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## RESEARCH ARTICLE



# Can public-private innovation partnerships improve public services? Evidence from a synthetic control approach

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## Abstract

Public-Private Innovation (PPI) Partnerships can generate innovative approaches to improving public services. However, incomplete contract theories point to difficulties in making public-private collaborations work effectively and efficiently. Drawing on these theories, we analyze the transfer of the management of a children's social services department in a large metropolitan government in England to an "improvement partnership" between the local government and two private firms. Using a synthetic control method approach, we find little evidence of improved health or educational outcomes for looked after children during the years following the creation of the partnership. However, there appears to be an increase in the costs of providing children's social services, which documentary evidence suggests may be attributable to weak contract management capacity, difficulties embedding performance monitoring, and additional expenditures on the partnership's reform programme. Our findings therefore highlight that effective supervision of PPI partnerships is essential for making them a success.

## Evidence for practice

- Partnerships between public and private organizations have become popular worldwide as a way for governments to develop innovative and cost-effective solutions to pressing public problems.
- Public-Private Innovation partnerships require careful management to be an effective vehicle for improving public services.
- Strong contract and performance management capabilities are required to coordinate the involvement of private partners in the strategic management of public services.

## INTRODUCTION

Across the globe, partnerships between public and private organizations are regarded as a vital means for governments to develop innovative and cost-effective approaches to delivering public services (Hodge & Greve, 2007; Koppenjan & Enserink, 2009; Wang et al., 2018; Yang et al., 2013). However, there is currently a paucity of evidence on the performance of Public-Private Innovation (PPI) partnerships—public-private collaborations in which “government and business constitute mutual development partners based on complementary skills and resources” (Brogaard, 2021, p. 135). In particular, while scholarly effort

devoted to the use of PPI partnerships for the provision of public services is slowly emerging (Brogaard, 2021; Evald et al., 2014; Gallouj et al., 2013), the impact of these partnerships on service outcomes and costs is rarely examined.

PPI partnerships can productively combine the entrepreneurial spirit, management expertise and financial know-how of the private sector, with the public capabilities of democratic legitimacy, political authority, and a stable resource base (Osborne & Gaebler, 1993; Rufin & Rivera-Santos, 2012). However, like all forms of public-private collaborations, PPI partnerships are characterized by incomplete contracts that require careful management to ensure that the partnership is a success. In particular,

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incomplete contracts theory suggests that the introduction of profit maximization incentives within a public service delivery system can have a downward effect on service quality where contract performance is difficult to measure, monitor, and manage (Elkomy et al., 2019; Hart et al., 1997; Jensen & Stonecash, 2005). This is more likely to be the case for human services due to the low measurability of outcomes and the complex contracts that are required to achieve those outcomes (Brown & Potoski, 2005; Romzek & Johnston, 2005). If contract performance is not managed effectively in these circumstances, partnering with the private sector for innovation can therefore generate increased rather than reduced costs, especially if the organizational risk falls largely on public partners (Barlow et al., 2013; Edler et al., 2015).

To explore the potential for incomplete contracts to influence the performance of PPI partnerships, we investigate a highly distinctive example of a tender-driven governance innovation in England: an “improvement partnership” with two private firms contracted to manage Sandwell metropolitan children’s social services department, which was regarded as performing poorly by government inspectors. This partnership was the first of its kind to run a children’s services department in the United Kingdom, and was described at the time as “a radical course of action to accelerate the pace of change and boost management capacity” (Britton, 2013). To evaluate the success of this innovative public-private partnership, we focus on the health and education outcomes for looked after children in Sandwell, and the costs of providing services for those children. English metropolitan governments have a statutory duty to care for children that family courts deem to be suffering or at risk of suffering significant harm and are responsible for ensuring: an appropriate standard of care; proper training and support for carers; and that a child’s views, and those of their family, are taken into account (HM Government, 2018).

Given the potentially tragic (and very public) consequences of child protection failures (Marinetto, 2011), UK central government strives to closely monitor and manage the performance of children’s social services departments through inspections based on a combination of performance indicators and on-site visits. For departments receiving adverse inspection judgments, legal responsibility for service provision can potentially be outsourced to another organization (Wilkins & Antonopoulou, 2020), which places considerable pressure on local governments to implement radical changes to the management and working practices in such departments. Sandwell is one of only two metropolitan boroughs in England to have tendered the management of its children’s social services to a PPI partnership in response to negative inspection reports. As such, the improvement partnership is a comparatively unique case requiring the application of a research technique that can facilitate comparisons between its service achievements and a counterfactual.

To investigate whether the improvement partnership generated better outcomes for Sandwell’s looked after

children, we use a synthetic control method (SCM) approach to analyze health and education outcomes between 2004 and 2016, and the costs of providing services to looked after children for that period. A SCM approach approximates treatment effects by comparing a “treated” case with a synthetic “untreated” version of that case based on information from counterfactual cases (Abadie et al., 2010). We therefore compare outcomes and costs for Sandwell with those for a synthetic version of the borough constructed using weighted data drawn from other similar English metropolitan boroughs. For health outcomes, we focus on the percentage of looked after children receiving: (i) annual health assessments; (ii) up-to-date immunisations; and, (iii) regular dental checks. For educational outcomes, we focus on: (i) the percentage of school sessions looked after children missed due to absenteeism; and (ii) the percentage of care-leavers who were in education, employment, or training. The cost of delivering children’s social services was gauged using expenditure figures per looked after child. To better understand the management and performance of the improvement partnership, we supplement our SCM analysis of outcomes and service costs, with a range of documentary and archival evidence, including: annual accounts, improvement plans, inspection reports, practitioner articles, and local government cabinet and committee minutes.

Based on the available data, the SCM model suggests that the improvement partnership neither improved nor weakened the performance of Sandwell’s children’s social services department, but that the costs of providing services to looked after children may have increased when the partnership was responsible for managing the department. The documentary evidence provides further insights into the ways in which the challenges associated with managing incomplete contracts may explain these results.

## LITERATURE REVIEW

Public administration scholarship dealing with the management, governance, and performance of Public-Private Partnerships (PPPs) has grown rapidly in recent times (Torchia et al., 2015; Wang et al., 2018; Warsen et al., 2018). Within that literature, increasing attention is being paid to the role that PPI partnerships can play in addressing major public service delivery challenges, such as improving provision for vulnerable populations, solutions to rising healthcare demands, and environmentally sustainable transportation (Gallouj et al., 2013; Lassen et al., 2015; Smith et al., 2019). Although PPI partnerships are expected to result in public service improvement, to date, most studies have focused on their utility for the development of product, process, and service innovations (Brogaard, 2021). So far, little systematic attention has been paid to the use of PPI partnerships for governance



innovations, defined as changes in the organizational form and arrangements for the planning and delivery of services' (Hartley, 2005, p. 28), or their impact on outcomes or costs (for a partial exception see Hammond et al., forthcoming). This is surprising given the robust debates about the costs and performance of PPPs in general (Hodge & Greve, 2007, 2018), and the growing interest in PPI as an alternative to conventional PPPs (Evald et al., 2014).

