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# Summary of South East region virtual wards evaluation

[Publication \(/publication\)](#)

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## Introduction

Virtual ward services (also known as hospital at home) allow patients of all ages to safely and conveniently receive acute-level care at their usual place of residence, including care homes. These services aim to improve patient experience and outcomes, and narrow the gap between demand and capacity for hospital beds, by either preventing avoidable attendances and admissions, or reducing length of stay through early discharge.

This independent evaluation from PPL was commissioned by NHS England South East region and is a pioneering effort to fill the critical large-scale evidence gap on virtual wards, offering actionable insights for healthcare providers, policymakers, and researchers. The evaluation analysed a total of 29 virtual ward pathways in the South East, which equated to 49% of their overall capacity at the time of analysis.

This is a short summary of the evaluation. The full report is available on the [PPL website \(https://ppl.org.uk/what-we-do/virtual-wards-consultancy/\)](https://ppl.org.uk/what-we-do/virtual-wards-consultancy/). Participating integrated care systems and providers have also received individual reports to support localised learning and improvement.

## Key findings

1. Virtual wards in South East England are **associated with a positive impact on avoided non-elective (NEL) hospital activity – on average 1 NEL admission ‘avoided’ was shown to be correlated with 2.5 virtual ward admission**, with some more mature virtual wards achieving a 1:1 association between the ‘avoided’ NEL admissions and virtual ward activity.
2. There is evidence of **positive net financial benefits** associated with the regional virtual ward provision – overall total **annualised** net benefit of £10.4 million, for the virtual wards analysed.
3. **It is clear that the longer they run, the more likely virtual wards are to show impact**, as volumes of admissions going through virtual wards increase, and costs per admission start to fall.
4. **Black and minority ethnic people are consistently underrepresented in virtual ward patient cohorts**. However, there are significant gaps in ethnicity data recorded in patient level data.
5. **Core-20 representation in virtual ward patient cohorts is more mixed**, however it is more consistently reported.

## Virtual wards in the South East

The South East region is responsible for delivering 1,939 virtual ward beds that collectively provide health services for approximately 9.4 million people. This represents 24.3 virtual ward ‘beds’ per 100,000 population (as reported in the 26th February 2024 [situation report \(https://www.england.nhs.uk/statistics/statistical-work-areas/virtual-ward/\)](https://www.england.nhs.uk/statistics/statistical-work-areas/virtual-ward/)).

## Figure 1: map showing geography of six integrated care systems in the South East region



(<https://www.england.nhs.uk/wp-content/uploads/2024/05/Map-showing-geography-of-six-integrated-care-systems-in-the-South-East-region.png>)

The above map shows the geography of six integrated care systems in the South East region. This include Buckinghamshire, Oxfordshire and Berkshire West, Hampshire and Isle of Wight, Frimley Health and Care, Surrey Heartlands Sussex, and Kent and Medway.

The region includes six integrated care systems, 32 NHS trusts delivering acute, community and ambulance services. Providers are responsible for delivering 1,939 admission avoidance and early supported discharge virtual ward beds across 76 virtual wards with 52% of this bed capacity reported to be technologically enabled.

Virtual ward bed capacity in the region has grown 20% over the past six-months whilst the proportion of technologically enabled beds has also increased by 10% and occupancy increased 10% over the same period. This suggests not only the ongoing creation of new virtual ward services but the continued integration of technology to support service provision across the region. Current bed capacity consists of approximately:

- 31% frailty
- 9% respiratory
- 18% other
- 42% mixed (any combination of frailty, respiratory and other specialities)

## How this evaluation helps to bridge the evidence gap

### Why is this evaluation needed?

**Evidence gap:** as noted by the [Health Foundation's February 2024 paper](https://www.health.org.uk/publications/what-do-virtual-wards-look-like-in-england) (<https://www.health.org.uk/publications/what-do-virtual-wards-look-like-in-england>), there is a very limited published evidence on the system level consequences (such as patient flow and capacity) of virtual wards.

