Vertical integration of general practices with acute hospitals in England: rapid impact evaluation

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Disclosure of interests of authors

Full disclosure of interests: Completed ICMJE forms for all authors, including all related interests, are available in the toolkit on the NIHR Journals Library report publication page at https://doi.org/10.3310/PRWQ4012.

Primary conflicts of interest: None.

Published October 2023
DOI: 10.3310/PRWQ4012

Scientific summary

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Health and Social Care Delivery Research 2023; Vol. 11: No. 17
DOI: 10.3310/PRWQ4012

NIHR Journals Library www.journalslibrary.nihr.ac.uk

Scientific summary

Background

Within the National Health Service (NHS), acute hospitals do not usually run general (medical) practices. General practitioners (GPs) are contracted by the NHS to provide primary care medical services to the patients registered with them. GPs also act as 'gatekeepers', referring patients to other, specialist, NHS services, including those provided by acute hospitals. The large majority of GPs are not employees of the NHS but instead are either contractors to the NHS or are salaried employees of contractor organisations (e.g. partnerships of GPs who hold a contract with the NHS or private companies that do so). Acute trusts are providers of hospital-based, emergency and/or elective specialist health care as well as, in some instances, providers of community health services. In England, acute hospitals are run by publicly owned organisations that are either NHS foundation trusts or NHS trusts, hereafter referred to collectively as trusts.

Some acute trusts in England now run general practices, which is a form of vertical integration. This is a relatively new phenomenon in the NHS, occurring since 2015. This kind of integration is distinct from horizontal integration, whereby organisations at similar stages along the patient pathway integrate or even formally merge with one another, such as when one acute hospital trust integrates or merges with another or when one practice integrates or merges with another. Nevertheless, each vertically integrated organisation that includes more than one practice does also include a degree of horizontal integration between the practices that are owned by the same trust.

Objectives

This report presents the second phase of a two-phase rapid evaluation of when NHS organisations operating acute hospitals have additionally taken over running general practices in locations in the NHS in England. In 2019–20, the phase 1 rapid evaluation investigated the implementation of acute hospitals managing general practices in England and Wales and addressed questions relevant to scaling-up this model of integration in an NHS setting. That qualitative evaluation focused on understanding the rationale for, and the implementation and early impact of, vertical integration.

Phase 2 of the study of vertical integration aims to understand the extent of vertical integration that has already taken place throughout the NHS in England, to assess the impact on outcomes from use of the secondary care service, how service delivery has changed or is expected to change, and the patient experience of vertical integration with a particular focus on whether patients with multiple long-term conditions are affected differently from other patients.

To meet these aims, the phase 2 rapid evaluation addresses the following research questions:

1: How many general practices have already vertically integrated with NHS organisations running acute hospitals in England; when did that happen, and what are the characteristics of those practices where vertical integration has taken place?
2: What impact is vertical integration having the use of on secondary care? Does this impact differ for people with multiple long-term conditions compared with other patients without long-term conditions or living with a single condition?
3: What impact is vertical integration having on the patient journey with regard to access to and overall experience of care? How does the experience differ for people with multiple long-term conditions compared with those living with no or one long-term condition?

Addressing these questions informs the refinement and validation of a theory of change for vertical integration between acute hospitals and general practices, developed in the phase 1 evaluation, describing the desired outcomes and the mechanisms by which these are expected to be achieved.

Methods

Our overall approach was a mixed-methods rapid evaluation comprising four work packages (WPs).

Work package 1: understanding the current scale of vertical integration in England

Work package (WP) 1 details the extent of vertical integration in England through desk-based analysis of secondary care statutory financial reporting, primary care GP workforce data and GP contracting data. There is triangulation of practices where vertical integration has been identified. The following statistics describing the characteristics of the vertically integrated practices are presented: number of acute hospital trusts (including those providing community health services) managing general practices; the number of general practices managed by the acute hospital trust; practice sizes in terms of patient population, patient demographics and workforce descriptors.

Work package 2: development of a statistical analysis plan

As part of WP2, the study team identified appropriate counterfactual or control sites and an appropriate approach to coding multiple long-term conditions as part of the detailed plan of analysis. In addition, this WP addresses several methodological questions, including how to deal analytically with general practices that have merged during the study time frame and how to consider and incorporate the impact of COVID-19 on our analyses of the use of secondary care.

Work package 3: quantitative analysis of the impact of vertical integration on secondary care utilisation

As part of WP3, we assessed the impact of vertical integration on a sample of practices for the use of secondary care service both overall and more specifically for people with multiple long-term conditions. We examined the following outcomes at different intervals over a 4-year period: outpatient attendances, accident and emergency department (A&E) attendances, all inpatient admissions, emergency inpatient admissions, inpatient admissions for ambulatory care sensitive conditions (ACSC), bed days, readmission within 30 days of discharge; for the identified practices and their controls before and after the identified practices were vertically integrated. We also report the financial implications in terms of an overall change in the cost per use of secondary care for vertically integrated practices.