Like most PPPs, PPI partnerships are collaborations intended to create value for both the public and private sector partners (Munksgaard et al., 2017). However, unlike the long-term contracting that characterizes infrastructure PPPs (Bloomfield, 2006; Van Den Hurk & Verhoest, 2016), PPI partnerships are usually of short to medium duration, involve much closer collaboration between the public and private partners, and are focused on the development of new services, products or processes for application to public problems (Olesen, 2013). Typically, PPI partnerships entail public partners contributing the professional experience and organizational support related to the innovation context, with private partners providing finance and the technical knowledge around innovation design and/or implementation (Munksgaard et al., 2017). As such, PPI partnerships have the potential to be effective vehicles for public service improvement (Eggers & Singh, 2009).

Hodge and Greve (2017) identify an array of macro-level benefits that PPPs are purported to bring to the public sector, ranging from financial, and economic benefits (e.g., better value-for-money; creating and sustaining public service markets), to policy and governance benefits (e.g., shifting risk away from government; better managerial accountability). At the micro-level of public service delivery, PPPs are typically expected to result in better organizational efficiency and effectiveness, and to offer the potential for improved adaptation to change and capacity for innovation (Osborne & Gaebler, 1993). Although surprisingly few studies provide robust quantifiable evidence of the performance effects of PPPs (Petersen, 2019; Reeves, 2015), there is a diverse and growing body of research that addresses the issue from a variety of perspectives.

Political economists have produced numerous literature reviews, case studies and economic analyses that point to the challenges of cost control, financial transparency, and accountability for infrastructure PPPs (Barlow et al., 2013; Boardman & Vining, 2012; Marin, 2009; Shaoul, 2003). Likewise, accounting scholars have highlighted that the allocation of risk between partners is a significant challenge that influences the financial performance of PPPs (Andon, 2012; Grimsey & Lewis, 2002; Quiggin, 2004). Building on the insights from these studies, public administration researchers have now begun to identify some of the key determinants of PPP project success, such as inter-organizational trust, appropriate risk allocation, effective contract specification, and good network

management practices (Kort & Klijn, 2011; Steijn et al., 2011; Verweij & van Meerkerk, 2021; Warsen et al., 2018, 2019). Although some of these studies suggest that contract characteristics may not be as important as is sometimes supposed (Klijn & Koppenjan, 2016), nearly all of them confirm the pervasive difficulties associated with managing PPP contracts that incomplete contract theories emphasize determine partnership effectiveness.

## PPI partnerships and incomplete contracts

The principal idea behind the development and use of PPI partnerships is that private partners have an incentive to develop and apply their innovation capacity and entrepreneurial know-how (Borins, 2001; Donahue & Zeckhauser, 2006). From this perspective, PPI partnerships can enable government to harness private firms' successful experiences with change management and the confidence that this inspires among employees (Robertson & Seneviratne, 1995), especially when there are significant resource constraints (Donahue & Zeckhauser, 2006). For public organizations lacking "critical competencies they cannot develop on their own or in a timely fashion" (Selsky & Parker, 2005, p. 851), a PPI partnership can therefore represent an attractive way to achieve the cultural change needed to drive performance improvements. Nevertheless, the challenges with incomplete contracts associated with any public-private collaboration may be especially acute for PPI partnerships because they are more reliant on joint commitment to the co-production of shared goals than conventional PPPs (Evald et al., 2014).

Although a strong foundation in trust-based governance is one of the potential attractions of PPI partnerships (Munksgaard et al., 2017), a more relational approach to partnership can leave public organizations even more open to the problems of quality-shading and risk-shirking by private partners (Jensen & Stonecash, 2005). These potential pitfalls increase the organizational and societal risks associated with efforts to achieve the changes needed to improve public services (Edler et al., 2015) and heighten the need for effective contractual governance. Partnerships between private sector firms can usually rely on equity-based value appropriation structures to align the interests of partners. However, this option is rarely available to PPPs, due to the accountability mechanisms to which public organizations are subject (Bryson et al., 2006). For this reason, PPPs are required to rely on nonequity governance mechanisms to minimize partner opportunism (Rufin & Rivera-Santos, 2012), especially systems to monitor and manage contract clauses relating to compliance and performance (Hart, 2003).

Incomplete contract theories suggest that private sector involvement in public service provision can only result in better outcomes when there are clear and transparent indicators of performance that can be used as the basis

for accurately specifying required service quality standards within a contract (Hart et al., 1997). Nevertheless, Johnston and Romzek (1999, p. 394) emphasize that contract management and performance accountability “do not take care of themselves.” As well as preparing contracts that are well-specified, public organizations need systems and processes to compare the “quality and quantity of product or service delivered against contract specification” (Prager, 1994, p. 179). As a result, the quality of the services provided by PPPs may vary considerably depending on the capacity of the public agency responsible for monitoring and managing contract performance (Brown & Potoski, 2003). The relative importance of this capacity, in turn, may differ in predictable ways depending on the type of service being provided and the availability of good performance measures with which to evaluate service achievements.

Public services vary greatly in how easily their performance can be measured, with the achievements of human services, such as social care and cultural amenities, generally being more difficult and complex to measure than those of more technical services, such as waste management and tax administration (Brown & Potoski, 2005). To mitigate this variability in the measurability of public services, public organizations need to invest in the capacity required to effectively manage performance, especially when private partners are involved in the provision of services with lower output measurability. In the absence of such capacity, tender-based PPI partnerships, in particular, may suffer worse outcomes and higher costs because the public partner retains responsibility for “inadequacies or restructurings that affect the PPI process,” along with any “mitigation investment, such as hiring competent people or attributing new responsibilities” (Edler et al., 2015, p. 103). Given that the challenges of measuring and monitoring performance are typically greater for social service PPI partnerships than for infrastructure PPPs, we hypothesize that contract and performance management capacity will hold the key to understanding whether the improvement partnership generated improved outcomes and costs for Sandwell’s children’s services.

## SANDWELL IMPROVEMENT PARTNERSHIP

To shed light on the nature of the Sandwell Improvement Partnership, we draw next upon a range of documentary evidence to “provide background information” (Yanow, 2006, p. 411). In particular, we review corporate and policy documents to understand the aims, objectives, and contractual arrangements for the Sandwell improvement partnership, scrutinizing the minutes of Sandwell local government cabinet meetings for the period 2011–2016, and the minutes of Sandwell’s children’s services scrutiny board, which was in operation from 2013 to 2015.<sup>1</sup> Because documents may also reflect “how people responded at that time to particular

events or ideas” (Yanow, 2006, p. 411), we also review inspection reports, workforce statistics, press releases and other publications to garner stakeholders’ perspectives on the improvement partnership (Appendix). These archival sources of evidence are used to guide our description of the study context here, and are drawn upon later to explain the results of our analysis of outcomes and costs for Sandwell children’s services.

