



Original Research

The changing shape of general practice in Scotland: the rise of the ‘megapractice’

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ABSTRACT

Objectives: To describe the trends in the nature of general practices in Scotland between 2014/15 and 2023.**Study design:** Descriptive ecological study.**Methods:** We obtained data from Public Health Scotland and used general practitioner (GP) practice codes, practice names, and the General Medical Council (GMC) numbers of their listed GPs to describe trends in practice characteristics and to identify individual practices that were likely to be operating as a single entity.**Results:** Defining practice entities is difficult because different GP practice codes are often retained when GPs are performing across multiple practices. If GP practice codes alone are used, the median practice list size increased from 5094 to 5881, and the mean from 5588 to 6289, between 2013/14 and 2020/21. There was one outlier practice that grew to have over 45,000 patients registered by 2020/21. However, this underestimates the extent of this new mega-practice phenomenon. Using the GMC numbers of GPs listed as performers to identify where the same GPs are working across multiple GP practice codes, we identified a series of mega-practices that span across health board areas and which have experienced a dramatic increase in their list size (with the two largest having list sizes of over 101,000 and 77,000 patients, respectively).**Conclusions:** Further research is needed to better understand: how mega-practices provide services and whether this differs from other practices; where financial rewards accumulate within mega-practices; differences in staffing between mega-practices and other models; and the impacts mega-practices have on the quality and continuity of care and on health and inequality outcomes.© 2024 The Author(s). Published by Elsevier Ltd on behalf of The Royal Society for Public Health. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

Introduction

When the National Health Service (NHS) in the UK was formed in 1948, health care largely became free at the point of need, funded through taxes.¹ Hospitals were brought into public ownership with hospital staff employed directly by the NHS. In contrast, primary care was delivered through a direct contracting model with general practitioners (GPs).¹ Until 1997, GPs were contracted to work for the NHS through a nationally negotiated ‘General Medical Services’ (GMS) contract, which set out the range of services that were to be provided and the remuneration that would be received in return.¹

With the re-establishment of the Scottish Parliament in 1998, health policy in Scotland was devolved from the UK. There were

still several shared policy developments in the following years, including the creation of the ‘Personal Medical Services’ contract (this 17J contract allowed health boards to contract GPs to provide other services, such as drug clinics and sexual health clinics, beyond the national basic 17C contract), and payments designed to reflect the quality of service provision (the Quality and Outcomes Framework (QOF)).^{1,2} The 2004 contract made changes that allowed practices to be owned by private companies. In Scotland, the contract was slightly different, specifying that a general practice contract had to have a health professional as a partner, but that the health professional could have more than one practice contract. The QOF was ended in Scotland in 2016, and a new GP contract was negotiated and implemented from 2018 onwards.³ This national Scottish contract deviated markedly from the English and Welsh national contract: it built on the integration of health and social care in Scotland and aimed to put GPs at the centre of community-based multidisciplinary teams.^{2–4}

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This expansion of multidisciplinary in primary care, and the centralisation of some functions (for example, immunisation) into health boards, was in part designed to respond to the marked shortage in GPs that became apparent in the 1990s and worsened markedly in the 2020s.⁵ The Covid-19 pandemic exacerbated these pre-existing challenges⁶ by increasing the quantity of, and inequality in, health care needs in the population, by increasing the level of ill-health amongst GPs, and by catalysing more GPs to leave practice.^{7–9} The mismatch between the rate at which GPs were retiring, moving into part-time work, or moving out of practice entirely, with the rate at which new GPs were completing training, meant that health boards and practices were increasingly having difficulty in maintaining GP services in many areas. GP partnerships were increasingly being dissolved rather than retiring GPs being replaced by new GPs coming through, leaving health boards with gaps to fill.^{7,8,10} Some practices and health boards introduced stricter rules for patient registration, including more restricted practice areas, to reduce demands on the diminishing number of GPs.¹⁰

Legislation introduced in 2010 in Scotland mandated that contracts could only be made to entities with a partnership that includes at least one health professional and where all other partners are individuals,¹¹ making it impossible for health boards to contract with large multinational corporations in the way that had subsequently become commonplace in England.^{1,12} Instead, health boards have four options: provide GPs services themselves by directly employing GPs under a 2C contract (whereby the GPs are salaried employees of the health board and the practice runs as an integral part of the NHS); the practice may be dissolved and the patients 'shared' among other local practices; other existing practices are contracted to run the service, or a new GP partnership comes in and runs the practice in the same way as before.⁹ Health boards generally do not prefer the 2C contract option as it adds to their workload and often costs the health board more to run practices this way. In the context of a shortage of GPs, health boards have frequently been left in the position of having little option but to contract with an existing GP partnership, creating large entities that have become known as 'mega-practices' or 'super-practices', in some cases with practices and patients spanning multiple health boards. Sometimes these 'mega-practices' are formed by absorbing a GP practice into an existing GP service (which means the patients come under a single GP practice code). In other instances the original GP practice code is retained, but the mega-practice supplies staff and other support.

