Public Service Decline and Support for the Populist Right

Evidence from England's National Health Service[*]

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Abstract

The rise of populist right parties is well-studied, but little attention has been given to how public service performance influences voter support. Given that public services are often the primary means through which citizens interact with the state, we argue that declining public services can create grievances that increase the appeal of populist right parties. Focusing on England's National Health Service (NHS), we combine administrative data on local health facility closures with panel data on public preferences and voting intentions. Using a staggered difference-in-differences design, we find that closures reduce satisfaction with public services and increase support for populist right parties. These effects are moderated by migrant registrations at local health practices, highlighting the interaction between public service performance and immigration concerns in fueling populist right support. Our findings underscore the role of public service decline as a driver of support for populist parties, especially in areas undergoing demographic change.

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1 Introduction

The rise of the populist right across established democracies is one of the most significant political developments in recent decades. A substantial body of literature has emerged to explain the growing electoral appeal of these parties. Some scholars argue that this trend represents a backlash against globalization, where victims of economic dislocation, created by cross-border trade and technological progress, rebel against their marginalization and economic insecurity by supporting the populist right (e.g. Colantone and Stanig 2018; Bolet 2020; Walter 2021; Scheiring et al. 2024). Other accounts argue instead that the popularity of the populist right is primarily a backlash against pervasive long-term cultural change in Western democracies, including immigration and growing ethnic diversity (Norris and Inglehart 2019). These cultural changes, the argument goes, have displaced traditional social values, causing resentment among some citizens (e.g. Rydgren 2008; Gidron and Hall 2017; Margalit, Raviv, and Solodoch 2025; Steenvoorden and Harteveld 2018).

While both economic and cultural explanations offer persuasive accounts of the populist right's appeal, less attention has been paid to citizens' direct experiences with the state. This is somewhat surprising given that anti-establishment rhetoric is at the core of the populist right's messaging. Populist right parties frame the political system as being in constant crisis due to a "corrupt elite selling out the virtuous people" (Mudde 2007, 2016; Rooduijn 2014; Van Kessel 2015). Public service provision serves as an important case in point as it is one of the most common and direct ways in which people interact with and learn about the state. In advanced industrial economies, where support for the populist right has steadily increased, citizens expect high-quality public services in domains such as infrastructure, education, and healthcare. However, aging populations combined with sluggish economic growth have placed considerable strain on the state's provision of these services (Harper 2014). Recent studies suggest that austerity-induced cuts and reduced access to public services diminish political trust (Stroppe 2023), decrease turnout (Cox, Epp, and Shepherd 2024), and fuel support for far right and nationalist politics (Fetzer

2019; Baccini and Sattler 2024; Cremaschi et al. 2024). Other studies have focused on how local deprivation and social change can fuel radical right support (Bolet 2020, 2021; Harteveld et al. 2022; Arzheimer et al. 2024)

Building on this work, we argue that direct experience with declining public services creates grievances with the political establishment and increases the appeal of populist right parties. The core of our argument posits that waning public service performance is a key factor in explaining why certain voters turn to the populist right. Drawing on the concept of a social contract between citizens and rulers, it has long been assumed that citizens accept obligations, such as paying taxes and obeying the law, in exchange for a benevolent government that delivers certain public goods, including public safety, infrastructure, education, and healthcare (Levi 1988; Besley 2020). If the political establishment is perceived to have failed in upholding its side of this bargain, some citizens may be more inclined to support populist political forces that rally against the "corrupt elite" (Mudde 2016).

Our analysis further explores how the effects of declining public services are conditioned by cultural and economic factors. Specifically, we argue that the populist right is able to exploit public service decline in particular when it is linked with cultural grievances about immigration. The populist right uses ethno-nationalist rhetoric not only to mobilize immigration concerns (Mudde 2019), but also when framing broader policy debates, including public service decline. This rhetoric exploits grievances about the state as evidence of a failure by the establishment to protect "deserving natives" from "undeserving migrants" (Halikiopoulou and Vlandas 2020; Rathgeb 2024). In the context of public service decline, the populist right tends to pin the blame directly on the over-utilization of such services by immigrants (Cordero, Zagórski, and Rama 2024; Cremaschi et al. 2024). This leads us to the expectation that the effects of exposure to service decline on support for these parties will be greater in areas where people are also seeing increasing inflows of foreign immigrants, making the populist right's framing of the problem resonate and appear more credible to voters.

We test our expectations in the context of the United Kingdom (UK), focusing on

Britain's National Health Service (NHS), the world's largest publicly funded health service. The NHS represents for many Brits the embodiment of the state's duty to care for its people (Schneider et al. 2021; Charlesworth 2019; Moran 2024). Yet, public satisfaction with the NHS is at its lowest level in three decades. One reason for this dissatisfaction is the reduction in local doctors, known as General Practitioners (GPs), who provide the key access point for citizens to the NHS. Since 2013, nearly 1,700 GP practices have closed or merged, constituting over 25 percent of the total number of public GP practices open in England. This situation provides an apposite case for examining the effects of public service delivery on support for the populist right. First, as most citizens access NHS services through their GP, changes to public service delivery will be felt directly by citizens in affected areas. Second, there is a broad, cross-partisan consensus in the UK that public health, as provided by the NHS, is a core public service delivered by the state.

To examine the extent to which GP practice closures motivate electoral support for radical right-wing parties, we consider the universe of GP practice closures in England between 2013 and 2023, using administrative data directly from the NHS. As practices began to close at different times starting in 2013, we adopt a staggered difference-in-differences design relying on spatial and temporal variation to causally identify and estimate the average effects of GP closures on attitudes and party choice. We start by examining the effects of closures on patient experiences measured via high-quality GP Patient Surveys to show that closures of GP practices result in decreased satisfaction and more negative patient experiences in neighboring practices. We then use large-scale annual panel data to demonstrate that direct exposure to a GP practice closures increases support for the populist right. Finally, we examine how these effects are conditioned by changes to local cultural and economic factors, showing that individuals in areas with higher levels of immigration and migrant GP practice registrations are more likely turn to the populist right when their GP practice closes.

These findings not only contribute to the literature by providing robust causal evidence of the influence of public service decline on support for the populist right, they additionally demonstrate that increased immigration acts as an important moderator. This suggests

that the populist right's framing of "natives" in direct competition with foreign migrants over vital public services allows these parties to broaden their electoral appeal among voters who connect public service decline with increased immigration within local their communities. This advances our understanding of the ways in which demographic change and public service deprivation combine to motivate support for the populist right.

2 Public Services and Populist Right Support

A large body of literature suggests that public service provision is crucial to people's perceptions of their quality of life and living standards (Grossman and Slough 2022; Vogler 2023). Public services, including public safety, education, infrastructure, and health care, can be said to form part of the social contract between rulers and the ruled, who accept paying taxes and obeying the law in return for a government that delivers core services (Levi 1988; Besley 2020). Yet, while there is a large literature on public service delivery, less attention has been paid to how it drives support for the populist right. Some recent important advances include studies that have looked that the impact of geographic inequalities in public service provision (Nyholt 2024; Stroppe 2023) and the effect of austerity and reduced access to particular types of social benefits (Giger and Nelson 2011; Fetzer 2019; Baccini and Sattler 2024; Cavaillé and Ferwerda 2023; Cremaschi et al. 2024) on support for the populist right. In this paper, we build on this recent literature to examine how direct experiences with declining public service delivery affect the popular appeal of the populist right.

We argue that public service delivery is one of the primary ways in which citizens interact with and evaluate the extent to which the state is both providing for them (Dowding and John 2012; Golden and Min 2013; Grossman and Slough 2022) and is responsive to their needs (De Kadt and Lieberman 2020; Vogler 2023). Although correctly attributing responsibility for public service performance might not always be straightforward (Harding and Stasavage 2014; Harding 2015), citizens—even those who lack political interest and sophistication—are able to learn about failures in public service delivery through di-

rect experience, especially when services are accessed by the majority of citizens, such as with public health care. As a consequence, a decline in the performance of public service delivery is likely to generate dissatisfaction and grievances about the functioning of the state. People's willingness to pay taxes and respect the law hinges on their perceptions of whether political elites are upholding their side of the social contract and investing in their communities via service provision (Levi 1988; Besley 2020). If this reciprocal obligation is seen to be broken and the state does not deliver core public services, citizens can also be expected to withdraw their support. When citizens count on high levels of public service provision, such as is the case in Western Europe, reduced public service performance raises concerns about the extent to which political elites care about ordinary people (Cramer 2016; Hochschild 2018; Patana 2021; Svallfors 2013; Rothstein and Teorell 2008). While classical economic theory would expect dissatisfied individuals to move to a new location in response to a lack of public services (Tiebout 1956), political science research suggests that many individuals stay, either due to a lack of resources or because they have strong connections to the area (Patana 2021).

We argue that one way for these dissatisfied citizens to express their discontent is by casting a ballot for populist parties that generally espouse anti-establishment rhetoric, rallying against the "corrupt elite" in favor of the virtuous people (Mudde 2016; De Vries and Hobolt 2020; Polk et al. 2017; Kollberg 2024). We expect that a steep decline in the performance of core public services leads to grievances about the state's ability to provide for its citizens, validating the populist sentiment that the political establishment cannot deliver on its side of the bargain and thus increasing the appeal of populist political forces. Hence, any direct experiences with a decline in the delivery of public services in a local area is likely to increase the appeal of populist parties for affected voters.

Our argument thus far refers populist parties in general. Yet, populism is often understood as a thin ideology that can be combined with a more left-wing or right-wing political stance (Mudde 2007). The question then becomes which populist forces might gain electorally from poor public service delivery. While a key part of the answer is the nature of

populist supply[1] – which type of populist parties exist – we argue that supply is largely a function of demand for political messages within the electorate (De Vries and Hobolt 2020). Populist parties will often seek to finds groups to scapegoat in their attempts to explain why public service performance is declining. Notably, populist parties on the right tend to frame policy debates in ethno-nationalist terms of "deserving natives" versus "undeserving migrants" and accuse mainstream elites of not having protected ordinary citizens (Mudde 2007; Rathgeb 2024). This rhetoric is likely to appeal to voters who associate pressure on certain public services with an influx of immigrants who they perceive to consume more public resources than they contribute through taxes (Dancygier 2010; Dancygier et al. 2024; Baccini and Sattler 2024; Cavaillé and Ferwerda 2023). We therefore expect that the rhetoric of the populist right, which commonly attributes blame for poor public service provision to immigrants, to be more effective when people are indeed experiencing declines in public service delivery in the context of increased immigration. In other words, we expect to find stronger effects of public service decline on support for the populist right when such a link between public service decline and immigration can more easily be established due to increasing immigration.

We test these expectations by examining a case of core public service delivery in the UK, focusing on the closure of GP practices. Our expectations are threefold. We expect that exposure to GP practice closures: a) generates grievances by reducing people's satisfaction with public health care provision, b) increases support for the populist right, and that c) increased populist right support due to exposure to GP closures is more pronounced within areas that experience increases in immigration.

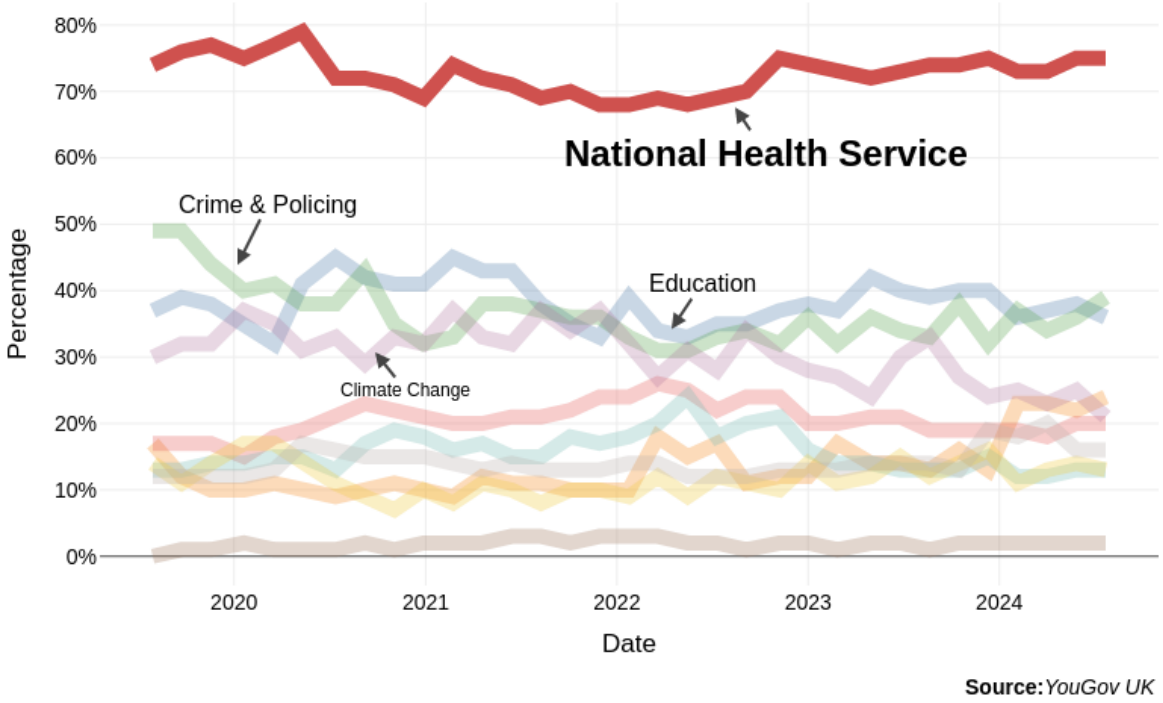
1. In the British case, for example, there is no significant populist radical left party, whereas there are several populist right parties that have been competitive nationally during the last decade, despite the difficulty of being a challenger party in a first-past-the-post electoral system. Most notably, UKIP won 12 per cent of the vote in the 2015 General Election and Reform UK won 14 per cent of the vote in the 2024 general election, winning only a handful of seats.