Sandwell metropolitan borough council is located in the West Midlands region of England, near the city of Birmingham, and serves a population of more than 300,000 people. It was established in 1974 and tasked with the responsibility for providing care services for looked after children, among many other statutory duties. Sandwell is one of the most deprived boroughs in England and has long had a larger than average population of vulnerable young people (MacFarlane, 2004). In 2012, following several critical inspections of its children’s social services, the council tendered for an innovation partnership to manage services “commissioned through a three-year contract to ‘lift’ Sandwell out of inadequacy and to improve services to a good standard” (Office for Standards in Education [Ofsted], 2013, p. 17).

The partnership was expected to improve services by innovating in a number of key areas: (i) appointing “an experienced interim Director of Children’s Services”; (ii) providing “additional resources, expertise, knowledge of best practice and innovative approaches”; (iii) “reducing the costs associated with Looked After Children”; (iv) mobilizing “resources to ensure optimum capacity”; (v) improving the “measurement and management of performance”; and (vi) providing “intensive tailored mentoring, coaching, formal training and professional development support” (Sandwell Borough Council, 2012a, p. 1.13). The “bundling” of the appointment of the director with the “remainder of the contract” was a necessary procurement innovation to ensure that the improvement partner would “stake their profit on the performance of the contract” (Britton, 2013). From this perspective, the improvement partnership is both an innovation partnership and an example of innovative procurement.

As Sandwell aimed to improve services and cut unnecessary costs, the partnership contract award criteria was set at 50% quality, 50% price (Sandwell Borough Council, 2012b, p. 6.13). The contract was signed in December 2012 following a three-month public procurement process. Thirty-seven initial expressions of interest were received, with nine firms subsequently completing Pre-Qualification Questionnaires (Sandwell Borough Council, 2012b, p. 1.7), and two out of four shortlisted contenders dropping out prior to the final stage (Sandwell Borough Council, 2012c). Because the contract has not been made publicly available, we are unable to report specific clauses relating to the outcomes and costs for looked after services. However, the council indicated that early termination would be an option “if performance does not deliver the requirements” (Sandwell

Borough Council, 2012a, p. 1.14), and estimates of the contract value range from £1.15 million (Britton, 2013) to £1.5 million (Sandwell UNISON, 2016).

The term “improvement partnership” was used by Sandwell during the process of tendering for the PPI to describe the council’s proposed relationship with the “improvement partners” appointed to manage children’s services (Sandwell Council, 2012b, 2012c).<sup>2</sup> The label then continued to be applied to describe the arrangements for managing the children’s services department in the subsequent improvement plans published after some years of its operation (Sandwell Council, 2013a, 2013b, 2015a, 2015b). Importantly, the improvement partnership was seen as more than just a tender-based PPI partnership, with the council indicating that by working with private partners “we are co-producing solutions for some of the hardest issues to tackle for our service” (Sandwell Borough Council, 2013a, p. 7). As such, the partnership was expected to yield benefits to both parties through innovations in practice.<sup>3</sup>

For Sandwell, the partnership was a “major investment in whole scale transformation for the [children’s services] department” (Sandwell Borough Council, 2013a, p. 7). For the principal private partner, the Sandwell contract was their first major undertaking in social care, which enabled them to expand their business within local government and the public healthcare sectors. Importantly, the urgency of the need for outside innovation expertise to drive improvement was acknowledged by the council, which emphasized that the partnership “will require a fundamental shift in culture and activity” (Sandwell Borough Council, 2013a, 2013b, p. 10). To achieve its objectives, the partnership intended to develop new structures and systems, especially through the introduction of Community Operational Groups, a Multi-Agency Safeguarding Hub, and a Multi-Agency Enquiry Team.

## METHODOLOGY

To estimate the potential effects of the improvement partnership on Looked-After Children (LAC) outcomes and costs in Sandwell we use a SCM approach. In our context, the main advantage of the SCM over competing empirical approaches is that this method is well suited for scenarios where there are a small number of “treated” and control units, such as our case study. Furthermore, the SCM offers an attractive alternative to methods such as the differences-in-differences approach, because it does not rely on the parallel trends assumption, and can account for time-varying confounders.

Following Abadie et al. (2010), the idea of the SCM is to construct a counterfactual to estimate the value of the outcome variable that would have been observed for the treated unit in the absence of the treatment. This counterfactual (usually referred to in the SCM literature as the “synthetic control”) is constructed using a weighted combination of potential control units to approximate the

selected characteristics of the unit affected by the intervention.<sup>4</sup> The main goal of this procedure is to minimize the distance between the pre-intervention characteristics of the unit experiencing the intervention (or treatment) and those of the control units. SCM approaches can deal with unobserved time-variant heterogeneity across units, reducing, therefore, potential biases associated with time-varying confounders (see Abadie et al., 2010 and Abadie, 2021, for more detailed explanations). This empirical approach seems to be particularly effective in comparative case studies where a single unit experiences a specific intervention, and the remaining units do not.

## Data and sample

To understand the potential effect of establishing the Sandwell improvement partnership on LACs outcomes, we collected data from English metropolitan borough councils for the financial years 2003/2004–2015/2016. These organizations have a Westminster-style cabinet system of political management typically composed of senior members of the ruling political party. They are multi-purpose governments responsible for providing services in the areas of social care, education, environmental services, leisure and culture services, and housing and housing benefits. Although there are 150 major local governments in England responsible for delivering social services, we restricted our sample to the 35 metropolitan boroughs to avoid overfitting biases and ensure that potential donor units have similar underlying characteristics to the “treated unit,” that is, Sandwell Metropolitan Borough. Hence, we have excluded from our sample other English local governments responsible for providing children’s care services, such as London boroughs, unitary authorities and county councils. In addition, we have excluded the other metropolitan borough which also tendered for a PPI partnership to manage its children’s services during the period under study, Doncaster, due to the lack of data for some years/outcomes.

Our analysis focuses on measures of LAC health and education outcomes and the overall expenditure on children’s social services published by the UK’s Department of Education (DoE), and the Ministry of Housing, Communities & Local Government. These measures are those that are publicly available for a sufficient number of time periods for the effective application of a SCM approach. They are also outcome measures that UK central government uses to determine whether looked after children provision by a children’s social services department is failing (Ofsted, 2018), and are ultimately, therefore, at the heart of whether (or not) the Improvement Partnership would be deemed to be successful in improving services to a good standard.

Regarding health outcomes, we gathered data on: (i) the percentage of LAC receiving an annual health assessment; (ii) the percentage of LAC with up-to-date

immunisations; and, (iii) the percentage of LAC receiving dental checks. For educational outcomes, we use two indicators: (i) absence rates, measured as the percentage of school sessions missed by LAC due to absenteeism,<sup>5</sup> and (ii) the percentage of care-leavers who were in education, employment or training. Finally, to analyze whether the creation of the partnership reduced the cost of delivering children's services in Sandwell, we use service expenditure figures divided by the number of LAC in each metropolitan borough.

