHS Talking Therapies, streamlining triage, improving access for underrepresented groups by 29 to 179%, and reducing clinicians’ administrative time by an estimated 15 minutes per referral [10–12].

KEY METRICS SUMMARY

Primary Care Mental Health Service Optimisation Results

14-16%

CAPACITY
IDENTIFIED

Without additional hiring

2.2%

UNASSIGNED
HOURS

In optimised scenario

65

GP CLINIC
LOCATIONS

Across Kent and Medway

WORKLOAD BALANCE TRANSFORMATION

BEFORE

2%

13pt gap

15%

AFTER

9%

11%

Gap reduced from 13 to 2 percentage points

SERVICE SCOPE

12

Clinicians
Multi skilled

5

Workshops
Structured

15

Participants
All 4 levels

Source: Noorain et al. (2025) Journal of the Operational Research Society • Kent and Medway Mental Health NHS Trust

FIGURE 4 KEY METRICS FROM THE OPTIMISATION OF THE PRIMARY CARE MENTAL HEALTH SERVICE

We continue collaborating with Kent and Medway Mental Health NHS Trust to explore how the optimisation approach can adapt to these transformations. How might the model accommodate the shift from primary care based services to integrated neighbourhood teams? Could AI powered triage tools be incorporated to handle initial referrals while clinicians focus on complex assessments? What does workforce optimisation look like when digital tools handle routine screening and humans provide the specialised care?

The capacity was there all along. It took bringing the right people into the same room to see it. Now, as the landscape shifts, the same collaborative approach can help services navigate what comes next.

Sheema Noorain is a lecturer in Data Science and Analytics at the University of Westminster. She completed her PhD at the University of Kent focusing on healthcare service optimisation through stakeholder engagement. This work was conducted under the supervision of Prof. Maria Paola Scaparra and Prof. Kathy Kotiadis at Kent Business School, in collaboration with Kent and Medway Mental Health NHS Trust.

Maria Paola Scaparra is Associate Dean for Research and Innovation at Kent Business School, University of Kent. Her research focuses on optimisation and analytics for real-world decision problems, working closely with stakeholders across sectors to develop and implement data-driven solutions.

Kathy Kotiadis is a Professor of Operational Research at the University of

Kent, with expertise in applying systems thinking and modelling to complex real-world challenges, particularly in healthcare. Her work focuses on bridging academic research with practical implementation, helping organisations design, evaluate, and improve decision-making. She is currently a co-director at the Centre for Advanced Diagnostic Development and Application (CADD), supporting the development and commercialisation of diagnostic technologies through collaboration with startups, researchers, and industry partners.

Emily Musara is General Manager of the West Kent Directorate at Kent and Medway Mental Health NHS Trust. At the time of this study, she was the service manager for the Primary Care Mental Health service.

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