3 GP Practice Closures

Britain's National Health Service is sometimes referred to as a "national religion" (Taylor 2013). It may also be described, however, as the modern embodiment of the British state's duty to care for its people, and of its right to their loyalty. Established in 1948 as a publicly funded healthcare system of the United Kingdom, it is a free-at-the-point-of-care comprehensive health service. It forms a large part of public expenditure – costing over 11 per cent of GDP in 2023, up from 3.5 per cent in the 1950s, according to the UK Office for National Statistics. Moreover, the commitment to a publicly-funded health service is one that is shared by all the parties in parliament. Health care in the UK is thus a quintessential "valence issue" (Stokes 1963; Green and Jennings 2012): voters and parties alike agree on the core objectives of high quality, public health care, funded from general taxation and National Insurance contributions. The UK's National Health Service not only plays a key role in ensuring the health of over 60 million patients, it represents a point of pride for the nation, often lauded as one of the most cherished institutions in the UK (Charlesworth 2019; Moran 2024). Moreover, it is a public service accessed by almost all citizens. Unlike other health systems in which private insurance is more common, only about 12-14 percent of the UK population has private health insurance, and even individuals with private health care frequently access the NHS for some of their health care needs, thus making the NHS a core public service that is accessed by the vast majority of citizens (Keith et al. 2024).

The NHS is also a top priority for government spending, with the majority of the public expressing a clear preference for the government to spend more on the NHS. Despite occupying over a tenth of the national GDP, Figure 1 shows that there is a broad public consensus that the government is not going far enough when it comes to funding the National Health Service. The second greatest spending priority receives only around half of the support for increased spending that the NHS receives, illustrating the importance of the NHS to the British public.

Figure 1: What sector should the UK government spend more on?



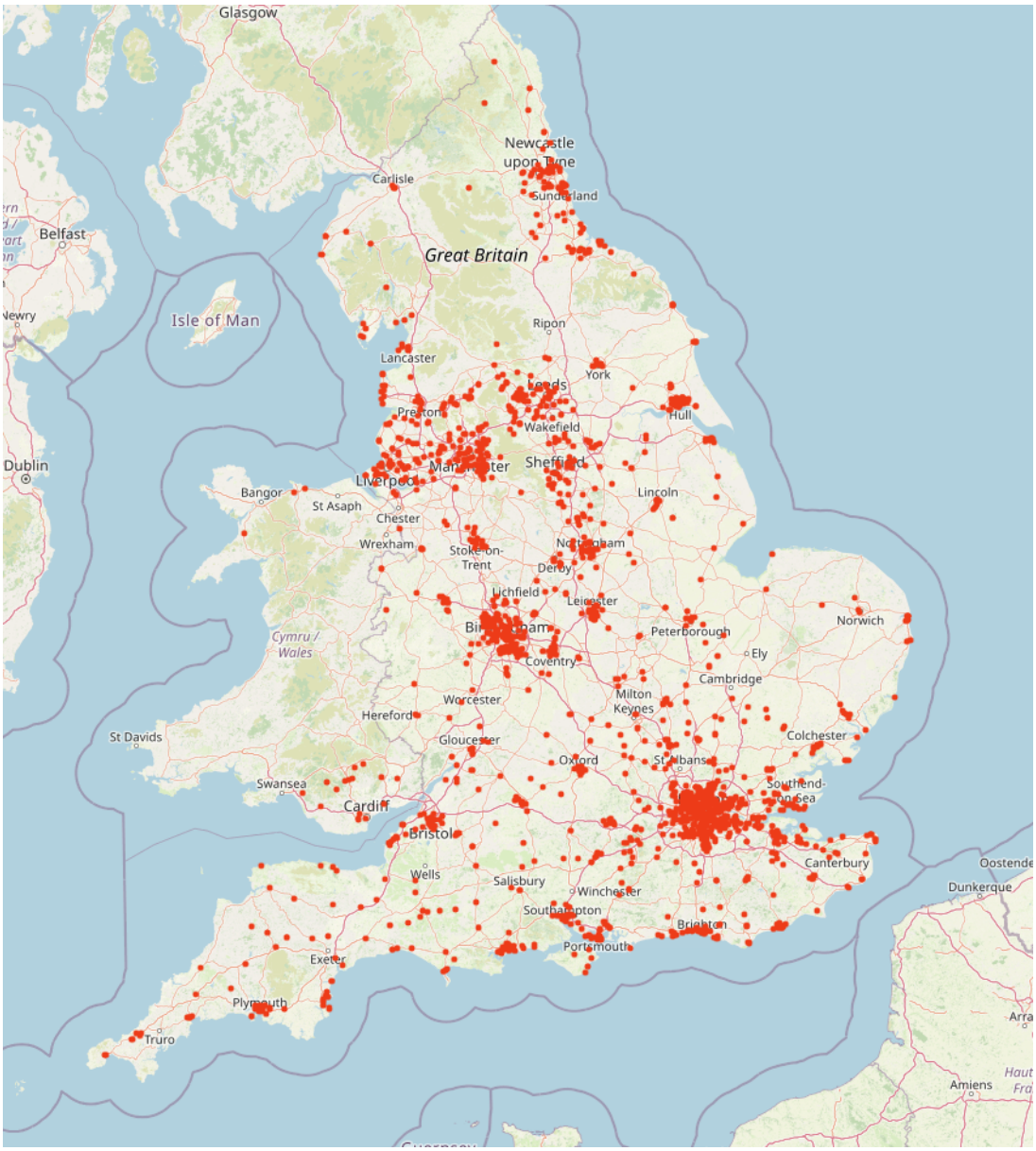
Note: YouGov tracker: *What sector should the UK government spend more on?* from April 2020-April 2024. "Don't Know" responses not included. Data are available at: https://yougov.co.uk/topics/society/trackers/what-sector-should-the-uk-government-spend-more-on.

People are increasingly disillusioned with the performance of the NHS.[2] A key aspect of this dissatisfaction relates to the closure of GP practices. Since 2013, over 3,000 NHS facilities have closed or merged. Of these, nearly 1,700 were GP practices, constituting over 25 percent of the number of public GP practices open in England. The general practitioner (GP) or family physician represents the primary way in which most citizens access the NHS. It is the GP who treats minor illnesses and also acts as the gatekeeper for more specialized medical care. As of early 2024, over 63 million people in England alone were registered as patients at a GP practice. The closure of GP practices is therefore likely to have a significant impact on the public's experience of the NHS.

GP practices can close for a number of reasons, including staff shortages, resignations,

2. See, for example: https://yougov.co.uk/topics/politics/trackers/how-good-or-bad-are-national-nhs-services.

Figure 2: GP practice closures between 2013 and 2023



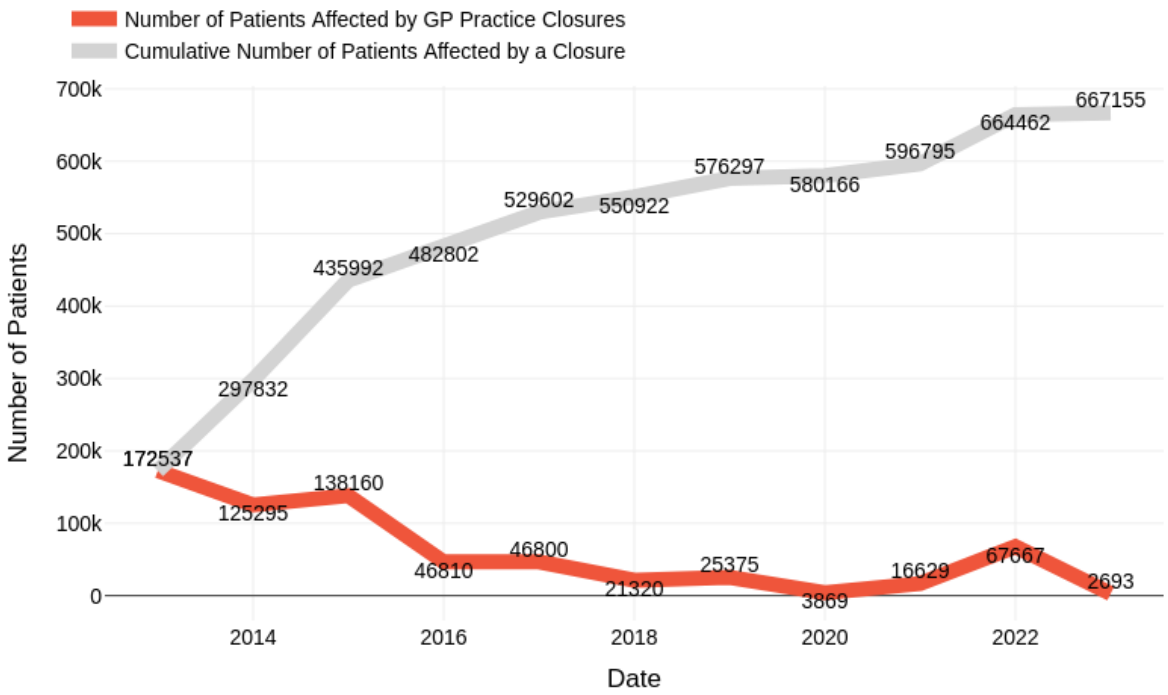
Note: GP practice closures between 2013 and 2023 (the first closure occurs in 2013). Each red point represents a practice closure. Data are available quarterly from NHS Digital: https://digital.nhs.uk/services/organisation-data-service/data-search-and-export/csv-downloads/gp-and-gp-practice-related-data.

retirements and general staff shortages (Carter and Kaffash 2022).[3] Importantly, these

3. We provide further discussion of the reasoning behind the closures in Appendix A. Closures can take three potential forms. First, a practice can close and then re-open under new management. In this case, patients would be able to attend the same GP practice, but they would likely be seen by a different GP. Second, a practice can merge with another area practice. In this case, some patients would be required to attend a new practice at a different location, but they may still keep seeing the same GP.

reasons are not political decisions, but rather due to supply side constraints. From patients' perspectives, however, closures can have visible effects, as they are transferred to a different doctor and have to travel further to access primary care services or – in the case of a closure of a neighboring practice – their own GP practice has to absorb new patients. The strain placed on neighboring practices often results in longer wait times and reduction in the quality of care.

Figure 3: Number of Patients Affected by GP Practice Closures in England



Note: Number of annual and cumulative patients affected by the closure of a GP practice in England. Calculations rely on the number of registered patients at a given practice in the month before it closed. Data are available monthly from NHS Digital at https://digital.nhs.uk/data-and-information/publications/statistical/patients-registered-at-a-gp-practice.

We first consider the spatial distribution of GP practice closures across England. Figure 2 presents the universe of NHS GP practice closures in England between 2013 and 2023 using data from NHS Digital (NHS England 2023). In the figure, each red point

Third – and the most severe – a practice can close permanently without replacement, requiring patients to find a new practice in the area and to see a new GP.

represents a separate GP practice that has closed. Practice closures also affect a considerable number of individuals. Figure A1 presents the number of individuals affected by a practice closure between 2013 and 2023, which suggests that over 600,000 individuals have been affected by closures in England.[4]

4 Research Design

4.1 Data

We examine the consequences of GP practice closures by assembling data from multiple sources. To study patient experiences, we leverage the GP Patient Survey, which is an annual (or bi-annual, in some cases) survey fielded by NHS England and Ipsos MORI (2023). The surveys are administered for each GP practice and target a random sample of each respective practices' registered patients who are over 16. Surveys are then weighted to reflect the demographic characteristics of the local population according to UK Census estimates. These surveys provide an excellent data source for understanding patient experiences over time for every GP practice in the country.