To construct the best counterfactual from the pool of control units (i.e., the synthetic control), we draw on the public sector performance literature and use a focused set of critical local government level predictor covariates (Andrews & Entwistle, 2010; Gutierrez-Romero et al., 2010). First, to control for the quantity of service need we use as a proxy variable: the population density of each borough. Children living in urban areas have been shown to be more at-risk of abuse and neglect (Beatriz et al., 2018). Second, to account for higher rates of welfare interventions among children from vulnerable groups (Webb et al., 2020), we include in our SCM model three different indicators: the rate of deprivation within the local population, and two measures of demographic diversity: ethnicity and social class diversity. Deprivation is measured using the average ward score in each metropolitan borough of the English Index of Multiple Deprivation published first by the Department for Environment, Transport and the Regions, and afterward the Office of the Deputy Prime Minister, and then the Department for Communities and Local Government. This is the standard measure of deprivation used by UK central government, and has been utilized in numerous previous studies (Gutierrez-Romero et al., 2010). For the diversity indicators, the proportions of the different ethnic and social sub-groups within the local population identified in the UK national census was squared, and the sum of the squares subtracted from 10,000, with a higher level of diversity reflected in a higher score. Finally, in the SCM models estimating health and educational outcomes, we also include as a pre-intervention characteristic the expenditure on children's social services.

All the observed predictors are averaged over the pre-improvement partnership period to construct the synthetic control, and augmented by adding all years of pre-intervention outcomes, with the exception of the first year.<sup>6</sup> These lagged outcomes are added to improve the pre-intervention fit (Abadie et al., 2010).

## RESULTS

To estimate the effect of the implementation of the improvement partnership, the key question is how the analyzed outcomes, that is, health and educational outcomes, and service expenditure, would have evolved in Sandwell in the absence of the partnership. The SCM provides a systematic way to estimate this counterfactual by

constructing a weighted combination of metropolitan boroughs in the donor pool that most resemble Sandwell in terms of "pre-treatment" control covariates. In Table 1, columns 2–3, we report the mean of the selected pre-intervention characteristics for Sandwell and the remaining 34 English metropolitan boroughs, with columns 4–9 reporting the means for synthetic Sandwell. Overall, the average gap between the selected pre-treatment variables of Sandwell and its synthetic counterpart is smaller than the gap between Sandwell and the whole set of donor units, especially for the lagged outcomes, and the proxies accounting for variations in service needs, such as population density, deprivation, and ethnic diversity.

## Health outcomes

Starting with our first health outcome, children's annual health assessments, the top row of Panel a in Figure 1, shows the percentage of LAC who had their annual health assessments for Sandwell and its synthetic counterpart during the period 2003/2004–2015/2016. After the creation of the improvement partnership in 2013, our results suggest that there is a substantial negative effect on performance for the first post-intervention year with a decrease in annual health assessments of about 38 percentage points. Nonetheless, this negative effect does not appear to be sustained, as Sandwell's trend line returns to its synthetic control level in 2015.

To evaluate our results' robustness, we report in the bottom row of Panel a in Figure 1 a placebo test, which might help to avoid mistaking random differences for real impacts. This test involves applying the SCM iteratively to every control unit, reassigning in each iteration "treatment status" to one of the units in the donor pool. Then, we compute the effect associated with each placebo, and generate a distribution of estimated effects for the donor units, to be contrasted with those estimated for a region chosen at random. The light gray lines in Figure 1 represent the gap between the outcome for each placebo unit and its synthetic counterpart, and the black line represents the gap estimated for Sandwell. As the figure suggests, compared with placebo studies, the Sandwell gap line is substantially larger than any other gap line right after the implementation of the partnership, and this effect gap disappeared in 2015 and 2016, confirming, therefore, our initial findings.

Turning to our second health outcome, Panel b in Figure 1 reports the results for the percentage of LAC whose immunizations were up to date. Looking at the top and bottom rows of the figure, there do not seem to be any clear differences between Sandwell and its synthetic counterpart, nor does the placebo test allow us to conclude that there is a different pattern for the gap line of Sandwell relative to the other donor units. As with our previous health outcome, these results suggest that there were no performance gains associated with implementation of the improvement partnership.



**TABLE 1** Summary statistics: Pre-intervention outcomes and characteristics

	Synthetic control by outcome variable							
	Sandwell	Control boroughs	Health assessments <sup>a</sup>	Immunizations <sup>b</sup>	Dental care <sup>c</sup>	Care leavers in Ed, Emp, Tr <sup>d</sup>	Absence rates <sup>e</sup>	Service expenditure <sup>f</sup>
Health assessments (2005)	48.2	81.4	61.9					
Health assessments (2006)	72.5	84.9	76.6					
Health assessments (2007)	84.0	86.5	79.5					
Health assessments (2008)	88.0	85.8	81.5					
Health assessments (2009)	87.0	85.3	84.8					
Health assessments (2010)	64.8	82.8	77.7					
Health assessments (2011)	85.2	86.4	86.7					
Health assessments (2012)	91.9	87.1	89.4					
Health assessments (2013)	84.1	90.2	92.6					
Immunizations (2005)	63.2	79.2		66.4				
Immunizations (2006)	67.1	84.2		70.3				
Immunizations (2007)	66.0	83.1		65.1				
Immunizations (2008)	65.0	84.1		65.1				
Immunizations (2009)	71.0	85.4		71.8				
Immunizations (2010)	71.8	82.3		74.5				
Immunizations (2011)	93.8	83.8		84.5				
Immunizations (2012)	89.5	89.7		85.8				
Immunizations (2013)	90.9	92.2		92.0				
Dental care (2005)	45.8	81.7			60.3			
Dental care (2006)	76.1	84.7			73.8			
Dental care (2007)	78.0	84.9			85.8			
Dental care (2008)	85.0	85.7			84.2			
Dental care (2009)	89.0	85.6			80.5			
Dental care (2010)	64.8	82.3			73.0			
Dental care (2011)	79.0	85.0			82.9			
Dental care (2012)	91.9	83.8			84.3			
Dental care (2013)	77.3	83.6			77.6			
Care leavers in Ed, Emp, Tr (2005)	52.5	59.7				57.0		
Care leavers in Ed, Emp, Tr (2006)	66.7	63.6				64.2		
Care leavers in Ed, Emp, Tr (2007)	58.3	63.6				63.1		
Care leavers in Ed, Emp, Tr (2008)	73.5	63.3				67.5		
Care leavers in Ed, Emp, Tr (2009)	69.2	63.2				64.7		
Care leavers in Ed, Emp, Tr (2010)	78.4	62.0				68.8		
Care leavers in Ed, Emp, Tr (2011)	82.0	61.5				70.7		
Care leavers in Ed, Emp, Tr (2012)	47.0	63.3				60.4		
Care leavers in Ed, Emp, Tr (2013)	61.0	62.6				60.9		
Absence rates (2008)	6.2	6.2					6.3	
Absence rates (2009)	6.9	5.9					6.7	
Absence rates (2010)	6.0	5.5					6.1	
Absence rates (2011)	6.3	5.5					6.3	
Absence rates (2012)	5.7	4.5					5.7	
Absence rates (2013)	5.4	4.2					5.3	
Service expenditure (2005)	85.5	87.0						84.3
Service expenditure (2006)	104.2	94.3						98.5
Service expenditure (2007)	92.2	98.9						95.3