**Limitations of previous evaluations:** to date, there has not been a large-scale (recent evaluations have focused on hundreds of admissions), comprehensive evaluation examining multiple conditions across providers and integrated care systems.

**Policy and practice implications:** with healthcare systems under increasing pressure, virtual wards offer a promising solution but require solid evidence to guide widespread implementation and investment.

**Innovating care delivery:** by providing detailed insights into the operation and outcomes of virtual wards, this evaluation supports the evolution of healthcare towards more personalised, efficient, and accessible services.

### The uniqueness of this evaluation

**Comprehensive approach:** the Treasury's Magenta Book 3-stage evaluation approach encompasses a wide array of metrics including clinical outcomes, patient satisfaction, cost effectiveness, and system impacts.

**Scale of the evaluation:** the evaluation has analysed over 22,000 virtual ward admission avoidance attendances and has been enabled by a large patient-level dataset. Our analysis

incorporates 29 virtual wards which cover 64% of all South East region virtual ward admissions as of February 2024.

**Advanced analytical techniques:** PPL used robust data science methodologies, including predictive modelling to accurately assess the efficacy and efficiency of virtual wards.

**Stakeholder engagement:** collaborating with healthcare professionals, patients, and policymakers to ensure a multifaceted understanding of virtual ward impact.

## Evaluation approach

The evaluation independently assesses virtual wards' effectiveness, employing a structured methodology to cover six key areas specified in the invitation to tender (ITT), in alignment with the Treasury's Magenta Book 3-stage evaluation guidelines.

## Process evaluation

To understand the context within which the virtual wards have been implemented and support the development of a deep understanding of the core components of each virtual ward and the variation in the models.

- P1 – are virtual wards being delivered as local providers intended?
- P2 – How have contextual and external factors influenced the delivery and functioning of virtual wards?
- P3 – What can be learned from the delivery of virtual wards so far?
- P4 – How have patients, carers, and staff experienced virtual wards?

## Impact evaluation

To demonstrate quantitative and qualitative impact, with a focus on admission avoidance, provision of equitable access and outcomes, and inequalities.

- IM1 – Has the implementation of virtual wards been associated with its intended impact of reducing hospital activity so far?
- IM2 – How might differences across virtual wards drive differences in impact?
- IM3 – To what extent have different groups at risk of inequalities (including ethnicity, deprivation, gender) seen differences in impact and why?

## Cost-benefit evaluation

System cost benefit analysis, with a focus on admission avoidance.

- C1 – Have virtual wards been cost-effective so far?
- C2 – Is the intervention the best use of resources?

## Key findings: impact and cost-benefit evaluation

This section highlights the most important findings of the evaluation, highlighting significant data points, trends, and any unexpected results organised around the evaluation's key questions or objectives.

## Headline figures

<b>Number of virtual wards analysed</b>	29
<b>% of all virtual ward admissions in the South East admitted to virtual wards analysed</b> as part of this evaluation (as of 26 February 2024 snapshot from national situation report).	64%
<b>Total annualised virtual ward admission avoidance admissions</b> across virtual wards analysed.	22,794
<b>Estimated avoided non-elective admissions per year</b> associated with admission avoidance admissions of virtual wards analysed.	9,165
<b>Estimated gross benefit per annum</b> associated with admission avoidance admissions of virtual wards analysed.	£24.5 million
<b>Estimated gross cost per annum</b> associated with admission avoidance admissions of virtual wards analysed.	£14.2 million
<b>Estimated net benefit per annum</b> associated with admission avoidance admissions of virtual wards analysed.	£10.4 million