As we are interested in evaluating whether the "treatment" of GP closures affect actual patient experiences of public service decline, we focus on two key variables obtained from GP Patient Survey: (1) the percentage of respondents who rate their overall experience at the GP practice as "positive" (e.g. combined responses of "good" and 'very good") and (2) the percentage of respondents who rate their experience of making an appointment with their GP as "negative" (e.g. combined responses of "poor" and "very poor"). Responses to these questions are available in each of the survey waves, and broadly represent the quality of care and access to care at the GP practice.

To study the effects of the closures on vote choice, we leverage two large-scale panel datasets that allow us to link individual respondents to GP practice catchment areas.

4. To calculate the number of patients affected by a GP practice closure, we combined annual data on the number of patients registered to each NHS GP practice to create a new panel of existing registrations over time. We then use the number of registrations at a given practice one year prior to a closure to calculate the number of patients affected for each practice closure. We provide additional figures in Appendix A.

First, we use the Understanding Society Panel (USOC) (University of Essex, Institute for Social and Economic Research 2023). The USOC is a large-scale annual panel survey of nearly 30,000 British households. We use all thirteen waves of the panel, which include from 2009 to 2022. We gain access to a protected version of the dataset which includes detailed geographic information about respondents, thus allowing us to link the responses to GP practice catchment areas. In addition to the USOC data, we add robustness to our findings by replicating the vote intention analysis using the British Election Study (BES) panel (Fieldhouse et al. 2023). The BES panel is a 29-wave panel survey of British voters that has been fielded since 2014.[5] The BES panel includes approximately 30,000 respondents and is fielded more frequently than the USOC data, allowing for greater precision when considering the times at which GP practices close.

In addition to the USOC and BES data, we rely on data on local immigration, as well as other contextual variables such as economic conditions and material deprivation, from the Office for National Statistics (2023) in additional analyses. We discuss specific linking and data construction procedures in Appendix B.

Our primary outcome variable of interest in both the USOC and BES datasets is self-reported vote intention[6] for a populist right party in the General Election. We construct a variable that captures whether an individual intends to vote for the UK Independence Party (UKIP), the Brexit Party, the British National Party or the Reform UK party (the successor to the Brexit Party). Each of these parties are commonly classified as both populist and right-wing parties (Rooduijn et al. 2024). They share an anti-establishment, anti-immigration and Euroskeptic policy platform, common of the populist right in Europe (Mudde 2007; Polk and Rovny 2017). They are also all challenger parties with no, or only limited, parliamentary representation in the House of Commons (De Vries and Hobolt 2020).[7] Their lack of parliamentary representation is partly due to Britain's

5. The panel was fielded before 2014, but the data we need to link respondents to GP practices is only available from 2014 onward.

6. We focus on reported vote intention instead of voting behavior for two reasons. First, there are in many cases hundreds of closures between two elections, making causal identification a challenge. Second, the survey data we focus on allows us to link the GP catchment areas to individual respondents, which would not be possible with voting behavior data given the size of constituencies.

7. UKIP currently has no MP in Parliament, and while they have had representation previously,

first-past-the-post electoral system that disadvantages smaller challenger parties with geographically diffuse support. In the European Parliament election in 2019, where proportional representation (PR) was used, the Brexit Party topped the poll in the UK with 30 percent of the national vote, and UKIP came first in the 2014 UK European Parliament election with 27 percent of the national vote. This illustrates that – at least in second-order national elections using PR – electoral support for these populist right parties can be substantial in the UK.

4.2 Identification Strategy

We rely on temporal and spatial variation to identify the effects of GP practice closures using a staggered difference-in-differences design. Our design allows for comparing changes in behavior following a GP practice closure in a given location to changes in behavior at the same time in a place that has not (yet) experienced a closure. Our primary identifying assumption is that in the absence of a closure, the areas that experienced closures and the areas that do not would follow parallel trends in the outcomes of interest, conditional on material deprivation, local economic conditions, and levels of local immigration. We assess the degree to which our identification strategy captures pre-trend differences between the treated and control units by presenting event series plots. We additionally present the distributions of the key moderators across treated and control units to assess the degree to which the two groups are balanced (Figure 8). Results from these analyses suggest that the parallel trends assumption is plausible.

A second identification assumption we make is that there are not spillover effects into neighboring areas. In other words, the effects of a GP practice closure are confined to the area in which the practice is located. A violation of this assumption is indeed a possibility given that the nature of a closure may affect neighboring practices. However, to the extent that there are spillovers that bias our estimates, it would work *against* our hypothesized expectations and would bias our estimates towards the null. Our results therefore are

Douglas Carswell is the only person so far to win a seat for UKIP in a general election, but he left UKIP to sit as an independent MP in 2017. As of the 2024 General Election, Reform holds five seats in the UK House of Commons.

likely to be conservative and represent a lower bound of the true effects of the closures on support for the populist right.

A third consideration in our identification strategy is the handling of newly-opened GP practices. These instances are rare, as only 155 new practices have opened since 2013 (whereas 1,700 GP practices have closed or merged). We drop from the analysis areas that experienced a new GP practice opening after the first closure in a given area.[8] Finally, as the BES panel data only go back to 2014, we drop all areas that experienced a closure before the start of the panel in order to ensure that we have pre-treatment observations for each outcome considered in the analysis.

Our primary model is an event study that captures the dynamic effects of the closures on individuals who are exposed. Our event study model can be formalized as follows.

$$Y_{i,t} = \alpha_g + \lambda_t + \sum_{\ell \neq -1} \mu_\ell 1\{t - E_i = \ell\} + X'_{i,t} + \varepsilon_{i,t} \tag{1}$$

Where $Y_{i,t}$ is the outcome of interest for individual i (or practice i, in the analysis using the GP Patient Survey) at time t. E_i represents the time of exposure to a GP practice closure. The coefficients μ_ℓ estimate the effect of exposure at each relative time period ℓ, with the pre-treatment period immediately prior to exposure ($\ell = -1$) serving as the baseline category. Fixed effects for geographic areas (α_g) and time periods (λ_t) are included to control for time-invariant differences between areas and time periods. X_{it} is a vector of time-variant control variables measured annually at each local authority, including the unemployment rate, migrant registrations at GP practices, material deprivation and international immigration. The error term $\varepsilon_{i,t}$ captures idiosyncratic variation in the outcome of interest.

The specification enables us to assess the plausibility of the parallel trends assumption (at least during the pre-treatment period) through the coefficients for $\ell < -1$ and to estimate the average treatment effect of the GP practice closures on the outcome of

8. For example, if a GP practice closes in 2013 and a new practice opens in 2014 in the same area, we drop the area from the analysis. The last open date for a given area fell *after* the first closure date on eight occasions, each of which we drop from the analysis.

interest in each period relative to the first closure ($\ell \geq 0$). Cumulative effects, which we present in the respective appendices, are calculated by summing the coefficients for each period ℓ from the first closure to the end of the panel.

4.2.1 Estimation

A rapidly growing literature shows that two-way fixed effects (TWFE) regressions deliver consistent estimates only under strong assumptions on the homogeneity of treatment effects and non-negative weighting, creating issues in staggered DID settings (see, e.g., Borusyak, Jaravel, and Spiess 2024; Callaway and Sant'Anna 2021; De Chaisemartin and d'Haultfoeuille 2024; Sun and Abraham 2021). We therefore adopt the cohort-average treatment effect estimator outlined in Sun and Abraham (2021). The method estimates average treatment effects for each group-time cohort. These estimates can then be aggregated to provide cumulative effects, or assessed dynamically for each time period (ℓ). This estimation approach is robust to heterogeneous treatment effects and overcomes the issues associated with TWFE estimators.

To ensure the robustness of our results, we additionally estimate the effects of the closures using alternative strategies. Namely, we rely on matrix completion methods to estimate the effects of the closures on the various outcomes we study. Matrix completion borrows from the computer science literature and is used to estimate a counterfactual similar to estimating missing values in a matrix. In our case, the method treats the post-treatment periods for treated units as missing values, using the pre-treatment periods of the treated units, as well as the pre- and post-treatment periods of the control units, to estimate a counterfactual for the treated units. The difference between the observed treated units' post-treatment periods and the estimated counterfactual post-treatment values is the ATT (Athey et al. 2021; Liu, Wang, and Xu 2022). This method is similarly robust to heterogeneous treatment effects and provides a useful check on the results from the cohort-average treatment effect estimator. Results yield very similar conclusions, and are further detailed in section 6.

For our analysis of heterogeneity, we follow the best practices for estimating inter-

active and moderating effects by adopting a double-debiased machine learning (DML) estimator developed in Hainmueller, Mummolo, and Xu (2019). The DML estimator is designed to estimate the CATE by leveraging random forests to estimate the conditional expectations of the outcome given the treatment and covariates. The method is robust to high-dimensional data and allows for the estimation of complex, non-linear relationships between the treatment and the outcome. Following the potential outcomes framework (Rubin 1974), the estimated effects of closures (D) on outcome (Y), moderated by (X), can be expressed as:

$$\frac{\partial \mathbb{E}[Y \mid D, X, Z]}{\partial D}. \tag{2}$$

We can therefore define the conditional average treatment effect (CATE) as:

$$\mathbb{E}[Y(1) - Y(0) \mid V = v], \tag{3}$$

where $V = (X, Z)$, which represents the full set of covariates. We use the DML estimator to estimate the conditional effects of the GP practice closures on the outcomes of interest, moderated by levels of international migration, new migrant GP practice registrations, material deprivation, and local economic conditions. We return to that analysis below.

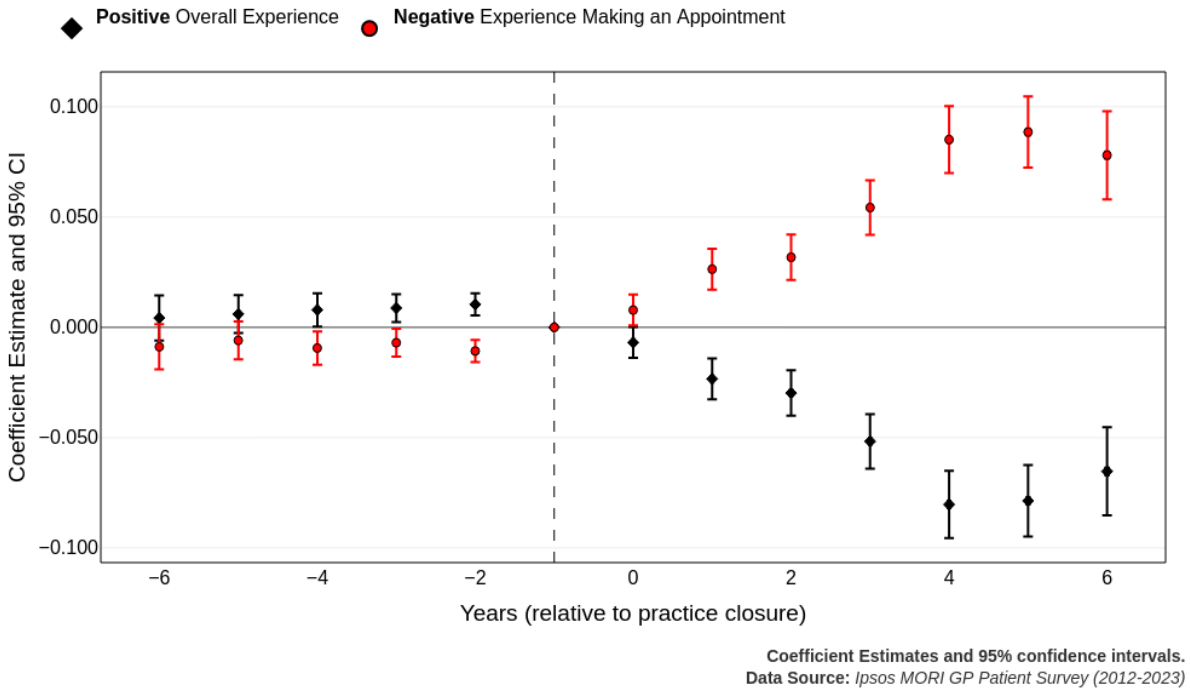
5 Results

5.1 GP Practice Closures and Patient Experiences

The first step in our argument is that GP practice closures create grievances among affected patients. To test this part of the argument we examine self-reported experiences of affected patients. It is important to note that the closure of a GP practice may not only affect patients of the closed practice but also those in nearby practices that are forced to absorb new patients. We therefore expect that area practices experience an increase in new patient registrations, reducing patient experiences and satisfaction. Our specification

captures this clogging effect by defining as treated those practice sharing the same Census Middle Super Output Area (MSOA) as practices that have closed. MSOAs are census output areas and contain approximately 5,000-10,000 individuals). We report the event study results for both outcome variables in Figure 4.