(Continues)



TABLE 1 (Continued)

	Synthetic control by outcome variable							
	Sandwell	Control boroughs	Health assessments <sup>a</sup>	Immunizations <sup>b</sup>	Dental care <sup>c</sup>	Care leavers in Ed, Emp, Tr <sup>d</sup>	Absence rates <sup>e</sup>	Service expenditure <sup>f</sup>
Service expenditure (2008)	89.2	102.5						94.6
Service expenditure (2009)	125.7	109.8						122.4
Service expenditure (2010)	120.9	122.1						122.4
Service expenditure (2011)	120.3	121.7						117.7
Service expenditure (2012)	109.8	111.6						108.1
Service expenditure (2013)	107.6	112.4						111.8
Population density	3377.3	1962.6	2608.8	2853.4	1339.4	2426.6	2838.1	1625.7
Ethnic diversity	4318.6	2124.6	3285.6	3921.8	2780.3	3248.1	3871.3	2244.8
Social class diversity	8731.8	8712.0	8688.3	8761.2	8777.7	8725.9	8684.9	8704.8
Deprivation	36.5	29.5	35.7	35.1	30.2	34.7	34.9	27.2
Children's social care expenditure	102.9	103.8	102.4	95.6	95.5	108.0	109.0	

Note: Predictor means are computed over the pre-intervention period.

<sup>a</sup>Synthetic Sandwell is constructed Manchester (47.4%), Wigan (22.8%), Oldham (13.8%), Sheffield (11.5%) and Dudley (4.4%).

<sup>b</sup>Synthetic Sandwell is constructed using seven boroughs, with Birmingham (37.9%), Oldham (23.3%), Liverpool (17%), and Leeds (12.5%), exhibiting the largest weights.

<sup>c</sup>Synthetic Sandwell is constructed using Oldham (55.9%), Rotherham (17.2%), Salford (17%), and Kirklees (9.9%).

<sup>d</sup>Synthetic Sandwell is constructed using Sheffield (28.3%), Salford (22.4%), Manchester (20.1%), Wolverhampton (18%), and Rochdale (11.2%).

<sup>e</sup>Synthetic Sandwell is constructed using Manchester (35.1%), Wolverhampton (25.1%), Wigan (20.6%), Bradford (13%), and Tameside (6.3%).

<sup>f</sup>Synthetic Sandwell is constructed using seven districts, with Oldham (43%), Trafford (22.2%), and Gateshead (15.8%) exhibiting the largest weights.

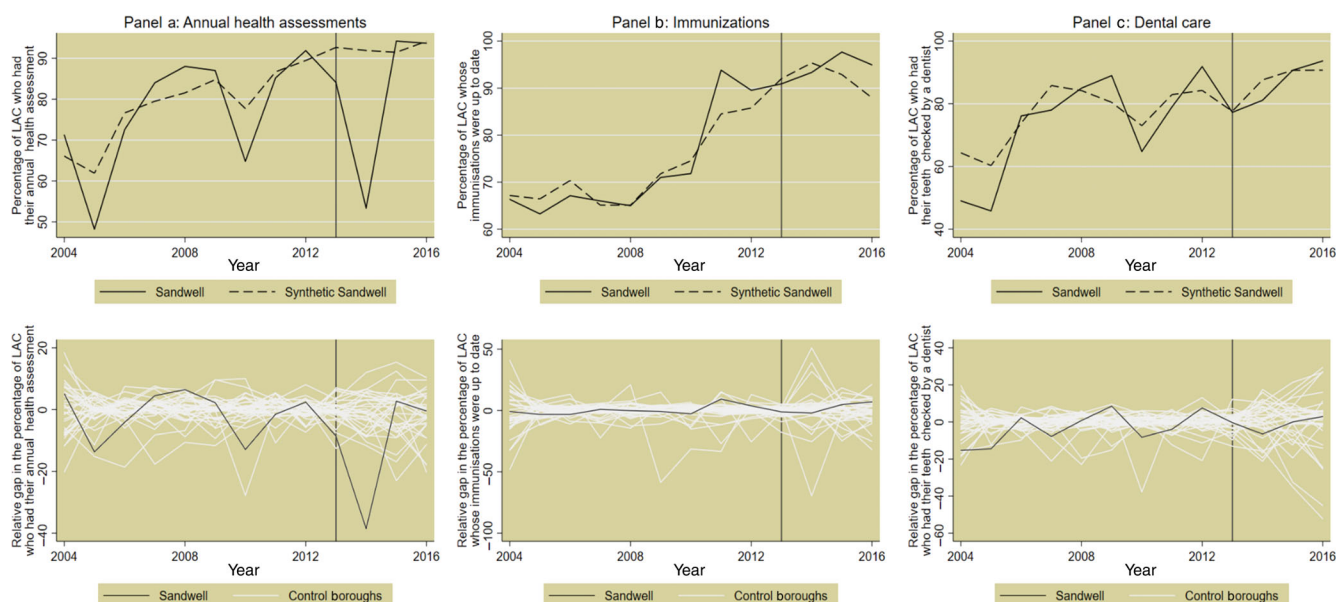
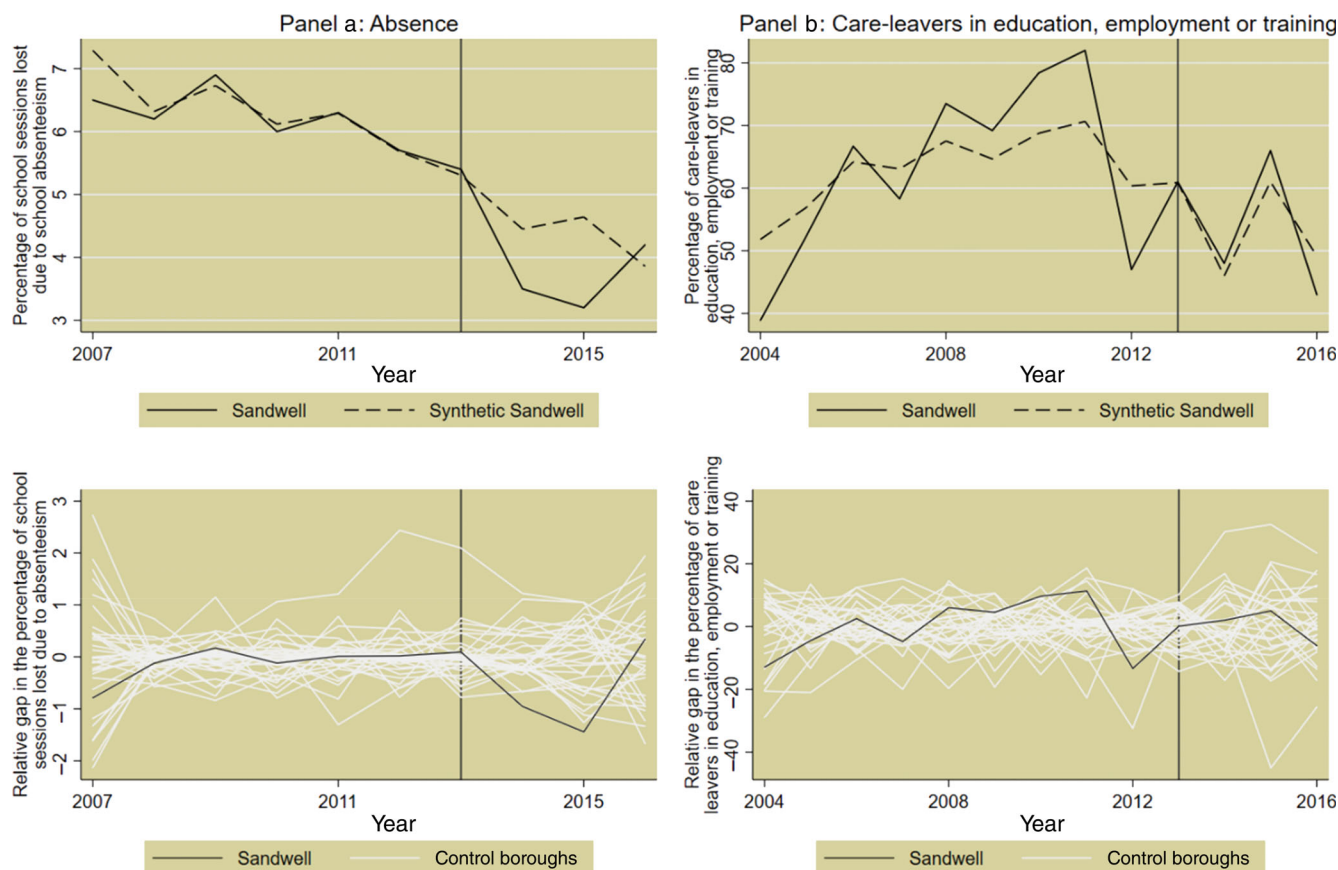