Concerns about the availability and accessibility of GP services have recently been raised, not least because of new models of service delivery associated with some of these mega-practices.^{9,13} It has been argued that they are more likely to use nurses and allied health professionals to deliver first-line primary care services instead of offering GP appointments (and in particular, in-person GP appointments), and there have been reports of difficulties in receiving continuity of care.⁹

In this study, we aim to describe trends from routinely published data to better understand the nature of the trend in mega-practices in Scotland between 2014/15 and 2023, and to detail important unanswered questions about the implications of these changes for health care provision and health outcomes.

Methods

Data sources

We obtained data from Public Health Scotland (PHS) on 'NHS Payments to General Practice' for each available financial year (2013/14 to 2020/21). In addition to other financial data, this

provided the GP practice list size (i.e. the number of registered patients) for each GP practice code in Scotland for each year. The associated webpage also provided data on changes to GP practice codes and contractual code (i.e. 17C, 17J or 2C) over the past year, and details on practice mergers, practices that were subsumed into others, new practices, etc.

The PHS publication 'GPs in Practices Details' provided a list of all registered GPs in Scotland with their General Medical Council (GMC) number, and the practice code(s) they were associated with, on the 1st April 2023.

Data analysis

We created a database of practice list sizes between 2013/14 and 2020/21 for each GP practice code. We tracked practices, mergers, and the subsuming of practices into one another, and used common naming across practices (e.g. 'ALBA', 'Lanarkshire Medical Group', 'Barclay') to identify practice codes that were part of the same group.

Using the GMC numbers of doctors listed as GP 'performers' for each practice code, we were able to identify practices sharing GPs on the 1st April 2023. This identified several more practice codes that were associated together and was able to be assembled using the 'NHS Payments to General Practice' datasets, as several mega-practices used a diverse range of names across their individual GP practice codes.

Box and whisker plots were created to describe the variation in GP practice list sizes for each separate GP practice code between 2013/14 and 2020/21.

Assumptions

We defined 'mega-practices' as GP practice codes where the same GPs were listed across more than one practice code. We assumed that these doctors/practices are working as part of a single business. It may be the case that some GPs are listed as 'performers' at multiple completely separate, GP practice (for example, being a part-time partner in two completely separate entities). We think that it is highly unlikely that these GP practices are completely separate given the demands of running a GP practice and are near impossible for GPs listed in three or more practices. In some instances, we identified GPs who were listed as performers in two practices but as salaried doctors in a third—but all were part of the same mega-practice. It is legal for a GP to be a partner in a practice that they never work as a GP in, as long as they work three sessions or more in general practice somewhere else.

There may be one or two exceptions to this definition. For example, there is a separate practice code for the 'Challenging Behaviour' practice and for the 'Homelessness Practice'; however, these are often run as special needs services as part of a more standard GP practice model. Another assumption, but one that is unlikely to have a substantial impact in Scotland, is that these datasets do not include private GP services (i.e. they only include NHS-funded GP services), and may therefore miss mega-practices that include both NHS-funded services and privately funded primary care.

Results

Between 2013/14 and 2020/21, there was a generally increasing trend in patient list size for each GP practice code (Fig. 1, Table 1). The total number of GP practice codes declined from 995 to 928 over the time period, indicating that at least 67 practices were either dissolved or subsumed into others. The median list size increased from 5094 to 5881, and the mean from 5588 to 6289. From 2015/16