Additionally in this WP, we analysed data from 10 years of national General Practitioner Patient Survey returns to compare trends in patient experience of care at general practices that vertically integrated with patients at practices undergoing other organisational changes and with practices remaining stable organisationally throughout the relevant period.

Work package 4: staff and patient experiences of care delivery and provision across three purposively selected case study sites

We completed focus groups and interviews across three case study sites with key service managers and clinicians from the acute hospital, community care and general practices, and primary qualitative research via interviews, capturing the views of patients from integrated general practices, to understand their experiences of accessing services in areas where vertical integration is present.

Study team members met with the BRACE patient and public involvement (PPI) panel and discussed the 'what' questions (what is important to find out/know about) and the 'how' questions (how best to gather this information). Members of the PPI panel took part in two workshops (May and November 2022). To aid the process of analysing and interpreting data, the research team held bimonthly meetings during the project and also held three data analysis workshops between September and November 2022 to develop interpretation of findings and refine the overall theory of change.

Results

The scale of vertical integration in the National Health Service in England

As of March 2021, we identified 26 trusts in vertically integrated organisations, running a total of 85 general practices (i.e. with unique practice codes) across a total of 116 general practice sites (as some practices work from multiple locations).

The mean number of practices run by each trust was 3.3 (range 1–12) with community trusts running slightly fewer practices than acute trusts: means of 3.0 and 3.5 respectively. However, the median number of practices is higher per community trust than per acute trust (medians are 3.0 practices per community trust and 2.0 practices per acute trust).

Vertically integrated general practices are smaller than other practices on average, with a median list size of 6794 patients (mean 8902) at vertically integrated practices against a median list size of 8028 patients (mean 9245) at other practices. There is not much difference in size between practices integrated with acute trusts and those integrated with community trusts, although the latter are slightly larger in terms of median patient list sizes as of March 2021. Vertically integrated practices are very slightly more likely to be in the most deprived decile when compared with non-vertically integrated practices (16–15%, respectively). Vertically integrated practices are considerably more likely to be on alternative provider medical services (APMS) contracts than are other practices: only 2% of other practices have APMS contracts but 14% vertically integrated practices do.

Three-quarters (75%) of practices that are not vertically integrated achieved a Quality and Outcomes Framework (QOF) score within 25% of the total quality points achievable. The performance of vertically integrated practices, as measured by QOF scores, was weaker: only 59% of the vertically integrated practices achieved QOF scores of at least 75% of the possible maximum.

Vertically integrated practices also employ fewer GPs, in line with their smaller patient list sizes: a median of 3.6 full-time equivalent GPs compared with 4.3 in other practices (in England, the number of patients per doctor (trainee and fully qualified) at general practices was 1700 in October 2022). The numbers for acute and community trusts' practices are very similar.

Impact on use of secondary care services

We find that vertical integration is associated with statistically significant, modest reductions in rates of A&E attendances: a 2% reduction [incidence rate ratio 0.98, 95% confidence interval (CI) 0.96 to 0.99; $p < 0.0001$]; outpatient attendances: a 1% reduction (incidence rate ratio 0.99, 95% CI 0.99 to 1.00; $p = 0.0061$), emergency admissions and emergency readmissions: a 3% reduction in the rate of

emergency inpatient admissions (incidence rate ratio 0.97, 95% CI 0.95 to 0.99; $p = 0.0062$) and a 5% reduction in the rate of emergency readmissions (incidence rate ratio 0.95, 95% CI 0.91 to 1.00; $p = 0.039$), with no impact on length of stay, overall inpatient admissions or inpatient admissions for ACSC over a 4-year period. The falls in A&E and outpatient attendance rates are temporary, as these rates resume growing at faster rates than for practices that did not vertically integrate and held general medical services contracts throughout the study period.

We found little difference between the impact of vertical integration of general practices with acute hospital trusts and vertical integration with community trusts; except that in the 2 years following vertical integration, outpatient attendances increase faster in practices that have merged with an acute hospital trust than in practices merging with a community trust. We found no evidence that the impact of vertical integration is different for people living with multiple long-term health conditions compared with people with a single or no long-term health conditions. For the 39 vertically integrated practices included in our financial implications analysis, the total estimated annualised hospital cost saving amounts to £1.9–6.7 million.

Staff and patient experiences of care delivery and provision

Through quantitative analysis of national General Practitioner Patient Survey (GPPS) data over 10 years, we found that after practices become vertically integrated, continuity (ability to make an appointment with a preferred GP) becomes differentially poorer by 6.6% points ($p = 0.0001$). Analysis of GPPS data also shows that horizontal mergers between practices have minimal impact on patient experience, while practices switching to an APMS contract reveal slightly worsening patient experience for continuity, access and satisfaction.

