Have integrated care programmes reduced emergency admissions?

Lessons for Integrated Care Systems (ICSs)

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About 13 mins to read

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Long read / Analytics and data / Integrated care / Older people / Policy / Improvement Analytics Unit

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Key points

- The NHS in England is about to embark on another round of reorganisation. Under the plans, every part of England will be covered by an integrated care system (ICS) by April 2022. ICSs are partnerships between NHS, local government and other agencies, and have responsibility for planning services and managing resources to improve health and care in their area.
- One of the key aims of ICSs is to provide more integrated services and strengthen disease prevention. Faced with the challenge of year-on-year increases in NHS activity, ICSs will likely want to try to

range of potential benefits to developing more coordinated care, including better patient satisfaction; however, a frequent aim was to reduce emergency hospital use. New findings from the Improvement Analytics Unit (IAU) on four long-term evaluations of integrated care programmes show a mixed picture of their impact on emergency hospital use.

- The evaluated programmes had very little impact on emergency hospital use in the first couple of years, and this suggests that it is unrealistic to expect that integrated care programmes (such as those evaluated) can be used as an approach to managing demand for emergency hospital use in the short term.
- Integrated care programmes may be able to reduce some aspects of emergency hospital care in the longer term, but in the programmes we evaluated this took up to 5–6 years and the effect was not always consistent between A&E visits and hospital admissions, and varied between sites. More evidence is needed to understand which specific initiatives within each of the programmes that are most effective, and in which contexts.
- We highlight four key learnings for the implementation of ICSs. First, national policymakers and ICS leaders need to set realistic expectations in terms of what the efforts to deliver integrated care can achieve.
- Second, local health and care teams need to be given time and resources to develop new models of care. New models of community-based care can take several years to develop and deliver results – even with significant investment and local engagement.
- Third, national NHS leaders and government must consider whether new models of integrated care need to be designed and tested and what broader policy changes may be needed to support their progress. National NHS leaders hope that changes to the structure

- Finally, as efforts to develop more integrated care continue, it is essential to evaluate and support learning on an ongoing basis. Changes need to be grounded in emerging evidence of what works, when and in which contexts, and the factors shaping that success. This necessitates a systematic approach to learning and evaluation, requiring the collection of an expanded range of outcome metrics – including those outcomes that matter to patients.

1. Background

The NHS in England is about to embark on another round of reorganisation. Under the plans – set to be implemented by April 2022 – every part of England will be covered by an ICS. ICSs currently exist informally in 42 parts of the country, each covering a population of around 1–3 million. ICSs are partnerships between NHS, local government and other agencies, with responsibility for planning services and managing resources to improve health and care in their area. A key aim of an ICS is to provide more integrated services and strengthen disease prevention. One mechanism for doing this will be through local initiatives, such as multidisciplinary teams (MDTs) that bring together staff from general practice, social care, mental health and other health-related services to provide more coordinated care.

The idea of providing more integrated health and social care is nothing new – and has been a key policy aim in the UK and other countries for decades. In England, the most recent large-scale integrated care programme was the new care model vanguards, introduced in 2015. These vanguards developed a mix of approaches to joining up local services, including MDTs, to improve care for people with complex needs. Vanguard areas received additional funding and central support to develop these new services. The vanguard programme ran formally until 2018, but many of the models of care developed through this

hospital use, looking at impacts over 4.5–6 years. This long read summarises the key findings from these evaluations and the implications for newly established ICSs.

2. How we evaluated the four vanguard programmes

Existing evidence on the vanguard programmes aiming to integrate care for people living in the community has tended to show an increase in emergency hospital use, but these evaluations only assessed the first few years of the programme and do not explore the longer-term impact of these programmes. Previous work by the IAU on MDTs introduced within vanguard programmes in North East Hampshire and Farnham and Fylde Coast has indicated a possible increase in both A&E visits and emergency admissions in the short-term. However, a separate study of two vanguards indicated that the increase in emergency hospital use may decline over time; similarly, an independent national analysis uncovered some evidence of a reduction in emergency admissions in vanguard sites in their third (final) year, indicating that the long-term effect of these programmes might be different from in the short term.

The IAU has evaluated the long-term impact on emergency hospital use of three integrated care programmes in four areas: Mid-Nottinghamshire, North East Hampshire and Farnham, and the two areas of Fylde Coast: Blackpool and Fylde and Wyre.