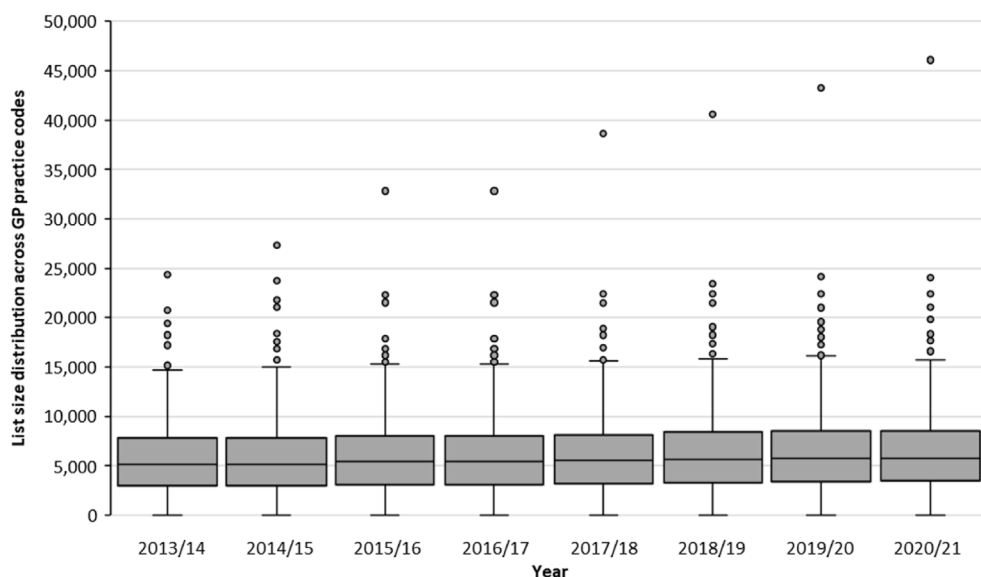


Fig. 1. Box and whisker plots showing the median, interquartile range, and outlying practice list sizes for each GP practice code in Scotland, 2013/14 to 2020/21. GP, general practitioner.

onwards, one practice code was very distinctly higher than all others and continued to grow quickly until the end of the time series (Fig. 1).

Using only the GP practice codes to track list sizes over time identifies that the largest practice in 2013/14 had 24,309 patients, and that the tenth largest practice had 15,148. By 2020/21, the largest practice identified in this way had 47,877 patients, and the 10th largest had 18,544 (Table 1).

However, using the GMC numbers associated with each GP practice code demonstrates that the data in Fig. 1 and Table 1 substantially underestimate the size of the mega-practices. The last column in Table 1 shows the list sizes of the 10 largest practices identified using this method. The largest (Barclay) has 101,392 patients across seven GP practice codes, and the second largest (ALBA) has 77,445 patients across six GP practice codes.

Using the practice name data to identify when practices came under the same entity between 2013/14 and 2021/22, and the GMC data for April 2023, the trends in list size over time can be estimated. The data for the two largest mega-practices (Barclay and ALBA) are shown in Fig. 2, with the associated practice codes listed. The practice list sizes up to 2021/22 are likely to underestimate the

number of practice codes that form the same entity for some years, as it only becomes clear in 2023 that some practices with common GPs have different practice names.

Discussion

Between 2013/14 and 2023, a new phenomenon of ‘mega-practices’ has emerged in Scotland, wherein multiple GP surgeries are run by the same GPs, and the size of many of those practices has dramatically increased. The mega-practices span across health board areas, and the two largest have list sizes of over 101,000 and 77,000 patients. The extent of the rise of mega-practices in Scotland is not simply identifiable by practice name or GP practice code, as practice names vary, and many original GP practice codes are retained even when a practice becomes part of a mega-practice.

Very little is known about the effects of the emergence of mega-practices in Scotland, although media reporting suggests difficulties in obtaining face-to-face appointments, non-response to complaints, and a lack of patient satisfaction with service quality.^{9,10} However, the operation of services within mega-practices may vary widely, and there is no clarity on whether there are common

Table 1
Trends in GP practice list size for each GP practice code 2013/14 to 2021/22, and identified by practice name and GMC number in April 2023.