Analysis of focus groups and interviews with staff ($N = 22$) and interviews with patients ($N = 14$) showed that vertical integration remains one model of integrated care that can help general practices remain open. Vertical integration between acute trusts and general practices is supported by the introduction of novel ways of clinically integrating care across primary, community and secondary care to meet the needs of all patients locally, but specifically those at risk, have complex and/or multiple long-term conditions. Health service improvements driven by local acute trusts in collaboration with clinicians in general practice may use vertically integrated practices to test services before encouraging wider local roll out to non-vertically integrated practices. Notably, health service improvements are introduced following a significant period of cultural interchange; that is, colleagues from acute and primary care understanding each other's ways of working, challenges to delivering provision and aligning back-office functions. Second, health service improvements were not only between primary and acute care but also between primary and community care, with clinicians from community and acute care becoming more embedded in providing services in general practice. Finally, patients with multiple long-term conditions encounter significant 'navigation work' choosing and accessing health provision, with diminishing continuity of care with the onset and scaling up of multidisciplinary team working. However, this holds true for both vertically integrated and non-vertically integrated general practices.

Conclusions

Vertical integration can benefit particular general practices and trusts, but our analysis does not indicate a case for its widespread roll-out.

There are implications for policy and practice. For vertical integration to be successful, there is a need for an initial period of trust and relationship building as part of the cultural transformation for both primary and secondary care. Practitioners and managers in vertically integrated arrangements should consider how changes in the provision of care can help to reduce the extent of 'navigation' and 'illness work' that patients have to undertake, which are greatest for those living with multiple long-term

conditions. The effects of vertical integration take time to build up and initial impacts may not last; hence, patience is needed to allow vertical integration to develop where it is attempted.

There are also implications for future research. We have not yet evaluated whether vertical integration improves recruitment and retention of primary care staff; nor the extent (if any) of economies of scale in provision of back-office functions. Our quantitative analysis of hospital utilisation data showed that initial reductions in A&E and outpatient attendances following vertical integration of a general practice with a trust did not appear to last; although reductions did persist for emergency inpatient admissions and readmissions. We followed up for 2 years after vertical integration, but even for that modest a follow-up period our sample of practices that could be analysed was merely 39. Further quantitative follow-up in future would not only permit investigation of the longer-term impact of vertical integration on hospital usage but would also enable more certain and precise estimation of the magnitudes of any effects. More extensive interviewing of patients and their carers would provide better evidence about patient experiences of navigating care as part of vertically integrated models of care compared with care outside vertical integration models, including patients with multiple long-term conditions. Finally, further qualitative research with primary and secondary care clinicians, service managers and other staff, could improve understanding of the rationale and drivers for service level improvements, the indicators that would represent effective integration between primary, community and secondary care and how agendas to meet local needs can best be agreed and addressed.

Funding

This project was funded by the National Institute for Health and Care Research (NIHR) Health and Social Care Delivery Research programme (BRACE Project no. 16/138/31) and will be published in full in *Health and Social Care Delivery Research*; Vol. 11, No. 17. See the NIHR Journals Library website for further project information.

Health and Social Care Delivery Research

ISSN 2755-0060 (Print)

ISSN 2755-0079 (Online)

Health and Social Care Delivery Research (HSDR) was launched in 2013 and is indexed by Europe PMC, DOAJ, INAHTA, Ulrichsweb™ (ProQuest LLC, Ann Arbor, MI, USA), NCBI Bookshelf and MEDLINE.

This journal is a member of and subscribes to the principles of the Committee on Publication Ethics (COPE) (www.publicationethics.org/).

Editorial contact: journals.library@nihr.ac.uk

This journal was previously published as Health Services and Delivery Research (Volumes 1–9); ISSN 2050-4349 (print), ISSN 2050-4357 (online)

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The research reported here is the product of an HSDR Rapid Service Evaluation Team, contracted to undertake real time evaluations of innovations and development in health and care services, which will generate evidence of national relevance. Other evaluations by the HSDR Rapid Service Evaluation Teams are available in the HSDR journal.

The research reported in this issue of the journal was funded by the HSDR programme or one of its preceding programmes as project number NIHR135618. The contractual start date was in May 2022. The final report began editorial review in March 2023 and was accepted for publication in June 2023. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The HSDR editors and production house have tried to ensure the accuracy of the authors' report and would like to thank the reviewers for their constructive comments on the final report document. However, they do not accept liability for damages or losses arising from material published in this report.

This report presents independent research funded by the National Institute for Health and Care Research (NIHR). The views and opinions expressed by authors in this publication are those of the authors and do not necessarily reflect those of the NHS, the NIHR, the HSDR programme or the Department of Health and Social Care. If there are verbatim quotations included in this publication the views and opinions expressed by the interviewees are those of the interviewees and do not necessarily reflect those of the authors, those of the NHS, the NIHR, the HSDR programme or the Department of Health and Social Care.

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