FIGURE 1 Health outcomes: Sandwell versus synthetic Sandwell. LAC, Looked-After Children.

For our third health outcome, the results reported in Figure 1; Panel c, again imply that there were no performance gains in Sandwell as a result of the creation of the improvement partnership. The trend lines for Sandwell and its synthetic counterpart are very similar (Figure 1; Panel c; top row), and the gap lines associated with the placebo studies do not permit us to conclude that Sandwell performed better (or worse) relative to what would have happened without implementation of the improvement partnership.

## Educational outcomes

We report now the estimated effects of the creation of the improvement partnership on educational outcomes. Focusing first on the percentage of school sessions missed by LAC due to absenteeism, the top row of Panel a in Figure 2 reports the absence rates for Sandwell and synthetic Sandwell. After the creation of the improvement partnership, our results suggest that there is a positive treatment effect for the first two



**FIGURE 2** Educational outcomes: Sandwell versus synthetic Sandwell.

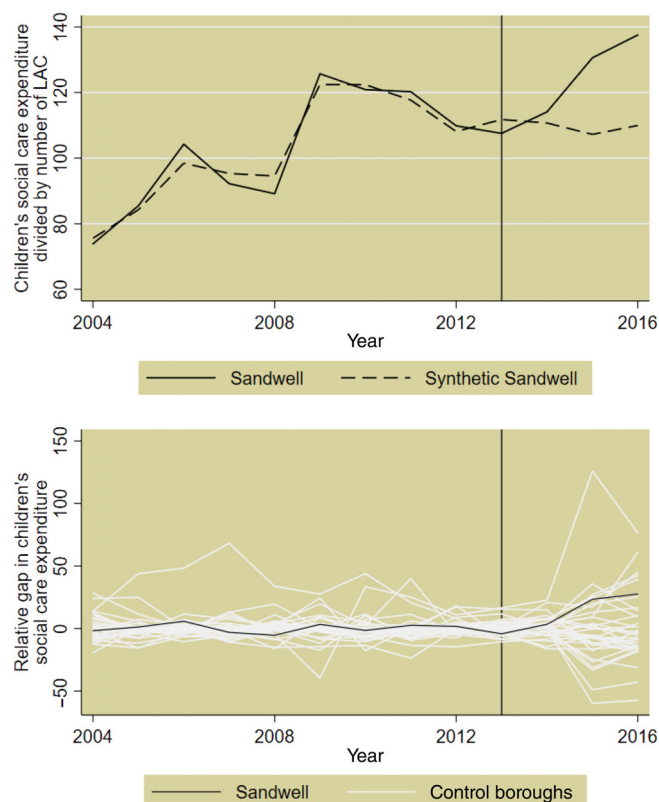
post-intervention years with around 1.5 percentage points lower absence rates than for synthetic Sandwell in year 2015. Nevertheless, this positive effect does not appear to be sustained, as Sandwell's trend line returns to its synthetic control level in 2016.

The set of placebo tests reported in the bottom row of Figure 2; Panel a, confirm this initial finding. The gap line for Sandwell is relatively large when compared to the distribution of the lines for the control metropolitan boroughs, but this improvement in reducing absence rates is not sustained over time, with the gap line returning to its synthetic control level in 2016.

Turning to our second educational outcome, the percentage of care leavers in education, employment or training, the results reported at the top and bottom rows of Panel b in Figure 2, depict few clear differences between Sandwell and its synthetic counterpart after the creation of the improvement partnership. Furthermore, the placebo test does not permit us to conclude that there is a different pattern for the gap line of Sandwell relative to the other metropolitan boroughs, though it is important to acknowledge the suboptimal pre-fit (probably due to the high volatility of the data in the pre-intervention period) when making this interpretation.