Figure 4: Effect of GP Practice Closures on Patient Experiences in Area Practices



Note: Dynamic estimates for the effects of GP practice closures on patient overall satisfaction in GP practice in the same Middle Super Output Layer (MSOA) as a closed practice. The outcome variables are the percentage of patients at a practice who report a positive overall experience at the GP practice (black circles) and the percentage of patients who report a negative overall experience making an appointment at the GP practice (red circles). Full results are provided in Appendix C.

Figure 4 suggests that the closure of a GP practice creates a decline in patient experiences. The red coefficient estimates capture the effects of the closures on the percentage of respondents at neighboring practices that report a negative experience making an appointment. These estimates suggest a 5-10 percentage-point increase in negative experiences over the following years. Similarly, the black estimates capture the effects of an area closure on the percentage of patients at area practices that report a positive

overall experience at a GP practice. These estimates suggest that a closure is followed by a 5-10 percentage-point decrease in patient overall experiences. With both outcomes, the effects of the closures can be observed almost immediately following a closure and continue declining for 4-5 years.

Taken together, these results suggest that individuals who are forced to switch to a new GP practice following the closure of their original practice, or who attend a practice that has been forced to absorb the patients from a closing practice, display declining satisfaction with the service. The results are consistent with the idea that the closures generate grievances among affected patients. The results also act as an experimental manipulation check confirming that patients notice and are negatively affected by the closures.

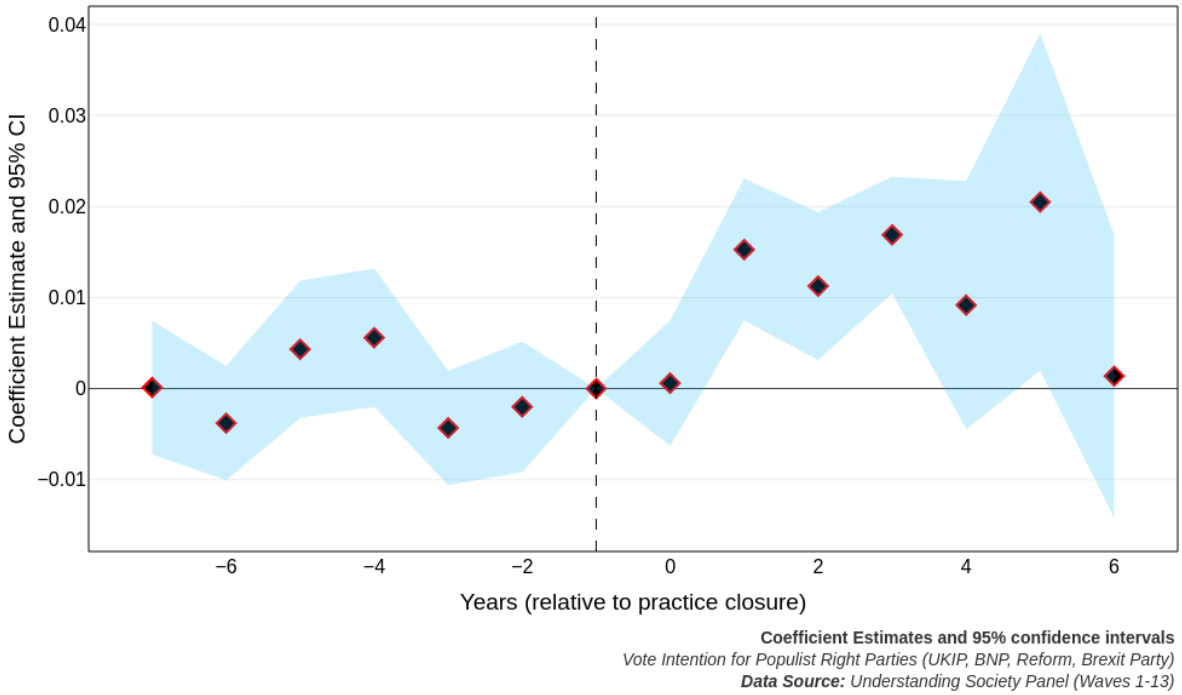
5.2 The Electoral Consequences of GP Practices Closures

As a second step, we argue that the closure of GP practices increase support for the populist right among affected voters. We expect that declining satisfaction with experiences at the GP practice translates into grievances about the state's ability to provide for its citizens. These grievances resonate with claims that the political establishment cannot deliver on its side of the bargain, increasing the appeal of populist political forces that rally against the establishment. We test this expectation using vote intention panel data using both data sources (Understanding Society Panel and British Election Study).

We first present results for the effects of the GP practice closures on intention to vote for the populist right using the USOC panel. Figure 5 presents an event study of the coefficients estimates for the effects of the closures. In the time leading up to the treatment, the figure demonstrates support for the parallel trends assumption. However, in line with the second part of our argument, following a closure, voters are more likely to report an intention to vote for a populist right party. The effects are statistically measurable within the first year of the closure, and last for a duration of at least five years. Despite a clear increase in support for the populist right, the effects are relatively

small, amounting to an increase of about 1-2 percentage points in vote intention.

Figure 5: Estimated Effects of Practice Closures on Intention to Vote for Populist Right Parties (USOC Data)



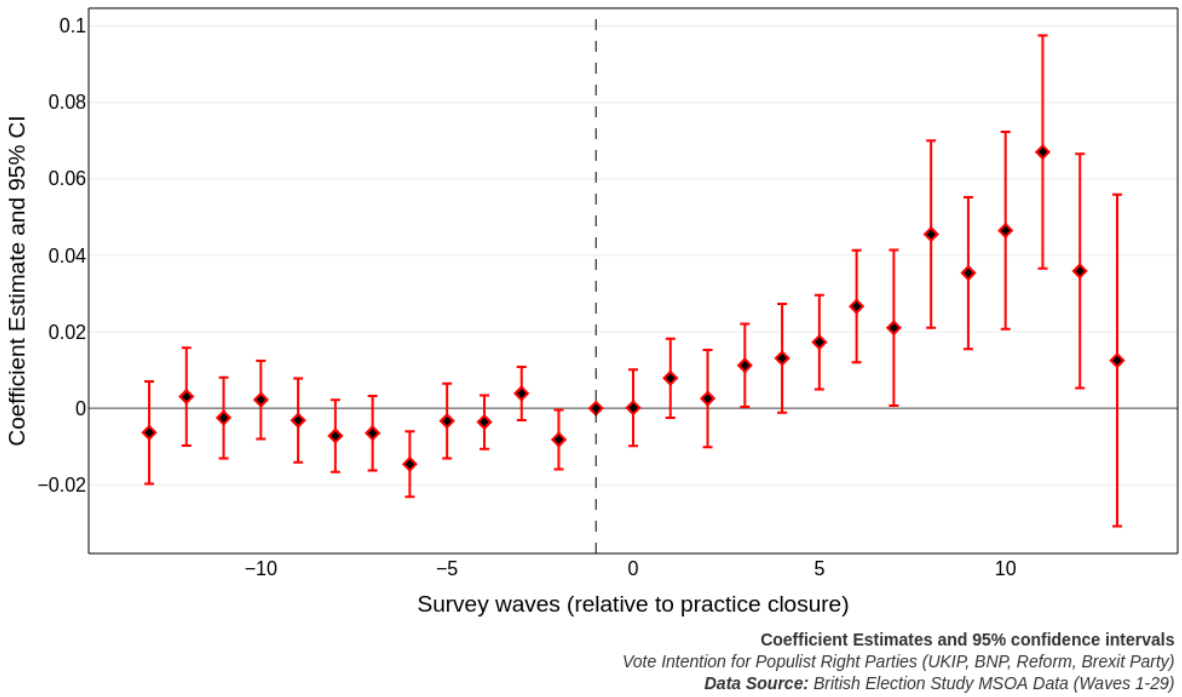
Note: Coefficient estimates for the effect of GP practice closures on vote intention for populist right parties. Parties include the British National Party, Reform UK, the UK Independence Party and the Brexit Party.

We next consider results from a similar analysis using the BES panel. Figure 6 shows the estimated effects of the GP practice closures on voting intentions for populist right parties using the BES panel. Differing from the USOC panel, the BES panel is a more frequent survey, with respondents surveyed approximately three times per year.[9] This works to our advantage as it allows for more sharply capturing the effects of the closures, which occur at different times in different areas. As with the USOC data, Figure 6 shows that in the time leading up to the closures in the pre-treatment period, the parallel trends assumption is plausible. There is one coefficient estimate that is statistically differentiable from zero in the pre-treatment period, but the violation is minor and moreover suggests

9. The British Election Study includes 29 survey waves between 2014 and 2024.

that the treated units are slightly *less* likely to vote for a populist right party in the years leading up to the closure. Following the closure, however, the estimates show a clear increase in support for the populist right. In fact, the results indicate larger effects than the USOC analysis – peaking at around a 5-6 percentage point increase about 10 survey waves following a closure. As with the USOC data, the effects are relatively persistent, lasting for at least 12 survey waves, or approximately 4-5 years, following a closure.

Figure 6: Estimated Effects of GP Practice Closures on Intention to Vote for Populist Right Parties (BES Data)



Note: Event study estimates and 95% confidence intervals for the effects of GP practice closures on self-reported voting for populist right parties. Parties include the British National Party, Reform UK, the UK Independence Party and the Brexit Party.

Taken together, the results from the analysis of vote intention using the USOC and BES data suggest that the closure of GP practices increase support for the populist right among affected voters. The effects are nearly immediate and are persistent across both data sources, lasting for at least 4-5 years before becoming undetectable. Importantly, the results are consistent in magnitude and duration across two independent data samples,

suggesting that the effects are robust and not specific to the sample. While the effects are indeed relatively small, amounting to an increase of about 2-5 percentage point increase in the intention to vote for a populist right party, it is worth noting that vote switching in first-past-the-post systems is costly – especially in cases in which votes go to parties with no real chance of governing. Consequently, the fact that closures create grievances that motivate individuals to switch their vote intention at all indicates a significant change has occurred.

5.3 GP Practice Closures and Immigration

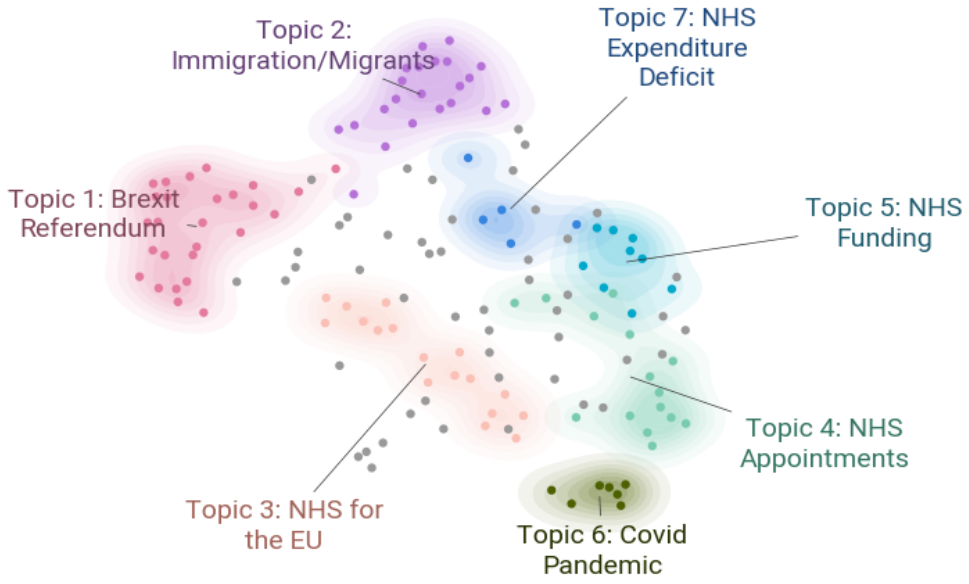
The third step in our argument is that we expect voters to be more likely to turn to the populist right if they perceive immigrants as direct competition for public services (Cavaillé and Van Der Straeten 2023; Cavaillé and Ferwerda 2023). Recent work finds that increased immigration creates local grievances on which populist right parties can capitalize (Dancygier et al. 2024). Populist right parties, such as UKIP, have tried to exploit these fears by pointing to immigration as a key explanation for the deterioration in NHS services. To first provide empirical support for this argument, we examine the ways in which UKIP frames the NHS in their official press releases. We then consider the extent to which the effects of GP practice closures on voting intention are moderated by exposure to immigration, in relation to other contextual factors such as deprivation and unemployment.

Using party press release data from Dickson and Hobolt (2024), we narrow the focus to UKIP press releases between 2010 and 2022 that make mention of the NHS (e.g. 'National Health Service', 'NHS' and 'GPs') and create a topic model from the text using the transformers-based `Bertopic` Python library (Grootendorst 2022).[10] The aim of the topic model is to identify the main themes that UKIP uses when discussing the NHS and GP practices specifically.