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## Key conclusions

1. Virtual wards in South East England are **associated with a positive impact on non-elective (NEL) hospital activity – on average 1 NEL admission ‘avoided’ was shown to be correlated with 2.5 virtual ward admissions**, with some more mature virtual wards achieving a 1:1 association between the ‘avoided’ NEL admissions and virtual ward activity.
2. There is evidence of **positive net financial benefits** associated with the regional virtual ward provision – overall total **annualised** net benefit of £10.4 million, for the virtual wards analysed.
3. **It is clear that the longer they run, the more likely virtual wards are to show impact**, as volumes of admissions going through virtual wards increase, and costs per admission start to fall.
4. **Black and minority ethnic people are consistently underrepresented in virtual ward patient cohorts**. However, there are significant gaps in ethnicity data recorded in patient level data.
5. **Core-20 representation in virtual ward patient cohorts is more mixed**, however it is more consistently reported.

**The impact evidenced in this evaluation varies greatly between geographies and pathways** – with our qualitative evaluation understanding reasons driving this variation.

## Key findings: process evaluation

### P1 – Are virtual wards being delivered as local providers intended?

- They are being delivered as local providers intended to some extent. Context-specific variation drives how effectively virtual ward services are being delivered.
- Virtual wards adopting a flexible implementation approach and building upon existing services more frequently reported effective implementation.
- Having a pre-existing service engaged in delivering aspects of acute care and remote monitoring in the community is a significant theme amongst staff that felt their virtual wards were delivered as intended. Those services were able to draw on established standard operating procedures, professional relationships and an incumbent skilled workforce.
- In some cases, funding limitations in integrated care boards alter virtual ward delivery plans away from original intentions and have meant providers draw from other budgets and their existing workforce to staff new services.

Misaligned strategies and expectations can undermine collaborative efforts to develop integrated services.

- Successful patient identification strategies demonstrate the reach of virtual wards; however, opportunities remain to ensure that the model effectively mitigates the influence of underlying health inequalities that might preclude some groups from presenting to the service.

## **P2 – How have contextual and external factors influenced the delivery and functioning of virtual wards?**

- Seasonal service demands (peaking between October and February) drive virtual ward activity through increased patient volumes and acuity.
- Large or rural geographies can prove challenging to a single, centralised virtual ward team, but some services mitigated this issue by spreading a larger team across multiple localities with representation from the full multidisciplinary team.
- Digital integration, if done well, leads to more effective tech enabled virtual wards that improves information sharing processes within and across healthcare organisations. Misaligned digital strategies and technical incompatibilities across healthcare providers and GPs can hinder effectiveness.
- A shared workforce can support operational resilience by prioritising focus across co-located services in response to demand.
- Healthcare organisations adjacent to virtual ward services play a fundamental role in supporting the delivery of holistic patient-centred care. A range of factors are responsible for determining the extent of operational integration and collaboration between complimentary services which ultimately influence the effectiveness of virtual ward activity.

## **P3 – What can be learned from the delivery of virtual wards so far?**

- Virtual ward clinicians and managers frequently felt that positive examples of virtual ward delivery championed patient-centred care and achieved success with the support of strong clinical leadership that advocated for the experience of patients and clinicians at a system-level.
- The capability of virtual ward services to effectively meet acute patients' needs in the community is a common challenge as services can lack the equipment, skills or clinical governance to deliver the required interventions (such as intravenous fluids). This can sometimes result in the need for a hospital attendance despite virtual ward admission.
- Virtual ward clinicians felt that the complexity and time required to provide



care is not necessarily reflected within current measures of acuity such as NEWS2 or the clinical frailty score.