| Time period | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 | 2019/20 | 2020/21 | April 2023 |
|--|-------------------|---------|---------|---------|---------|---------|---------|---------|------------|
| Number of GP practice codes | 995 | 995 | 984 | 959 | 946 | 935 | 928 | 928 | |
| Median GP practice code list size | 5094 | 5152 | 5246 | 5508 | 5624 | 5724 | 5776 | 5881 | |
| Mean GP practice code list size | 5588 | 5636 | 5735 | 5919 | 6017 | 6151 | 6220 | 6289 | |
| List size of 10 largest practices determined by: | ...Practice codes | | | | | | | | |
| 1 | 24,309 | 27,348 | 30,070 | 38,589 | 40,587 | 43,222 | 46,086 | 47,877 | 101,392 |
| 2 | 21,364 | 23,695 | 23,583 | 22,642 | 23,789 | 24,125 | 24,499 | 24,808 | 77,445 |
| 3 | 20,744 | 21,753 | 22,007 | 22,412 | 23,409 | 24,120 | 24,054 | 24,302 | 57,787 |
| 4 | 19,375 | 21,084 | 21,616 | 22,369 | 22,381 | 22,408 | 22,411 | 23,159 | 33,986 |
| 5 | 18,505 | 18,657 | 21,494 | 21,468 | 21,491 | 21,389 | 21,196 | 22,708 | 28,773 |
| 6 | 18,225 | 18,390 | 18,664 | 18,881 | 19,056 | 20,992 | 21,063 | 22,221 | 28,224 |
| 7 | 17,491 | 17,845 | 18,366 | 18,686 | 18,640 | 19,557 | 19,783 | 21,026 | 27,845 |
| 8 | 17,197 | 17,580 | 18,102 | 18,383 | 18,367 | 18,779 | 18,700 | 20,997 | 25,289 |
| 9 | 15,732 | 16,814 | 16,834 | 18,217 | 18,232 | 18,428 | 18,479 | 19,835 | 23,887 |
| 10 | 15,148 | 15,726 | 15,836 | 16,929 | 17,359 | 18,013 | 18,343 | 18,544 | 23,320 |

GMC, General Medical Council; GP, general practitioner.

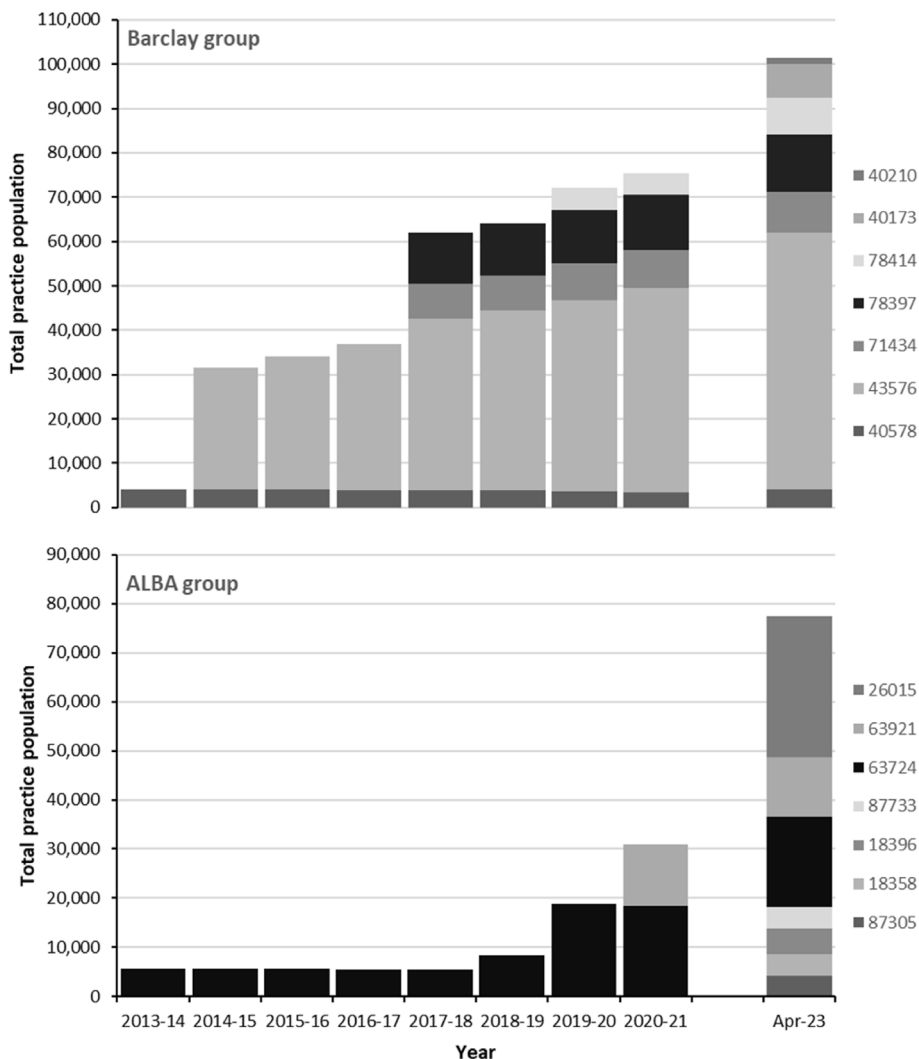


Fig. 2. Trends in list size for the two largest mega-practices in 2023, identified between 2013/14 and 2021/22 by practice name, and for April 2023 by GMC number (legend = GP practice codes). GMC, General Medical Council; GP, general practitioner.

features between them in terms of the ways of working or the impacts on patient experiences or health outcomes.