Figure 7 presents the main topics of the press releases that focus on the NHS. The biggest topic is the Brexit Referendum – the lead-up to which heavily focused on the NHS

10. We provide further details about the topic models and additional figures in Appendix G.

Figure 7: UKIP Framing of the NHS and GP Services



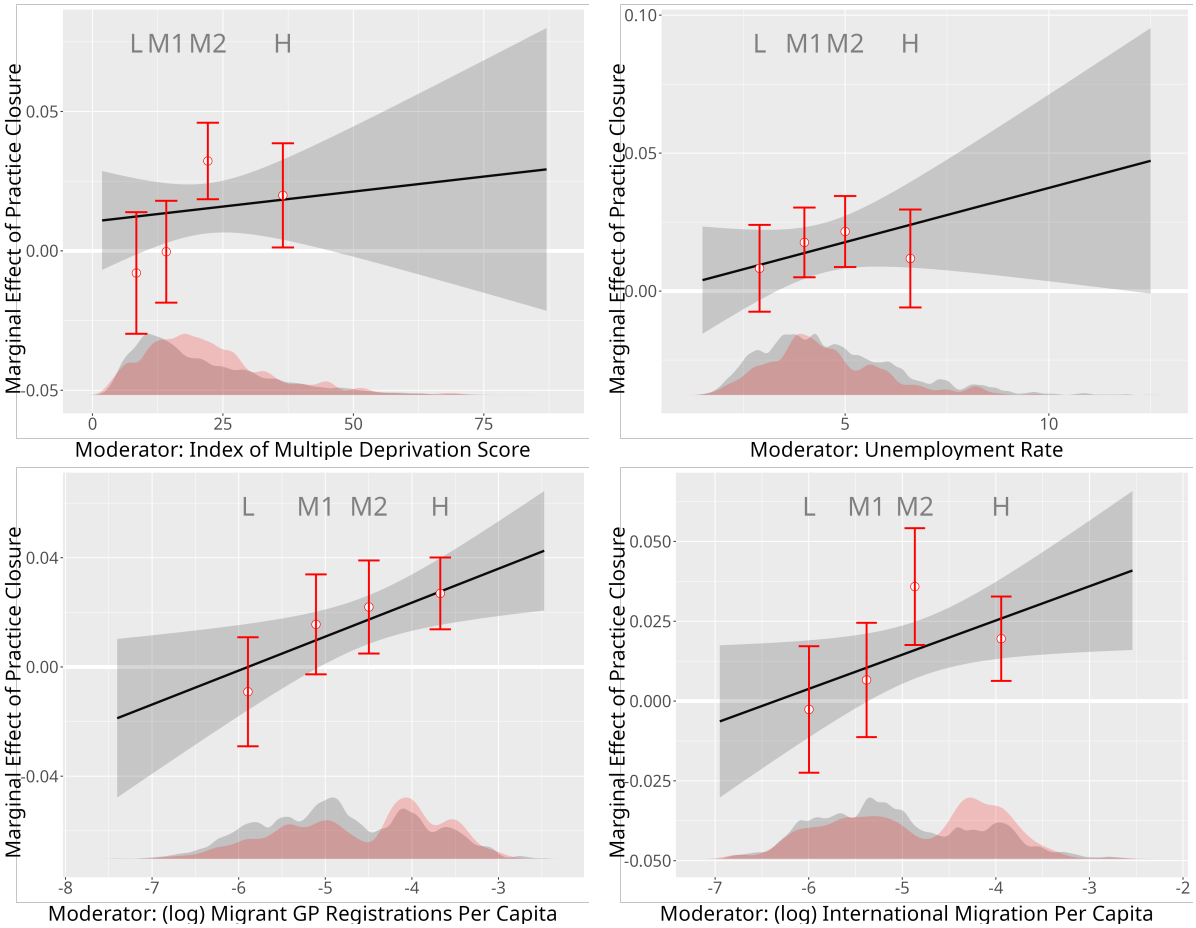
Note: Topic model includes all official press releases from UKIP that make mention of the NHS or GPs. Press release data includes 2010-2022. Data are from Dickson and Hobolt (2024).

and the promise to increase spending on the NHS following the UK's withdrawal. The second largest topic is immigration and migrants, which is often the primary explanation UKIP offers for why the NHS has declined in quality. Topic 3 similarly eludes to immigration, suggesting that the NHS has suffered due to 'health tourism' – a claim which is often accompanied by the idea that the NHS operates as a service for the rest of the EU (and the world) instead of Britons specifically.

To explore the effectiveness of this populist right strategy of linking NHS decline to immigration, we examine the extent to which different contextual variables explain heterogeneity in the effect of GP closures on voting intention. As discussed above, our expectation is that in local areas exposed to an influx for foreign migrants, the effect of GP closures on populist right support is greater, as the populist right's ethno-nationalist rhetoric linking the problem of NHS performance to immigration will seem more credible. Hence, we look at the moderating effect of new migrant GP practice registrations and

international immigration. Moreover, we also consider economic deprivation, measured as material deprivation and unemployment. For the analysis, we rely on a DML estimator to assess the moderating effect of the various moderators (available within the `Interflex` R library by Hainmueller, Mummolo, and Xu 2019). The estimator uses a binning procedure to bin the moderating variables to estimate the conditional effects of the treatment on the treated across the 20th (L), 40th (M1), 60th (M2) and 80th (H) percentiles of the moderator variables. We present the results in Figure 8.

Figure 8: Moderators of GP Practice Closures on Support for the Populist Right



In line with the third part of our argument, the results in Figure 8 suggest that immigration – and specifically new migrant GP practice registrations – are the most important moderators of the effects of the closures on voting intention for the populist right. The effects of the closures indeed tend to be positively associated with the material deprivation as well as local unemployment; however, only international migration and

migrant GP practice registrations have a statistically measurable moderating effect.[11] These results suggest that the effects of the closures are magnified in areas with higher levels of international migration and new migrant GP registrations. This is consistent with the idea that the populist right has been successful in framing the decline in public services as a result of increased competition from migrants.

As a further check, we inspect the distribution of the moderators for the treated and control group. These distributions (presented at the bottom of each plot) show that the treated and control groups are well-balanced across different levels of the moderators, suggesting that there are not significant differences in the distribution of the moderators between the treated and control groups.

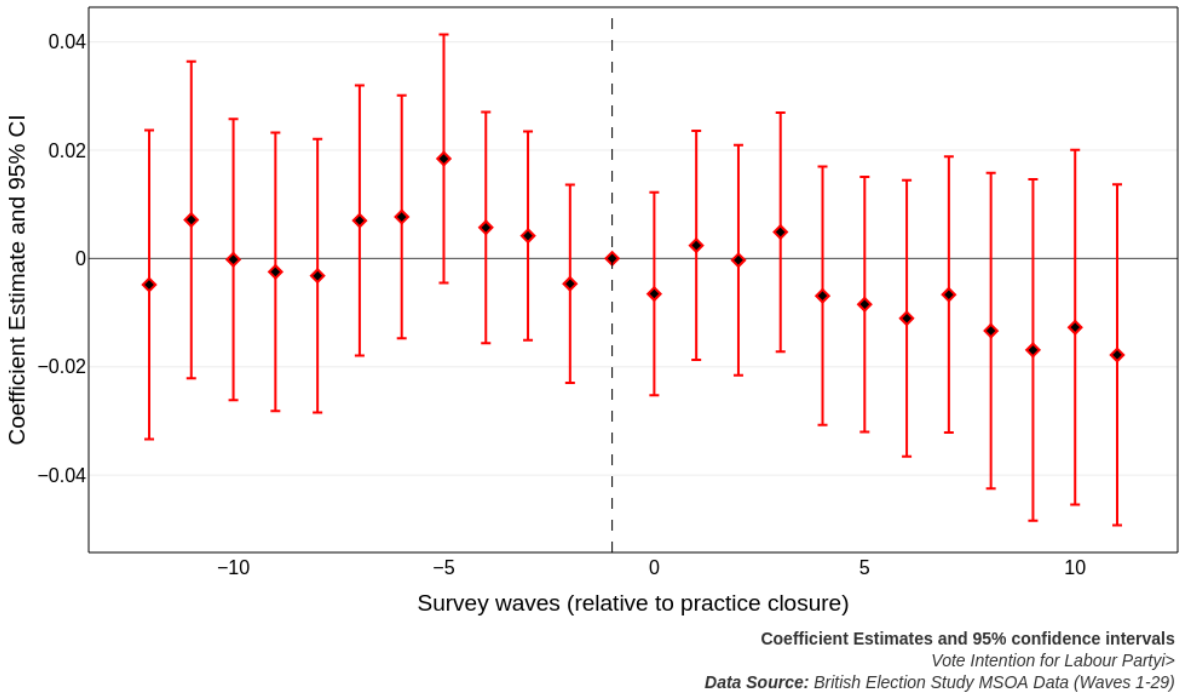
6 Alternative Explanations & Robustness Checks

6.1 Do Voters Turn to the Labour Party?

In a last step, we examine whether exposure to GP practice closures move voters toward the opposition center-left Labour Party. The Labour Party has traditionally been associated with the NHS, and is therefore likely to be seen as the issue owner, which could lead voters disappointed with the NHS to turn to a party known for its competence on the matter (Green and Jennings 2012). If our argument holds, we should not find that GP practice closures increase the self-reported likelihood of voting for Labour compared to the populist right. The results, presented in Figure 9, provide further evidence and are inline with our argument while also serving as a placebo test, demonstrating that voters do not appear to turn to the Labour Party following a closure. We additionally present similar results using the USOC panel in Appendix F.

11. Full results are further presented in Appendix H.

Figure 9: Effects of GP Practice Closures on Vote Intention for Labour (BES)



Note: Coefficient estimates and 95% confidence intervals for the effects of GP practice closures on vote intention for the Labour Party.

6.2 Alternative Estimation Strategies

In addition to the primary analysis, we also estimate the effects of the GP practice closures using alternative estimation strategies. Namely, we adopt counterfactual estimators (Liu, Wang, and Xu 2022) using the matrix completion algorithm (Athey et al. 2021). We estimate the effects of the closures on patient outcomes, as well as the effects of the closures on vote intention for the populist right using the USOC panel and the BES panel in Appendix F. The results from the matrix completion estimations are nearly identical across the various specification presented in the main text, lending strong support for our argument and the conclusions drawn.

7 Conclusion

In this paper, we argued that public service decline is an important driver of grievances and, in turn, support for the populist right. When the state falls short in upholding its obligations to the public, in our case allowing core public services to decline without making other concessions, voters may be swayed by the anti-establishment rhetoric of populist right parties who are quick to point to the failings of a political elite that is disconnected from ordinary people. We further argued that when the state's shortcomings in public service delivery are combined with concerns about heightened competition with "undeserving" immigrants, voters are more likely to punish establishment parties by supporting the populist right.

Our findings provide robust support for these arguments. Focusing on the closures of GP practices – the primary point of contact for individuals accessing medical care in the UK and the face of the nation's public health service – we first document widespread exposure to closures across the country, before showing that these closures have led to a significant decline in patient experiences. Using a staggered difference-in-differences design, we demonstrate that these grievances translate into increased support for the populist right. The effects are immediate, occurring directly following a closure, and they are persistent, lasting for at least 4-5 years following a closure.

We further show that the effects of the closures are moderated by exposure to increased local immigration. The results suggest that the effects of the closures are greater in areas with higher levels of international migration and new migrant GP registrations. We argue that this is because the populist right has been successful in framing the decline in public services as a result of increased immigration, leading voters to perceive immigrants as direct competition for scarce public services.

These findings have important implications for understanding the drivers of support for the populist right. Across multiple specifications, sources of data, and analyses, we find consistent, and causal, evidence that exposure to declining public services fuel support for the populist right. While the effects are relatively small in magnitude, they are persistent

in duration and are observable in an electoral context in which vote switching is costly.

This paper thus contributes to the literature on the drivers of support for right-wing populism. It expands on recent important studies that have tied increased support for right-wing populism to declining economic conditions (Colantone and Stanig 2019; Rodrik 2021; Bolet 2020), migration (Dancygier et al. 2024; Margalit, Raviv, and Solodoch 2025), cultural change (Norris and Inglehart 2019; Margalit 2019; Bolet 2021; Steenvoorden and Harteveld 2018) and austerity measures (Fetzer 2019; Cremaschi et al. 2024; Baccini and Sattler 2024) by focusing on the impact of direct experiences with declining public services in shaping voters' support for the populist right. Importantly, our paper shows that public service decline interacts with cultural change – in particular local immigration increases – to fuel grievances and increase support for the populist right. This furthermore highlights the role of the state, and its services, in both fueling and dampening the rise of populism.