These programmes offered various services (across eg urgent and elective care, mental health and primary care), but all included MDTs in the community as a key initiative. These MDTs typically targeted individuals with complex health care needs and who had an increased risk of needing acute care, mostly those aged 65 years and older. Our full evaluation reports offer more details of the different initiatives within each programme. The programmes covered areas in England of varied demography and socio-economic deprivation. Mid-Nottinghamshire has high levels of deprivation across urban and rural areas, with a slightly older population than the national average, while North East

Nottinghamshire evaluation followed its target population for 6 years (April 2013 to March 2019), the other evaluations lasted 4.5 years, from 2015 up to the onset of COVID-19 in February 2020. Figures 1 and 2 outline the main findings from each evaluation.

Apart from in Mid-Nottinghamshire, we primarily looked at the effect of these programmes on emergency hospital use by people aged 65 years and older, as some of the main initiatives, most notably the MDTs, predominately supported older people. We also looked at the programmes' impact on the whole adult population (aged 18 years and older), as other initiatives, such as additional home support, out-of-hours support for people having or nearing a mental health crisis or proactive support for high users of A&E may have benefitted a broader segment of the population.

We examined A&E attendance (all types in Mid-Nottinghamshire and only type 1 in the other three sites) and emergency admission rates. To better understand the impact on emergency admissions, we also show findings on those admissions requiring an overnight hospital stay and the average length of overnight stay. For results on all analysed outcomes, see individual evaluation reports.

We examined emergency hospital use because a common aim of these programmes was to reduce A&E attendances or emergency admissions. Emergency hospital use is also often used as a proxy for quality of out-of-hospital care, which is difficult to quantify and measure. Patients may have conditions for which emergency admissions could have been prevented or reduced by early and effective care in the community, and although hospitals can be the most appropriate place for a patient to receive care, people often prefer to be cared for closer to home.

Our analysis did not examine the cost-effectiveness of these changes or patient-reported outcomes, such as quality of life or patient satisfaction, as these data are not routinely collected in the hospital data that informed the analyses.

3. The impact of these programmes on emergency hospital

1. It is unrealistic to expect that integrated care programmes, such as those evaluated here, can be used as an approach to reducing avoidable demand for emergency hospital use in the short term. Our analyses showed that in the first couple of years of the programme, emergency hospital use is unlikely to change – and may even increase.
2. Integrated care programmes, such as those evaluated here, may be able to reduce some aspects of emergency hospital care in the longer term, but in the programmes we evaluated this took up to 5–6 years and the effect was not always consistent across hospital metrics, areas or population groups.

It is unrealistic to expect that integrated care programmes (such as those evaluated here) can be used to reduce avoidable emergency hospital use in the short term

Our analyses showed that the evaluated programmes had very little impact on emergency hospital use in the first couple of years (Figures 1 and 2). In fact, in Mid-Nottinghamshire the rates of A&E attendances were higher than in the comparison area, both in the 65 years and older population and the overall adult population. With two exceptions, there was no statistically significant evidence of a reduction in any of the reviewed emergency hospital outcomes in the first years in any of the four evaluated areas, neither in the 65 years and older population nor the overall adult population.

Reducing avoidable demand for hospital services has often been one of the intended aims of integrated care programmes. This analysis shows that integrated care programmes such as those evaluated here are unlikely to reduce demand for hospital services in the short-term.

Integrated care programmes may be able to reduce some aspects of avoidable emergency hospital care in the longer term, but this took up to 5–6 years in the programmes we evaluated

The evaluations did not show consistent results across hospital metrics, areas or population segments.

- Looking at the 65 years and older population, in North East Hampshire and Farnham we saw evidence of reductions in emergency admissions from year 3, and in particular

attendances were no longer significantly higher relative to the comparison area in years 5 and 6, although rates of emergency admissions were higher in year 4.

Although we found more promising results in some of the emergency hospital use metrics over longer time periods, these results are inconsistent between studies. This is not surprising as these are complex and multi-faceted programmes, set up in response to the particular needs of different local populations and implemented within different contexts. While sharing some similar initiatives (notably MDTs), the programmes implemented different initiatives that aimed to achieve a range of outcomes and may have focused, to a greater or lesser extent, on reducing avoidable hospital activity.

Some activities within the programmes may have plausibly affected certain outcomes. For example, initiatives such as the Enhanced Recovery at Home service and the introduction of an ambulatory emergency care unit in North East Hampshire and Farnham could have contributed to lowering overnight emergency admissions, but this cannot be determined from our evaluations. In addition, differences in implementation and shifting priorities over time may have further impacted the ability of a programme to reduce emergency hospital use. Anecdotally, the pattern of referrals to one of the main MDT initiatives in Blackpool and Fylde and Wyre changed over time from GP referrals to predominately hospital referrals following discharge. These patients referred from hospitals were often frailer, and with more complex conditions, than originally intended when the service was first introduced. Although the service may provide much needed care, including care planning, there may be less scope to provide early and proactive anticipatory care and, therefore, to impact their long-term hospital use.