## **P4 – How have patients, carers, and staff experienced virtual wards**

- Patient experience of virtual ward services has generally been positive. Patients articulate an appreciation for home-based care, being closer to family and more comfortable than in an acute hospital setting
- Carers recognised the benefits of patients being treated in their own home and having more independence. However, carers did acknowledge the increased burden of care.
- Staff viewed virtual wards generally positively and saw value in the model of care. Some virtual ward staff feel patients recover more quickly as a result. Additionally, virtual ward staff recognised that they enjoyed working in a new and developing services that enabled them to develop new skills. However, some staff did feel operational pressures relating to virtual wards.
- Some staff observed inequalities in access driven by the requirements for virtual ward services to be able to deliver safe care such as a means of verbal communication and fixed address. The patient groups accessing virtual ward services are influenced by those most likely to present to the healthcare system. This was sometimes felt to be not representative of the wider patient population. In some areas, virtual ward outreach activities to engage black and minority ethnic communities have been planned to educate and raise the profile of virtual ward services.

### **Key findings: what a good virtual ward looks like**

Based on findings, the below sets out what the data suggests, and what virtual ward managers and clinicians told PPL, are characteristics more likely to lead to virtual wards which impact on reduced hospital usage, and function effectively.

#### **Timing and scale**

#### **Typical success criteria**

1. The longer virtual wards run, the more likely they are to show impact on non-elective admissions. Primarily due to them being larger; and being able to spread set-up, staff, and digital costs across a larger pool of

admissions but also due to having time to embed the some of the elements below.

## **Barriers to success**

1. Acknowledgement that virtual wards take time to demonstrate impact given the time needed to scale up, but also the time needed to build and embed collaboration and ways of working.

## **Staffing and resourcing**

### **Typical success criteria**

1. Strong clinical leadership – advocating for the experience of patients and clinicians.
2. Collaborative working, focusing on the patient, with strong links between acute, community, and primary care settings (for example carrying out daily multidisciplinary team ward rounds).
3. Well-resourced and experienced teams.

### **Barriers to success**

1. Fragmented clinical leadership.
2. Teams not joined up across different services, and staff feeling under-confident with new ways of working if not properly implemented.
3. Lack of proper funding can lead to recruitment challenges, or overworked staff.

## **Enablers**

## Typical success criteria

1. Digital integration, if done well, leads to more effective tech enabled virtual wards.
2. Referrals received through a single point of access or via an urgent community response service.

## Barriers to success

1. If there are misaligned digital strategies across healthcare providers and primary care.
2. Insufficient data support and inefficient manual data collection processes.

## Conclusions

Key conclusions from the independent evaluation are presented below. These are subject to the stated caveats (see page 13 of [full evaluation report \(https://ppl.org.uk/what-we-do/virtual-wards-consultancy/\)](https://ppl.org.uk/what-we-do/virtual-wards-consultancy/)):

1. Virtual Wards in South-East England are associated with a positive impact on non-elective (NEL) hospital activity – on average 1 NEL admission ‘avoided’ was shown to be correlated with 2.5 virtual ward admissions, with some more mature virtual wards achieving a 1:1 association between the ‘avoided’ non-elective admissions and virtual ward activity.
2. There is evidence of positive net financial benefits associated with the regional virtual wards provision – the majority of virtual wards analysed generated an estimated positive net benefit.
3. Black and minority ethnic people are consistently underrepresented in virtual ward patient cohorts. However, there are significant gaps in ethnicity data recorded in patient level data. Respondents have identified several ways the system can better support these groups access virtual wards – which we recommend are taken forward immediately.
4. The impact evidenced in this evaluation varies greatly between geographies and pathways. with our qualitative evaluation understanding reasons driving this variation.
5. It is clear that the longer they run, the more likely virtual wards are to show impact – this is through a combination of higher volumes going through the wards, costs per admission typically falling over time, and the benefit per

admission increasing.

6. The evaluation has identified a clear set of enablers (including having sufficient funding, experienced staff, collaborative working, and strong clinical leadership) and barriers (inadequate resourcing, fragmented leadership, mis-aligned digital strategies) to effective virtual ward working.
7. This evaluation is the starting point – the South East needs to build on the evidence gathered and lessons learned in this evaluation, and to work closely with individual pathways to support continuous improvement of the virtual ward offering in the South East.

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