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Part I
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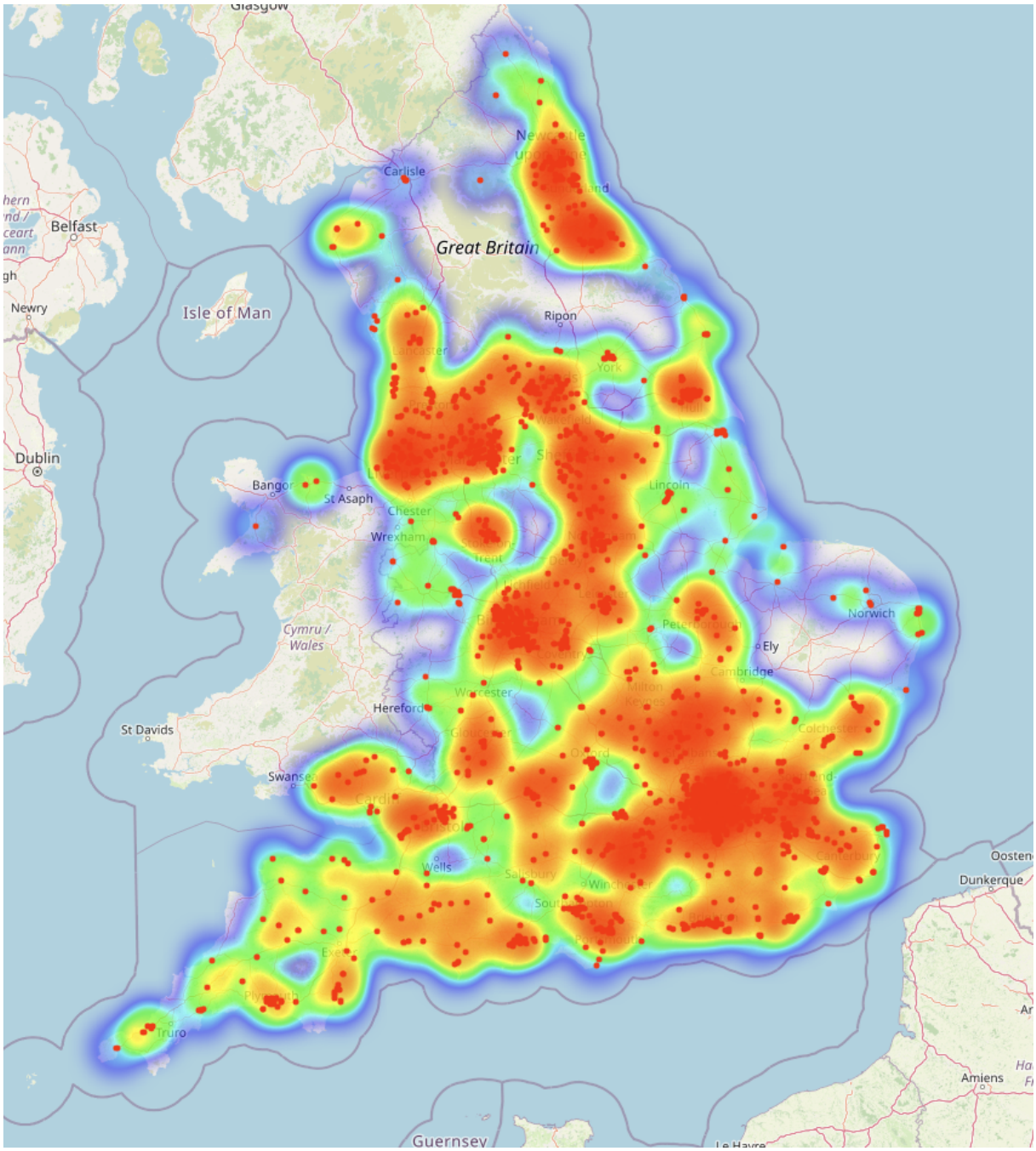
A GP Practice Closures

GP practices can close for a number of reasons. While many practices that close are simply re-opened under new management and a new staffing team, many others close permanently. In either case, a disruption of care can have a negative effect on patients. Although we are unaware of a data source that provides details on why a given practice closes, a detailed investigation by Pulse, a GP publication (Carter and Kaffash 2022), of 474 different practices that had permanently closed without replacement found that the most common reason for closure was staffing issues. To summarize, the Pulse team found that the most common reason were as follows:

1. Staffing Shortages (42%)
2. GP Retirement (20%)
3. Inability to Recruit (10%)
4. GP Resignation (8%)
5. Non-renewal of an APMS contract (8%)
6. Failure to Meet CQC Standards (6%)

Figure A1: GP Practice Closures



Note: Locations of GP practice closures in England between 2013 and 2022.

B Data Merging Procedures

In addition to the USOC and BES data, both of which we merge with the GP practice closure data, we augment our datasets with contextual variables that allow us to examine the effect heterogeneity with respect to a range of relevant moderators. To test the moderating effect of immigration, we consider international migration into a given local authority area. We rely on data made available by the Office for National Statistics (2023) on the rate of immigration in local authorities, which we measure on a per-resident basis. Moreover, we collect data on the number of migrants registering at a GP practice for the first time. We use the annual rate of new migrant registrations (per resident population) for each local authority (Office for National Statistics 2023). In a similar vein, we also collect data on migrant registrations for a National Insurance Number (NINo) for each local authority. The NINo is a unique identifier used by the UK government to track individuals' contributions to the National Insurance system. We use the annual rate of new NINo registrations (per resident population) for each local authority.

Below, we discuss the merging procedures for the GP closures dataset with the GP Patient Survey, USOC and the BES panel.

B.1 GP Patient Survey

The GP Patient Survey contains the practice codes of each GP practice for which a patient is registered. We use the practice codes to locate the MSOA of each practice using the GP closures dataset. We then merge the GP patient survey data with the GP closures data on the MSOA of the practice. We treat all practices in a given MSOA as treated in the event that a practice in that MSOA has closed from the point of closure onwards. The 'treatment group' would therefore include patients who are registered to a new practice that has replaced a closed practice in the exact same location (this is a common occurrence as many practices that close are taken over by new management.), as well as patients who are registered at practice that absorbs the patients of a local practice that has closed.

B.2 Understanding Society

The USOC data contain the Easting and Northing grid reference coordinates for each respondent. The Easting and Northing coordinates are each six-digits, with 1km corresponding to approximately 1000. We round the Easting and Northing values to the nearest 3rd digit to ensure that the data are not too granular. For example, an easting value of 451528 would be rounded to 452000. We then perform the same procedure using the GP Closures dataset by first converting the postcode centroids to Easting and Northing values and then match the two datasets on the rounded values.

To ensure robustness of this approach, we also use an alternative strategy of matching the two dataset in which we match the data using the first five digits of the postcode of the respondent. We first convert the Easting and Northing values in the USOC data to postcodes using data from the Office of National Statistics. We then match the postcode of the respondent to the postcode of the GP practice. The results are nearly identical to the results using the rounded Easting and Northing values.

B.3 British Election Study

The most granular geographic identifier in the British Election Study is the UK Census Middle Layer Super Output Area (MSOA). There are 7,264 MSOAs in England and Wales, containing approximately 7,000–10,000 individuals in each. We merge the GP Practice data to ONS data that links each UK postcode to respective Census geographic identifiers, including MSOA, and then merge the BES data to the GP Closures data on MSOA.

C GP Patient Survey Analysis

The full results of the analysis of the GP Patient Survey data – including all robustness checks – are provided in this section.

C.1 Fixed Effects Estimates

The following results use the Sun and Abraham (2021) cohort-time fixed effects estimator.

Table A1: Cumulative Effects of Closures on GP Patient Experiences

DVs:	Positive Experience	Negative Experience - Appointment
Model:	(1)	(2)
Variables		
Unemployment Rate	0.0170***	-0.0199***
	(0.0003)	(0.0003)
ATT	-0.0406***	0.0440***
	(0.0037)	(0.0039)
Fixed-effects		
MSOA21	Yes	Yes
Fit statistics		
Observations	79,464	79,390
R^2	0.45027	0.42811
Within R^2	0.14109	0.16488

Clustered (MSOA21) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Table A2: Dynamic Estimates: Negative Experience - Appointment

Estimate	Std. Error	P-value	time
-0.008790	0.005233	0.093063	-6.000000
-0.005903	0.004359	0.175750	-5.000000
-0.009377	0.003851	0.014924	-4.000000
-0.006980	0.003229	0.030690	-3.000000
-0.010724	0.002579	0.000033	-2.000000
0.007839	0.003572	0.028259	0.000000
0.026365	0.004698	0.000000	1.000000
0.031767	0.005255	0.000000	2.000000
0.054317	0.006295	0.000000	3.000000
0.085123	0.007764	0.000000	4.000000
0.088560	0.008244	0.000000	5.000000
0.078053	0.010196	0.000000	6.000000
0.084787	0.016998	0.000001	7.000000
0.085683	0.017867	0.000002	8.000000

Table A3: Dynamic Estimates: Positive Overall Experience

Estimate	Std. Error	P-value	time
0.004274	0.005110	0.402930	-6.000000
0.006029	0.004007	0.132503	-5.000000
0.007928	0.003543	0.025301	-4.000000
0.008753	0.002960	0.003126	-3.000000
0.010407	0.002444	0.000021	-2.000000
-0.006870	0.003493	0.049250	0.000000
-0.023360	0.004531	0.000000	1.000000
-0.029768	0.004828	0.000000	2.000000
-0.051675	0.006291	0.000000	3.000000
-0.080314	0.006855	0.000000	4.000000
-0.078655	0.008404	0.000000	5.000000
-0.065276	0.009485	0.000000	6.000000
-0.090504	0.016291	0.000000	7.000000
-0.083248	0.017949	0.000004	8.000000

C.2 Matrix Completion

We modify the specification for the Matrix completion in order to accommodate the data structure. Namely, matrix completion methods require indexed data and does not accommodate area fixed effects. Consequently, the matrix completion estimates we present include practice and time fixed effects, which means that only practices that close and then re-open under new management are "treated" in the estimates. This practice therefore does not include as treated the responses from individuals in neighboring practices that are required to "absorb" patients in newly closed practices, making the estimates conservative.

Table A4: Dynamic Effects of Closures on Positive Overall Experience at Practice

Time	ATT	S.E.	p.value
-10	0.005620	0.011470	0.624140
-9	0.006741	0.007080	0.341028
-8	0.011177	0.005302	0.035029
-7	0.001789	0.003958	0.651351
-6	0.004751	0.003387	0.160678
-5	-0.002119	0.002538	0.403738
-4	0.001568	0.002026	0.438867
-3	0.000496	0.001733	0.774585
-2	-0.000078	0.001605	0.961051
-1	-0.000139	0.001817	0.939094
0	-0.005508	0.002471	0.025784
1	-0.011274	0.003502	0.001285
2	-0.012274	0.004173	0.003267
3	-0.011556	0.005413	0.032794
4	-0.013487	0.005424	0.012894
5	-0.019215	0.006391	0.002643
6	-0.010143	0.007265	0.162675
7	0.007520	0.010198	0.460921
8	-0.001697	0.014270	0.905313
9	0.005701	0.021345	0.789397
10	0.053789	0.030703	0.079786
11	0.061318	0.050363	0.223409

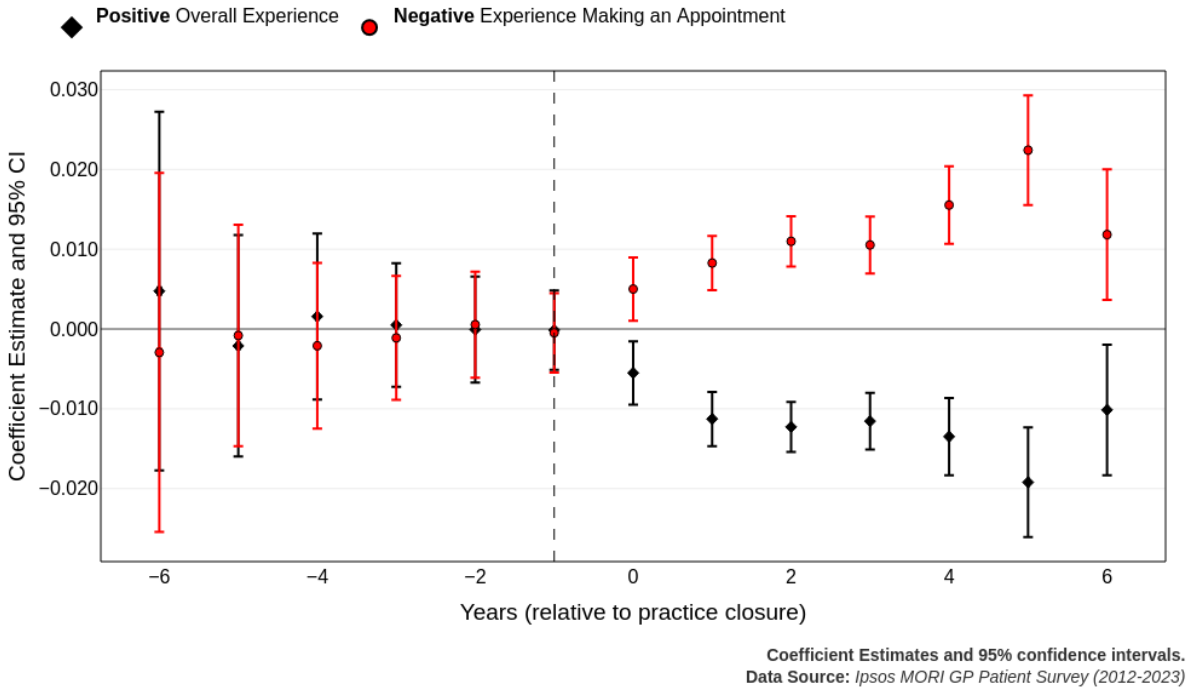
Note: Dynamic matrix completion ATT estimates for the effects of practice closures on patient attitudes. The outcome variable is the percentage of patients who report that their overall experience at the GP practice is *very good*. Estimates are made using the `Fect` library in R (Liu, Wang, and Xu 2022).