There is substantial research interest in the range of new primary care models emerging in England, which include services being run by large private corporations, entrepreneurial GPs running 'super-practices', GP federations and more.¹⁴ However, the risks of partial or wholesale privatisation in England is greater than in Scotland due to restrictions introduced in Scottish legislation.¹²

There is evidence from the USA that profiteering from health care (through private equity ownership) is associated with increased costs, mixed or harmful health care quality impacts, and some mixed impacts on health outcomes.¹⁵ There is some evidence that larger practices have better accessibility, although at the expense of continuity of care;¹⁶ with little evidence of a difference in care quality.¹⁷ There remain worries that selective recruitment of patients who have lower needs may follow a more commodified model of primary care provision, damaging the universal model and leading to profit extraction.^{18–20}

The impact of the increased use of practice nurses, advanced nurse practitioners, and physician assistants in primary care instead of GPs remains somewhat uncertain but may improve important outcomes, including mortality.²¹ However, this is a live question, particularly given the creation of new groups of health

workers such as Physician Associates (PAs) and the uncertain impacts of this trend.²²

More generally, as part of the World Health Organization (WHO) effort to ensure Universal Health Coverage (UHC), three dimensions for considerations have been described: the extent of the population covered; the range of services covered; and the proportion of costs covered.²³ Others have argued for equity considerations to be made more explicit in terms of whether population, service, and cost coverage are experienced differentially across social and economic groups.²⁴ These are important considerations in evaluating the rise of mega-practices. What impacts, if any, do they have on these dimensions of health care provision, and how equitably are they experienced?

Our study used routinely available data to describe the changes in the size and nature of GP practices in Scotland. However, we were reliant on assumptions that practice names and the GMC numbers of GPs were sufficient means of identifying mega-practices. With the data available to us, our study could not explore important questions about how these mega-practices operate or the impacts of this new model on organisation, health care quality, nor health and inequality outcomes.

We therefore suggest that there are several important research questions that remain to be addressed in Scotland:

Organisational

1. How do mega-practices operate in terms of the sharing of resources and staff?
2. What is the impact of mega-practices on salaries and incomes for staff and partners?
3. Do mega-practices provide services in a different way than other practices, in terms of the use of salaried GPs, online or by telephone consulting, appointment booking, and triage, the use of allied health professionals (AHPs) and other non-medical staff?
4. Do mega-practices recruit patients differently, including marketing directly to patients, or differences in socioeconomic position, age, or pre-existing health, and is there any evidence of differential recruitment of patients with lower needs?

Quality and health outcomes

5. What is the impact of mega-practices on the quality and continuity of care and inequalities in the quality and continuity of care?
6. What is the impact of mega-practices on the use of other health services by their patients (including the meeting of unmet needs, or the inappropriate use of emergency/out-of-hours services)?
7. What is the impact of mega-practices on health and health inequality outcomes?

In conclusion, Scotland has seen the emergence of mega-practices since 2013/14, whereby a small number of very large practices have formed. Mega-practices do not come under a single GP practice code, and their identification is difficult and somewhat uncertain. This change has largely gone unreported and without comment from health boards or the Scottish Government. The changes in practice structures have not been centrally regulated but is within the control of local health boards, which have the authority to contract primary healthcare providers. The impacts of these changes to service provision, patient experience, and population health outcomes are unknown. Further research to understand their organisational approach, models of care provision, patient recruitment strategies, and impacts on the quality of care and health outcomes is needed.

Author statements

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Ethical approval

All data used in this study is publicly available and does not identify individual patients. No ethical approval was therefore sought.

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Competing interests

None declared.

Contribution statement

CJ developed the initial idea for this paper and sourced the data. GM undertook the descriptive analyses. All authors contributed critical thinking to the interpretation of the data and to the editing of the manuscript, and all authors approved the final draft.

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