## Expenditure on children's social services

The final set of results report the potential effect of the creation of the improvement partnership on children's social services expenditure. The top row in Figure 3 plots the expenditure on children's social care services divided by the number of LAC for actual and synthetic Sandwell. The two lines almost overlap during the "pre-treatment period" and start to diverge right after the creation of the improvement partnership, suggesting that service costs increased in Sandwell after the creation of the partnership. The average post-treatment gap is above £18,000 per LAC, reaching its peak in 2016 (about £28,000). Taking the 2013 per LAC expenditure figure in Sandwell as a benchmark (about £107,000), the average gap corresponds to a 17 per cent increase in service costs. The bottom row in Figure 3 reports the set of placebo studies. The gap line of Sandwell seems to be above most of the lines for the control boroughs, suggesting that there might be an increase in service costs related to the work of the improvement partnership. Nonetheless, because there seems to be a few donor units exhibiting a post-intervention gap line at least as large as Sandwell, we computed the ratios of post/pre-intervention Mean Squared prediction Error (MSPE) for all metropolitan



**FIGURE 3** Service expenditure: Sandwell versus synthetic Sandwell.

boroughs in our sample (i.e., Sandwell and the donor units) (Abadie et al., 2010). The ratio for Sandwell ranks 7 out of 34, meaning that if we assigned the intervention at random in our data, the likelihood of getting a post/pre-intervention MSPE ratio as large as Sandwell is  $7/34 = 0.205$ , which calls for some caution when interpreting these findings.

## DISCUSSION

We present SCM estimates that suggest PPI partnerships may not automatically result in better public service performance. Indeed, despite the “whole system change led by the council” a critical inspection report published in 2015 suggested that the Sandwell childrens’ services department’s leadership, management, and governance remained “inadequate” (Ofsted, 2015). As such, it could be argued that the partnership represents a partly failed governance innovation. To understand whether the absence of clear measurable improvements in the performance of Sandwell childrens’ services was attributable to implementation issues relating to incomplete contracts, we delved deeper into the available archival material.

Brown and Potoski (2003) suggest that strong feasibility (i.e., market assessment), implementation (i.e., specification and negotiation) and evaluation (i.e., auditing and monitoring) capacity are required to manage complex contracts. Many of the criticisms raised in Ofsted inspection reports

(and by trade unions) about the improvement partnership pertained to the lack of experienced social work professionals involved in the leadership and management of the partnership, as well as wider performance auditing failures (Ofsted, 2015; Sandwell UNISON, 2015). Indeed, workforce statistics and documents published by Sandwell council highlight difficulties with the retention of key personnel and the completion of case audits. Although staff turnover improved from 23% to 18% between 2013 and 2015, it remained above the sector average (<https://www.gov.uk/government/collections/statistics-childrens-social-care-workforce>). Likewise, while the unfilled vacancy rate improved dramatically, Sandwell became very reliant on social workers with less than 2 years of experience (<https://www.gov.uk/government/collections/statistics-childrens-social-care-workforce>), with the council raising concerns over the use of agency staff to fill vacant middle-management positions in the department (Sandwell Borough Council, 2013c). In addition, although case audit completion improved to 70% during 2013 (Sandwell Borough Council, 2013c), the number of audits completed during 2014 were “significantly less than was agreed... in September 2013,” resulting in a downgraded target of 85% rather than 100% completion (Sandwell Borough Council, 2014b).

All of the above evidence indicates that the local government may have struggled to create the contract management capacity required to support the partnership in its efforts to improve Sandwell’s childrens’ services. In

fact, in May 2013, the council authorized the release of an additional £500,000 to support the work of the partnership and recommended that the value of the contract with the improvement partners be “increased to be more commensurate with the scale of the challenge” (Sandwell Borough Council, 2013b, p. 2.1). However, these additional investments should be seen in the context of the earlier deletion of the post of Director of Strategic Commissioning for the council (Sandwell Borough Council, 2012a), and the on-going problems of recruitment of retention of managers and social work professionals (Sandwell Borough Council, 2014a). As a result, several stakeholders emphasized a need for the council to develop greater capability for delivering change, and that this would necessitate extensive leadership and management development, along with an effective strategy for communicating the nature of the improvement journey (Brazil, 2016; Sandwell Borough Council, 2014c).

In addition to having difficulty remedying weaknesses in management capacity, the partnership was thought to be struggling to embed the performance management culture needed to successfully measure and monitor its efforts to achieve improvement (Local Government Association, 2014). A critical inspection report published in August 2013 categorized the leadership and management of Children’s services as “inadequate,” stating that “supervision is insufficiently rigorous overall, with a lack of evidence of individual performance management, insufficient oversight of the quality of practice and tracking to ensure that statutory responsibilities are being met” (Ofsted, 2013, p. 77). The Ofsted judgment was contested by the Council, but led to a statutory direction from the DoE in October 2013 requiring Sandwell to set up a Performance Accountability Board to address perceived failings in performance management. Although the Chair of the board and the Council were satisfied with subsequent progress, other stakeholders remained concerned about the efficacy of the partnership.

In 2014, Sandwell childrens’ services were subject to two peer review challenges to assess the quality of its performance management (Brazil, 2016). These challenges suggested that senior management oversight of performance needed to be stronger, and, in 2015, an inspection report asserted that the partnership had yet to cultivate effective risk management and performance monitoring in ways that could facilitate genuine service improvement. In particular, inspectors stated that “managers do not always recognise risk” and that “strategic leaders have failed to act with urgency to address audit findings” (Ofsted, 2015, p. 3). These perceived failings ultimately led the DoE to appoint a Commissioner for Children’s Services to support service improvement and review leadership and management capacity only a few months after the work of the improvement partnership was completed.

As discussed earlier, the performance of children’s social services is extremely complex and difficult to measure (Brown & Potoski, 2005), which may make it harder

for PPI partnerships in this service area to demonstrate significant improvements. Nevertheless, it is conceivable that the weaknesses in contract and performance management identified above could have been mitigated had the improvement partnership recognized and harnessed public capabilities more effectively. For instance, independent experts were concerned that “Group heads with significant social care experience seem to have been overruled or ignored when they raised concerns about the [partnership’s] approach” (Brazil, 2016, p. 22). Instead, the council’s leadership seemed to be reluctant to interrogate and challenge how the improvement partnership model was being implemented (Brazil, 2016). Moreover, issues with management capacity and performance monitoring may have generated additional agency costs as front-line professionals struggled to manage their case-loads. Indeed, the Sandwell Commissioner stated that “investing in [the partnership] is likely to have further delayed the much-needed replacement of the electronic case management system” (Brazil, 2016, p. 24) and certainly required a significant increase in personnel costs (Sandwell Borough Council, 2014a). These additional expenditures and the extra monies invested in the partnership may have increased the costs of providing services to looked after children, and raised the levels of organizational risk carried by the local government. These findings have important theoretical and practical implications.

## Theoretical implications

This study advances research on PPPs and incomplete contracts by investigating the performance of a PPI partnership. The findings suggest that PPI partnerships require careful supervision and support to generate improvements to human services. In particular, our analysis suggests that cost control may be a critical task for governments using such partnerships. Although prior studies indicate that involving private firms in public service delivery can generate product, process and service innovations (Brogaard, 2017, 2019), by adopting a SCM approach and then drawing upon a range of archival data we offer some initial evidence illustrating challenges in managing PPIs relating to incomplete contracts. From this perspective, we corroborate evidence from other recent studies that points toward the importance of the capacity for facilitating PPP contract fulfillment (Maurya & Srivastava, 2019; Xiong et al., 2019). Interviews with key actors in children’s services were not possible on this occasion due to the impossibility of guaranteeing anonymity. However, subsequent in-depth qualitative research with the private and public stakeholders involved in PPI partnerships would cast further light on the management practices most likely to result in performance improvement.