Differences in the characteristics of the local target populations (such as age and deprivation) may also explain some of the differences in programme impact. Across Blackpool and Fylde and Wyre, where the same integrated care programme was implemented, outcomes still differed slightly. Qualitative and mixed method assessments may help to identify the 'active ingredients' underpinning successful implementation.

Results for the overall adult population from year 3 onwards showed broadly similar patterns to those seen in the 65 years and older population, but across all four areas there

Our analyses were not able to determine the reason for the difference in results between those aged 65 years and older and the overall adult population. But previous IAU studies evaluating MDTs found that emergency hospital use may increase in the short term, perhaps as a result of identifying unmet need. For addressing urgent unmet need, hospital services, such as an ambulatory emergency care unit (introduced in Mid-Nottinghamshire and North East Hampshire and Farnham), with access to specialists if required, may be the most appropriate place for a patient to be treated. In this case, lower emergency hospital use would not be an adequate proxy for improved quality of care. This highlights the lack of data collection on measures of quality of care and other outcomes that matter to patients, such as patient experience of care.

Overall, we saw some promising results in later years, indicating the potential for long-term impacts on emergency hospital use, but these were not consistent and took between 3 and 6 years. Establishing a culture of effective collaborative working across organisations and implementing complex change takes time and effort and requires working together to coproduce solutions. The positive effects in later years may also reflect these initiatives maturing and embedding over time.

Figure 1: Yearly effect of the integrated care programmes on A&E attendances* among those aged 65 years and older for the four areas evaluated

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In Mid-Nottinghamshire, people aged 65 years and older had higher rates of A&E attendances than their comparison area in years 1–4, but there was no statistically significant difference in years 5 and 6.
In the overall adult population^, although rates of A&E attendance were higher in years 1 and 2, there was a trend towards lower rates over time, and by year 6 the rate was 4.3% lower.

Click the arrow to see the next area

Mid Nottinghamshire

Yearly effect of the integrated care programme on A&E attendances* among the 65 years and older population

Difference is statistically significant Difference is not statistically significant

Source: The long-term impacts of new care models on hospital use: An evaluation of the Integrated Care Transformation Programme in Mid-Nottinghamshire
^Results for the overall adult population can be found in the source document.
*For Mid-Nottinghamshire all A&E attendances are included; in other three studies only type 1 A&E attendances are

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In Mid-Nottinghamshire, people aged 65 years and older did not generally have statistically significantly different rates of emergency admissions relative to the comparison area, apart from year 4 when the rate was 5.9% higher^.
In the overall adult population, there were 4.0% more emergency admissions in year 4, but 5.4% and 6.4% fewer emergency admissions in years 5 and 6, respectively. Average length of stay for overnight emergency admissions was statistically significantly higher in year 1 but was lower in years 3–6, by between 4.5% and 12.2%.

Click the arrow to see the next area

Mid-Nottinghamshire

Yearly effect of the integrated care programme on emergency admissions among the 65 years and older population

Difference is statistically significant Difference is not statistically significant

Source: The long-term impacts of new care models on hospital use: An evaluation of the Integrated Care

Our evaluations of the three vanguard programmes used robust quantitative methods, comparing rates of emergency hospital use against a carefully constructed comparison area to provide reliable estimates of the long-term impact of these integrated care programmes on emergency hospital use. These evaluations examined the impact of the programmes over a period of between 4.5 and 6 years, which is much longer than most existing studies.

We found little evidence of a reduction in emergency hospital use in the first few years. Over the last 3–6 years of these evaluations, we started to see some promising results, although these were not always consistent across hospital metrics, areas or population segments.

Integrated care programmes often aim to improve patients' health and wellbeing by providing more holistic and personalised care and managing their conditions in the community. It is often expected that these kinds of interventions will help people stay healthy and independent for longer, and that people with well-managed conditions will require less emergency hospital resources. However, based on our analysis, we caution against interventions such as these being implemented with the expectation that they can reduce avoidable demand for hospital services, especially in the short term. Wider literature on the impact of population-level integrated care initiatives, both internationally, such as in Baxter's and Mason's evidence reviews, and in England, often show limited to no impact on hospital use in the short term. This may be for several reasons.