Table A5: Dynamic Effects of Closures on Negative Overall Experience Making an Appointment at Practice

Time	ATT	S.E.	p.value
-10	-0.002361	0.008467	0.780326
-9	0.001706	0.007181	0.812263
-8	-0.007937	0.005761	0.168264
-7	0.001504	0.004210	0.720791
-6	-0.002936	0.002796	0.293641
-5	-0.000818	0.002424	0.735831
-4	-0.002106	0.002259	0.351114
-3	-0.001119	0.001936	0.563364
-2	0.000545	0.001940	0.778662
-1	-0.000478	0.001942	0.805567
0	0.005006	0.001955	0.010459
1	0.008265	0.003093	0.007542
2	0.010985	0.004064	0.006866
3	0.010528	0.004402	0.016758
4	0.015532	0.005025	0.001996
5	0.022412	0.005988	0.000182
6	0.011830	0.008565	0.167223
7	-0.004052	0.009351	0.664745
8	-0.013364	0.013110	0.308027
9	-0.008466	0.017691	0.632235
10	-0.043554	0.028355	0.124536
11	-0.098076	0.055732	0.078444

Note: Dynamic matrix completion ATT estimates for the effects of practice closures on patient attitudes. The outcome variable is the percentage of patients who report that their experience making an appointment at the practice is *very poor*. Estimates are made using the `Fect` library in R (Liu, Wang, and Xu 2022).

Figure A2: Effect of GP Practice Closures on Patient Experiences in Area Practices (MC)



Note: Dynamic estimates for the effects of GP practice closures on patient overall satisfaction in GP practices after a closure. The outcome variables are the percentage of patients at a practice who report a positive overall experience at the GP practice (black circles) and the percentage of patients who report a negative overall experience making an appointment at the GP practice (red circles).

D Understanding Society Analysis

The full results of the analysis of the Understanding Society data – including all robustness checks – are provided in this section.

D.1 Fixed Effects Estimates

The following results use the Sun and Abraham (2021) cohort-time fixed effects estimator.

Table A6: Cumulative Effects of GP Practice Closure on Vote Intention for Populist Right Party

Dependent Variable:	Support for Populist Right
Model:	(1)
Variables	
ATT	0.0096***
	(0.0026)
Unemployment Rate	-0.0017
	(0.0010)
Income Deprivation Score	0.1042
	(0.2142)
Inflow Longterm International Migration Proportion	-0.0083
	(0.0064)
Migrant GP Registrations Proportion	0.0144*
	(0.0074)
Fixed-effects	
MSOA	Yes
Year	Yes
Fit statistics	
Observations	176,265
R^2	0.16754
Within R^2	0.00113

Clustered (MSOA & Year) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Table A7: Dynamic Effects of GP Practice Closure on Vote Intention for Populist Right Party

Estimate	Std. Error	P-value	Time
0.000121	0.003733	0.974941	-7.000000
-0.003802	0.003197	0.264796	-6.000000
0.004312	0.003844	0.290979	-5.000000
0.005594	0.003868	0.182087	-4.000000
-0.004324	0.003196	0.209100	-3.000000
-0.002008	0.003662	0.596794	-2.000000
0.000591	0.003512	0.870184	0.000000
0.015267	0.003974	0.003956	1.000000
0.011251	0.004141	0.023713	2.000000
0.016885	0.003258	0.000578	3.000000
0.009166	0.006951	0.219817	4.000000
0.020487	0.009446	0.058237	5.000000

D.2 Matrix Completion Estimates

Table A8: Dynamic Effects of GP Practice Closures on Vote Intention for Populist Right Party

Time	ATT	S.E.	P-value	Lower Bound	Upper Bound
-12	-0.007093	0.011015	0.519606	-0.028681	0.014495
-11	0.000029	0.002043	0.988760	-0.003976	0.004034
-10	-0.000140	0.001069	0.895923	-0.002236	0.001956
-9	-0.001047	0.000764	0.170384	-0.002543	0.000450
-8	-0.000956	0.000614	0.119739	-0.002159	0.000248
-7	-0.001337	0.000487	0.006021	-0.002291	-0.000383
-6	-0.001359	0.000892	0.127555	-0.003106	0.000389
-5	-0.000435	0.001100	0.692141	-0.002591	0.001720
-4	0.001182	0.001176	0.314840	-0.001122	0.003485
-3	0.001700	0.001288	0.186898	-0.000825	0.004225
-2	0.001148	0.001210	0.342570	-0.001223	0.003519
-1	0.003109	0.001510	0.039531	0.000149	0.006069
0	0.001777	0.001305	0.173207	-0.000780	0.004335
1	0.010786	0.001934	0.000000	0.006995	0.014577
2	0.005570	0.002308	0.015791	0.001047	0.010094
3	0.006376	0.002560	0.012768	0.001358	0.011394
4	0.008491	0.003269	0.009389	0.002084	0.014898
5	0.007953	0.004415	0.071647	-0.000700	0.016606
6	0.013158	0.006966	0.058915	-0.000496	0.026811
7	0.011858	0.009946	0.233153	-0.007635	0.031352
8	0.016947	0.012867	0.187812	-0.008272	0.042167

Note: Dynamic matrix completion ATT estimates for the effects of practice closures on vote intention for a populist right party. Understanding Society Secure Access Data (University of Essex, Institute for Social and Economic Research 2023). GP practice closures are mapped to voters using the first 5 digits of the postcode of residence. Estimates are made using the `Fect` library in R (Liu, Wang, and Xu 2022).

E British Election Study Analysis

The full results of the analysis of the British Election Study data – including all robustness checks – are provided in this section.

E.1 Fixed Effects Estimates

The following results use the Sun and Abraham (2021) cohort-time fixed effects estimator.

Table A9: Cumulative Effects of GP Practice Closures on Vote Intention for Populist Right Party

Dependent Variable:	Support for Populist Right	
Model:	(1)	(2)
Variables		
ATT	0.0160***	0.0195***
	(0.0036)	(0.0051)
Unemployment Rate		-0.0018
		(0.0025)
IMD Score		-0.0043
		(0.0026)
Inflow Longterm International Migration		0.0292*
		(0.0152)
Migrant GP Registrations		0.0415***
		(0.0115)
Fixed-effects		
MSOA	Yes	Yes
Survey Wave	Yes	Yes
Fit statistics		
Observations	594,406	375,442
R^2	0.12226	0.13809
Within R^2	0.00101	0.00162

Clustered (MSOA & Survey Wave) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Table A10: Dynamic Effects of GP Practice Closures on Vote Intention for Populist Right Party

Estimate	Std. Error	P-value	time
-0.006376	0.006852	0.363759	-13.000000
0.003025	0.006544	0.649124	-12.000000
-0.002506	0.005404	0.648115	-11.000000
0.002219	0.005217	0.675311	-10.000000
-0.003151	0.005597	0.580022	-9.000000
-0.007212	0.004813	0.150434	-8.000000
-0.006529	0.004979	0.205371	-7.000000
-0.014618	0.004379	0.003456	-6.000000
-0.003350	0.004999	0.510810	-5.000000
-0.003610	0.003580	0.325885	-4.000000
0.003876	0.003559	0.289687	-3.000000
-0.008196	0.003955	0.052090	-2.000000
0.000118	0.005109	0.981853	0.000000
0.007879	0.005274	0.151626	1.000000
0.002554	0.006483	0.697995	2.000000
0.011215	0.005525	0.056600	3.000000
0.013098	0.007266	0.087345	4.000000
0.017279	0.006289	0.012803	5.000000
0.026669	0.007493	0.002095	6.000000
0.021046	0.010406	0.057431	7.000000
0.045537	0.012504	0.001736	8.000000
0.035385	0.010127	0.002428	9.000000
0.046506	0.013163	0.002221	10.000000
0.067035	0.015554	0.000378	11.000000
0.035907	0.015613	0.032968	12.000000

E.2 Matrix Completion Estimates

Table A11: Dynamic Effects of Closures on Vote Intention for Radical Right Parties

Time	ATT	S.E.	p.value	CI.lower	CI.upper
-11	-0.001883	0.004809	0.695440	-0.011307	0.007542
-10	0.001911	0.005744	0.739408	-0.009348	0.013169
-9	-0.006622	0.004258	0.119894	-0.014966	0.001723
-8	0.001037	0.004234	0.806455	-0.007261	0.009335
-7	-0.005456	0.004031	0.175823	-0.013356	0.002444
-6	-0.000773	0.004122	0.851222	-0.008851	0.007305
-5	-0.003222	0.004421	0.466054	-0.011887	0.005442
-4	-0.000647	0.004154	0.876147	-0.008789	0.007494
-3	0.006449	0.004421	0.144574	-0.002215	0.015113
-2	0.001639	0.004187	0.695396	-0.006567	0.009845
-1	0.002785	0.004254	0.512767	-0.005554	0.011123
0	0.009224	0.004190	0.027695	0.001012	0.017435
1	0.021235	0.008299	0.010504	0.004969	0.037500
2	0.012669	0.010839	0.242479	-0.008575	0.033912
3	0.016233	0.010724	0.130101	-0.004786	0.037252
4	0.039731	0.012189	0.001116	0.015841	0.063620
5	0.035219	0.011092	0.001498	0.013479	0.056960
6	0.023321	0.011284	0.038751	0.001206	0.045437
7	0.037053	0.015461	0.016548	0.006751	0.067356
8	0.040310	0.016227	0.012985	0.008506	0.072114
9	0.018183	0.014020	0.194649	-0.009295	0.045662
10	0.037228	0.016264	0.022079	0.005352	0.069105
11	0.025474	0.017291	0.140688	-0.008416	0.059364

Note: Dynamic matrix completion ATT estimates for the effects of practice closures on vote intention for the British National Party, UKIP, Reform UK and the Brexit Party. Estimates are made using the `Fect` library in R (Liu, Wang, and Xu 2022).

F Robustness Tests

F.1 Do Voters Turn to the Labour Party?

The following results examine the extent to which an effect from the closures is detectable as an increase in support for the Labour Party. We used the Sun and Abraham (2021) estimator and the matrix completion estimator (Liu, Wang, and Xu 2022).