Despite the strengths of our SCM approach, it is still important to acknowledge that Sandwell’s improvement partnership is a single case. During the 1990s and early



2000s, the social problems confronted by Sandwell spurred UK central government to invest in multi-agency working and partnerships with local grassroots nonprofit organizations (MacFarlane, 2004). In such circumstances, it is conceivable that partnering with the private sector would be less likely to deliver improvements to services for vulnerable children than closer collaboration with partners from the nonprofit sector (Billis & Glennerster, 1998). In fact, a growing number of local governments in England have created nonprofit organizations to co-ordinate services for looked after children—sometimes on the direction of the Secretary of State for Education (<https://www.gov.uk/government/publications/doncaster-childrens-services-improvement-direction-sept-2014>). Research comparing the management and performance of social services managed by PPI partnerships, government-created nonprofit organizations and in-house by local governments themselves would be extremely valuable.

Although we are able to illuminate debates around effective management of public-private collaboration, our findings are based on the transformation of the management of a single local government service from a public into a public-private one—care for vulnerable children. Subsequent research should therefore systematically investigate whether the creation of PPI partnerships to improve public services is more likely to work for technical services, such as waste management and transport infrastructure, as these are typically characterized by outcomes that are easier to manage and are less dependent upon professional staff (Brown & Potoski, 2005). Moreover, due to the unavailability of data on levels of trust between Sandwell and its improvement partners, it is not possible to investigate the relational determinants of partnership success in our case. As recent studies underline (Warsen et al., 2018, 2019), this is a topic of vital significance that should form the basis for subsequent studies of PPI partnership performance.

Finally, it should be acknowledged that given the novelty of the SCM approach, some of the potential methodological limitations of this method, such as external validity and/or identification of the channels through which the “treatment” operates, are still under-researched (Abadie, 2021, p. 423). For that reason, a SCM approach may generate especially strong results when used in a multi-method research design. For example, it could be combined with Qualitative Comparative Analysis in studies with a medium-sized number of cases to better understand the combination of conditions that produce positive and negative outcomes, and with regression-based approaches in large-N longitudinal studies to track the dynamics of managerial efforts to implement innovations.

## Practical implications

For public service leaders and managers, our findings furnish useful insights into the challenges they face in making PPI partnerships work. It has long been argued that

cross-sector collaborations are more likely to succeed when they build on “each sector’s characteristic strengths while finding ways to minimize, overcome, or compensate for each sector’s characteristic weaknesses” (Bryson et al., 2006, p. 51). To maximize the potential for a PPI partnership to have a positive impact on public service provision, public partners therefore need to shift the right amount of organizational risk to their private partners and to build their own contract management and collaborative capabilities (Edler et al., 2015). Bing et al. (2005) suggest that the “meso-level” risks relating to PPP project design, management and implementation should be mostly allocated to the private partner, with micro-level risks relating to know-how and expertise being more equally shared. In the case of the improvement partnership, the public partner was almost solely responsible for project implementation, and experienced considerable difficulty achieving the necessary organizational changes. Research suggests that project success is more likely to be assured when private partners work very closely with the public sector professionals involved in project implementation (Warsen et al., 2018, 2019).

To realize the benefits of better contract management, a range of contractual and relational governance practices can also be introduced to guard against the problems posed by contract incompleteness. Nonequity-based financial “hostages,” such as penalties for poor performance (Daniels & Trebilcock, 1996) and performance targets (Alonso & Andrews, 2019), may be required to ensure that the goals of public and private partners remain in alignment. In addition, innovation and collaboration training could be made available within public organizations to ensure public managers are equipped to cultivate the inter-partner trust required to realize the benefits from PPI partnerships (Brogaard, 2017; Hibbert & Huxham, 2005; Van Gestel et al., 2012). More generally, the wider institutional structure is likely to matter (Casady, 2021; Soeipto & Verhoest, 2018). Across the public sector, learning communities, benchmarking clubs and innovation award schemes play an important role in supporting PPI partnerships (Borins, 2001). As do agencies and institutes that aim to understand and promote effective partnership-working, such as those included in the World Bank’s list of PPP units (<https://ppp.worldbank.org/public-private-partnership/overview/international-ppp-units>).

## CONCLUSION

Our study contributes to the growing literature on the performance of PPPs by providing evidence on the use of a PPI partnership to improve children’s social services outcomes and costs in a large English metropolitan government. While our findings highlight the need for careful supervision of PPPs, the available quantitative and qualitative data do not permit us to pinpoint all the micro-level attributes of the Sandwell partnership that may have

been enablers and barriers to performance improvement. Critically, we are unable to access the contract documentation due to commercial confidentiality restrictions. Further research is therefore needed to isolate the distinctive contractual and organizational characteristics of PPI partnerships that are most and least likely to result in desired public service outcomes and costs. In particular, the contractual basis of other PPI partnerships is likely to vary considerably. A research agenda focused on the diverse ways in which PPI partnerships are designed, developed, and operated would therefore shed much-needed light on the dynamics of this increasingly popular form of public-private collaboration.

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## ENDNOTES

- <sup>1</sup> Our review revealed that Sandwell produced an annual improvement plan for children's services. Discussions about the improvement partnerships were usually led by the Cabinet member with responsibility for Children's Services.
- <sup>2</sup> 'Improvement partnership' is a commonly used description for a wide variety of different collaborative platforms in the United Kingdom, and also the United States, which can take multi-organizational and/or cross-sector form (see Chapman et al., 2015; Shaw et al., 2013).
- <sup>3</sup> We are grateful to an anonymous reviewer for encouraging us to elaborate on this important point.
- <sup>4</sup> We apply the default weights of the SYNTH package in Stata developed by Abadie et al. (2011), which uses a data-driven method to compute weights based on a constrained quadratic programming routine that finds the best fitting W-weights conditional on the regression-based V-matrix.
- <sup>5</sup> Due to the lack of consistent data for the early years, the period under analysis for absence rates starts in 2006/2007.
- <sup>6</sup> See Kaul et al.'s (2018) advice against including the entire pre-treatment path of the outcome variable in SCM approaches.

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## APPENDIX: DOCUMENTARY DATA SOURCES

Key stakeholders	Type of written material analyzed	Number of documents	Approximate page count
Sandwell Metropolitan Borough Council	Sandwell Improvement Plans	2	60
	Cabinet reports	10	100
	Children's services scrutiny panel report	1	16
Department of Education	Commissioner for Children's Services in Sandwell report	1	30
	Statistics: children's social work workforce	4	4
Local Government Association	Diagnostic report	1	16
Office for Standards in Education	Inspection reports	5	121
	Monitoring visit letters	4	16
UNISON	Press releases	3	6