- Establishing a culture of effective collaboration across organisations and implementing complex change takes time.
- Proactive care initiatives such as MDTs may initially identify unmet need, which in the short term may best be treated in a hospital setting and only impact a patient's emergency hospital needs many years later.
- The design of the integrated care programme may not be optimal.
- The programme may not be implemented and managed effectively.

There are other reasons why integrated care programmes might not achieve their desired outcomes on emergency hospital use also in the longer term.

that have been successful at reducing emergency hospital use – even in the short term. Most notably, enhanced support in care homes has been able to achieve reductions of up to 40% in emergency admissions and up to 43% in A&E attendances in residential care home residents. Although this particular programme only focuses on care home residents, it appears to be successful in providing the right care at the right time to patients so their conditions can be managed out of hospital. Initiatives like these will be important in managing hospital demand in England, at a time where the system is under pressure and dealing with the aftermath of the coronavirus (COVID-19) pandemic.

Lack of impact on hospital use does not mean that integrated care is not useful or valuable. Our evaluations were limited to measuring outcomes that are routinely collected and widely available for both treated and comparison areas. While avoiding hospital admissions is often a desirable outcome for patients and is indicative of efficient use of NHS resources, it does not necessarily measure what matters to patients or clinicians. Evidence from the UK and other countries suggests that more integrated models of care can have a positive effect on other outcomes, such as patient satisfaction and perceived quality of care. Findings from qualitative research can collect information on a broader set of outcomes, as well as helping to understand if and why a change has the anticipated effect.

5. Policy implications

What does this mean in terms of the latest round of NHS reforms?

First, national policymakers and ICS leaders need to set realistic expectations, in terms of what the efforts to deliver integrated care – as currently designed – can achieve. Grand targets for reducing avoidable hospital use quickly will not be credible. Neither will expectations that better integration will have a major impact on hospital resource use and spending. Other benefits, such as the potential to improve people's experiences of health services, should be acknowledged and valued.

health care needs. There is also a risk that the process of reorganising NHS agencies can cause disruption and distraction.

Third, national NHS leaders and government must consider what may be impeding progress and what broader policy changes may be needed to aid progress. Local efforts to integrate services that operate in a complex system are affected by factors such as national NHS policies, the level of resources available for health care and other services, changes in organisational and institutional contexts, incentives and management.

National NHS leaders hope that changes to the structure of the health care system – by establishing ICSs – will help remove some of the barriers to integrated working experienced in the NHS. However, further policy changes focused on how that system functions – such as the flow of resources within the NHS and facilitating routine access to electronic health records across health and care providers – may be needed to help support progress. Despite longstanding policy objectives to deliver more care outside hospitals in the NHS, the past 20 years have seen a rapid growth in hospital care compared with community-based services.

Finally, as efforts to develop more integrated care continue, it is essential to evaluate and support learning on an ongoing basis. Changes need to be grounded in emerging evidence of what works, when and in which contexts, and the factors shaping this success. This requires a systematic approach to learning and evaluation that will require the collection of an expanded range of outcome metrics. Now that ICSs are being established across England, it is time to invest in routine recording of metrics to capture the effect of more joined-up, integrated care on the outcomes that matter to patients.

6. Acknowledgements

We would like to thank Irene McGill, a patient representative, for her insights and comments

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IAU_Integrated care_Fylde (784.75 KB)

IAU_Integrated care_NEHF (541.91 KB)

Further reading

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Briefing: The impact of integrated care teams on hospital use in North East Hampshire and Farnham

Consideration of findings from the Improvement Analytics Unit

Therese Lloyd, Richard Brine, Rachel Pearson, Martin Caunt and Adam Steventon

Key points

- This briefing presents the findings of an evaluation into the early effects of introducing integrated care teams (ICTs) in North East Hampshire and Farnham (NEHF), as one part of the Happy, Healthy, at Home primary and acute care system vanguard. Through this evaluation, the Improvement Analytics Unit sought to provide the vanguard with evidence to help inform the development of its services as part of its commitment to learning and continuous improvement.
- In NEHF, ICTs are multidisciplinary teams that meet weekly to develop a care plan for each of their patients and provide more coordinated care. During the study period, the main objectives of the ICTs were to reach patients with the highest need and at highest risk of going into crisis, and – by providing more coordinated care – to improve patients' health, health confidence, experience and wellbeing and reduce A&E attendances and emergency admissions. Patients in NEHF were referred to ICTs by their GP and other health care workers, who selected patients they considered to have highest need and be at highest risk of going into crisis and who would most benefit from a multi-disciplinary approach.

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