F.1.1 Fixed Effects Estimates

Table A12: Effects of Closures on Voting Intention for the Labour Party (USOC)

Dependent Variable:	Labour Party Vote Intention	
Model:	(1)	(2)
Variables		
ATT	0.0090	0.0151
	(0.0079)	(0.0101)
Unemployment Rate		0.0027**
		(0.0011)
IMD Score		-0.0056***
		(0.0010)
Inflow Longterm International Migration Proportion		-0.0052
		(0.0099)
Migrant NINO Registrations		0.0404***
		(0.0077)
Migrant GP Registrations Proportion		0.0307***
		(0.0086)
Fixed-effects		
MSOA21	Yes	Yes
Year	Yes	Yes
Fit statistics		
Observations	275,421	182,430
R^2	0.13769	0.22519
Within R^2	0.00078	0.00236

*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Table A13: Effects of Closures on Voting Intention for the Labour Party (BES)

Dependent Variable:	Labour Party Vote Intention	
Model:	(1)	(2)
Variables		
ATT	-0.0123	-0.0138
	(0.0104)	(0.0139)
Unemployment Rate		0.0008
		(0.0020)
Inflow Longterm International Migration		0.0102
		(0.0140)
Migrant GP Registrations		-0.0069
		(0.0113)
IMD Score		-0.0052***
		(0.0016)
NINO registrations		0.0114
		(0.0095)
Fixed-effects		
MSOA21	Yes	Yes
Survey Wave	Yes	Yes
Fit statistics		
Observations	594,406	375,620
R^2	0.14044	0.15395
Within R^2	0.00099	0.00108

Clustered (MSOA21) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

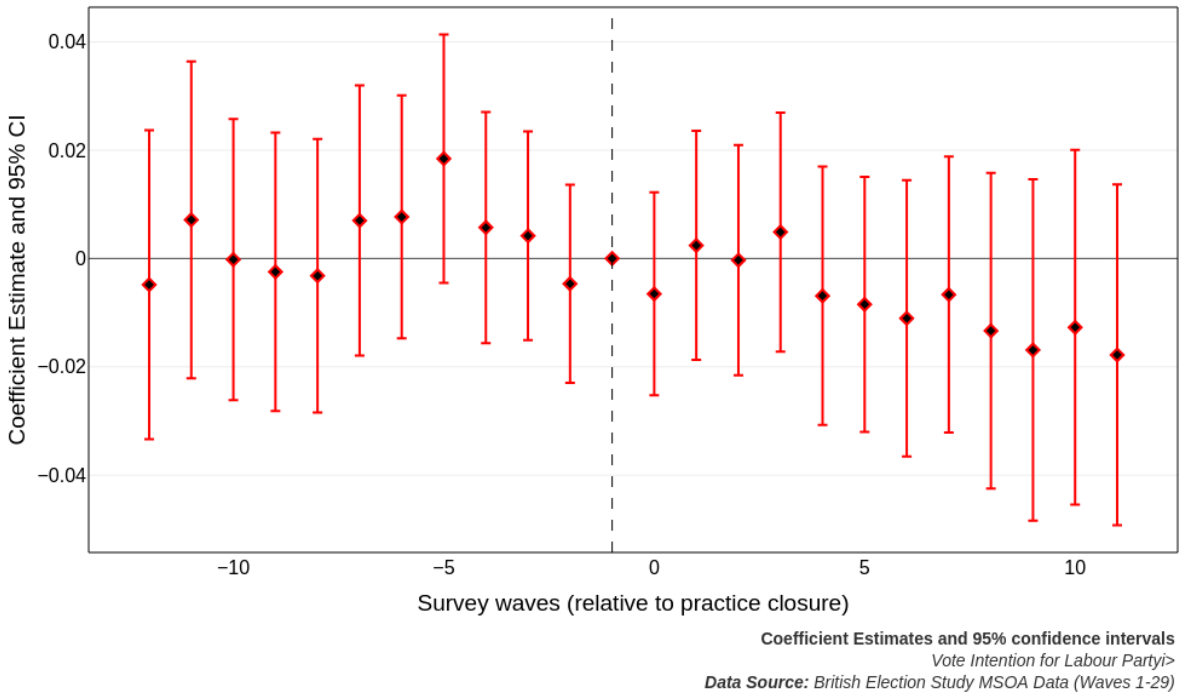
Table A14: Dynamic Effects of GP Practice Closure on Labour Vote Intention (BES - no controls)

Estimate	Std. Error	P-value	time
0.007685	0.011443	0.501839	-6.000000
0.018425	0.011702	0.115432	-5.000000
0.005714	0.010889	0.599781	-4.000000
0.004196	0.009838	0.669730	-3.000000
-0.004677	0.009322	0.615902	-2.000000
-0.006529	0.009559	0.494588	0.000000
0.002413	0.010791	0.823033	1.000000
-0.000298	0.010838	0.978071	2.000000
0.004887	0.011257	0.664218	3.000000
-0.006889	0.012171	0.571389	4.000000
-0.008469	0.012019	0.481061	5.000000
-0.011046	0.013014	0.396044	6.000000

Table A15: Dynamic Effects of GP Practice Closure on Labour Vote Intention (BES - with controls)

Estimate	Std. Error	P-value	time
0.007685	0.011443	0.501839	-6.000000
0.018425	0.011702	0.115432	-5.000000
0.005714	0.010889	0.599781	-4.000000
0.004196	0.009838	0.669730	-3.000000
-0.004677	0.009322	0.615902	-2.000000
-0.006529	0.009559	0.494588	0.000000
0.002413	0.010791	0.823033	1.000000
-0.000298	0.010838	0.978071	2.000000
0.004887	0.011257	0.664218	3.000000
-0.006889	0.012171	0.571389	4.000000
-0.008469	0.012019	0.481061	5.000000
-0.011046	0.013014	0.396044	6.000000

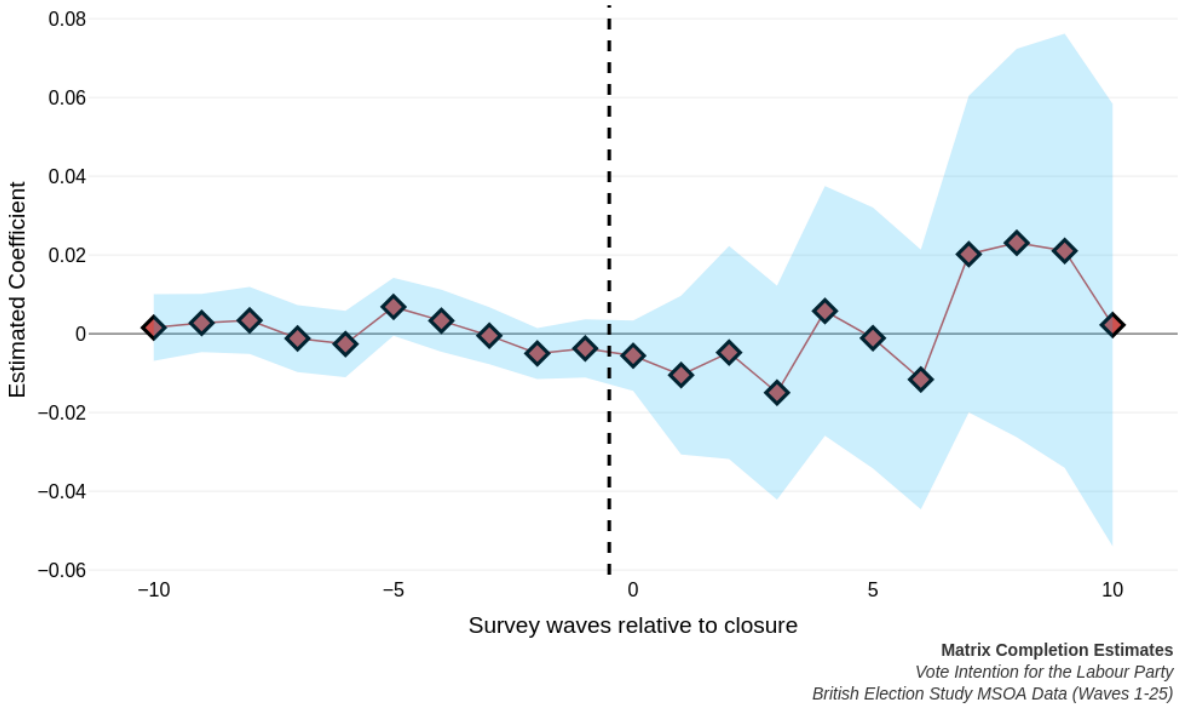
Figure A3: Effects of GP Practice Closures on Vote Intention for Labour - (BES)



Note: Coefficient estimates and 95% confidence intervals for the effects of GP practice closures on vote intention for the Labour Party.

F.2 Matrix Completion Estimates

Figure A4: Effects of GP Practice Closures on Vote Intention for Labour



Note: Matrix Completion estimates and 95% confidence intervals for the effects of GP practice closures on vote intention for the Labour Party.

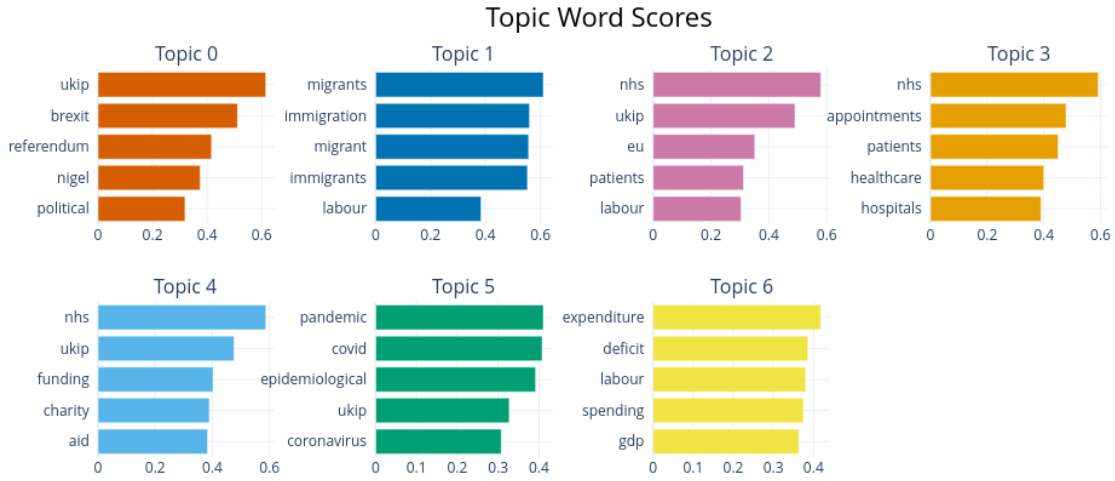
G Topic Model

We consider the ways in which the United Kingdom Independence Party frames the NHS by creating topic models of official press releases from the party that address the topic directly. We rely on Bertopic to estimate the models (Grootendorst 2022) and use data from Dickson and Hobolt (2024).

We first narrow the data to include only press releases that contain the consecutive strings 'NHS', 'National Health Service' or ' GP ' (case insensitive). This identified 151 press releases between 2010 and 2022.

The results present the topics as the three most-representative words that describe a given topic. The results suggest that the second-most common topic in UKIP press releases about the NHS contain references to migrants and/or immigration. Figure A5 presents the top key words associated with each respective topic. These keywords were used to create topics presented in Figure 7.

Figure A5: UKIP Framing of the NHS and GP Services - Top keywords



Note: Topic model includes all official press releases from UKIP that make mention of the NHS or GPs. Press release data includes 2010-2022. Data are from Dickson and Hobolt (2024).

H Moderation Analysis

We provide the full results in table format from the moderation analysis conducted in subsection 5.3.

Table A16: Moderator: Index of Multiple Deprivation Score

	X1.diff.estimate	X1.sd	X1.z.value	X1.p.value	X1.lower.CI.95..	X1.upper.CI.95..	Moderator
50% vs 25%	0.005	0.008	0.551	0.582	-0.012	0.021	Index of Multiple Deprivation Score
75% vs 50%	0.005	0.008	0.551	0.582	-0.012	0.021	Index of Multiple Deprivation Score
75% vs 25%	0.009	0.017	0.551	0.582	-0.023	0.042	Index of Multiple Deprivation Score

Table A17: Moderator: Unemployment Rate

	X1.diff.estimate	X1.sd	X1.z.value	X1.p.value	X1.lower.CI.95..	X1.upper.CI.95..	Moderator
50% vs 25%	0.011	0.008	1.313	0.189	-0.005	0.027	Unemployment Rate
75% vs 50%	0.011	0.008	1.313	0.189	-0.005	0.027	Unemployment Rate
75% vs 25%	0.022	0.016	1.313	0.189	-0.011	0.054	Unemployment Rate

Table A18: Moderator: (log) International Migration Per Capita

	X1.diff.estimate	X1.sd	X1.z.value	X1.p.value	X1.lower.CI.95..	X1.upper.CI.95..	Moderator
50% vs 25%	0.012	0.006	2.041	0.041	0.000	0.023	(log) International Migration Per Capita
75% vs 50%	0.012	0.006	2.041	0.041	0.000	0.023	(log) International Migration Per Capita
75% vs 25%	0.024	0.012	2.041	0.041	0.001	0.046	(log) International Migration Per Capita

Table A19: Moderator: (log) Migrant GP Registrations Per Capita

	X1.diff.estimate	X1.sd	X1.z.value	X1.p.value	X1.lower.CI.95..	X1.upper.CI.95..	Moderator
50% vs 25%	0.015	0.006	2.524	0.012	0.003	0.027	(log) Migrant GP Registrations Per Capita
75% vs 50%	0.015	0.006	2.524	0.012	0.003	0.027	(log) Migrant GP Registrations Per Capita
75% vs 25%	0.031	0.012	2.524	0.012	0.007	0.054	(log) Migrant GP Registrations Per Capita