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Agreeing the allocation of scarce resources in the English NHS: Ostrom, common pool resources and the role of the state

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Abstract

A challenge facing health systems such as the English National Health Service (NHS), which operate in a context of diversity of provision and scarcity of financial resources, is how organisations engaged in the provision of services can be encouraged to adopt collective resource utilisation strategies to ensure limited resources are utilised in the interests of service users and, in the case of tax funded services, the general public. In this paper the authors apply Elinor Ostrom's work concerning communities' self-governance of common pool resources to the development of collective approaches to the utilisation of resources for the provision of health services. Focusing on the establishment of Sustainability and Transformation Partnerships (STPs) in the English NHS, and drawing on interviews with senior managers in English NHS purchaser and provider organisations, we use Ostrom's work as a frame to analyse STPs , as vehicles to agree and enact shared rules governing the allocation of financial resources, and the role of the state in relation to the development of this collective governance. While there was an unwillingness to use STPs to agree collective rules for resource *allocation*, we found that local actors were discussing and agreeing collective approaches regarding how resources should be *utilised* to deliver health services in order to make best use of scarce resources. State influence on the development of collective approaches to resource allocation through the STP was viewed by some as coercive, but also provided a necessary function to ensure accountability. Our analysis suggests Ostrom's notion of resource 'appropriation' should be extended to capture the nuances of resource utilisation in complex production chains,

such as those involved in the delivery of health services where the extraction of funds is not an end in itself, but where the value of resources depends on how they are utilised.

Keywords : English NHS, Ostrom, common pool resources, hierarchy, governance

INTRODUCTION

Achieving the optimum co-ordination of health services is an enduring challenge (Guy Peters, 1998, Ferlie et al., 2011). In health systems such as the English NHS which are facing considerable financial challenges in the context of increasing organisational diversification within a 'hollow state' (Milward and Provan, 2000), approaches which encourage organisations involved in the provision of health services to work collectively to address financial and service challenges are being prioritised. This paper tests the explanatory power of Elinor Ostrom's work concerning the self-governance of common pool resources as a frame to further our understanding of the challenge of developing collective strategies across groups of organisations which are utilising limited financial resources to deliver financially sustainable health services. Ostrom's work, commencing with her influential book *Governing the Commons* (1990, 1994, 2005), suggests that communities can co-operate to self-manage limited common pool resources in a way that benefits all community members and leads to the sustainability of the resource. The concept of the 'health commons' has been used to explore issues as diverse as universal access to health services, the co-production of services with patients, and the obligation of states and economies to provide collective social welfare (Smith-Nonini and Bell, 2011, Palumbo, 2016), and has applicability to various health-related contexts such as the use of community based health insurance co-operatives (Wiesmann and Jutting, 2000). A small body of work has applied Ostrom's ideas to the governance of health services, although this remains an under explored perspective. This scholarship predominantly explores the emergence of the self-governance of health resources as compensation for a weak or absent

state (McGinnis, 2013, Wong et al., 2016, Abimbola et al., 2014). This paper seeks to make a unique contribution to the scholarship concerning Ostrom's 'health commons' by considering the development of the health commons within the context of a strong (rather than weak or absent) state.

The consideration of Ostrom's work in relation to the English NHS is particularly pertinent due to current policy which requires groups of NHS purchasers and providers to make plans together in local systems (Sustainability and Transformation Partnerships (STPs), or more latterly, Integrated Care Systems (ICSs)) to achieve financial sustainability within a 'system's collective financial budget' (NHS England, 2019, p111), notwithstanding the conflicting wider institutional context which holds bodies to account on an individual basis for their financial performance. This reframing of a predominantly hierarchical system with top down budget allocation and bottom up accountability as one in which local 'systems' are required to adopt collective resource utilisation strategies to manage a finite local pot has evoked connections with the work of Ostrom (Ham and Alderwick, 2015, Quilter-Pinner, 2017). However, to date Ostrom's ideas have not been applied to the notion of collective governance inherent in NHS STPs in any great depth.

Drawing on empirical evidence concerning the formation of STPs from the perspective of the purchaser and provider organisations in three Clinical Commissioning Group (CCG) (purchaser) areas in the English NHS, we examine the apparent health commons being formed due to current policy requirements in the shadow of the NHS hierarchy, in the light of Ostrom's conceptualisation of the conditions required for communities successful self-governance of common pool resources. We consider the degree of fit between common pool resources and the NHS STP 'health commons', and explore local purchaser and provider behaviour in relation

to policy encouraging the agreement of shared rules governing the utilisation of limited local resources, particularly in the light of its disjoint with the wider institutional context. We also consider the role of the state in relation to the development of collective governance. We conclude the analysis by considering the explanatory power of Ostrom's work in relation to attempts to form 'health commons' in the context of a strong state.

Common pool resources and NHS financial resources

Common pools, as conceptualised by Ostrom (1990), are limited natural or man-made resource systems on which a multiple 'appropriators' depend. They are commonly physical resource systems such as an irrigation system or a forest which produce a flow of harvestable renewable resource units. The resource systems and units are subject to both *subtractability*, by which one person's use of the resource decreases the amount available to other users, and difficulties of *exclusion,* meaning that despite the risk of depletion it is difficult to stop others using the resource. They are consequently at risk of free-riding and suffer chronic overuse and crowding. Ostrom disputes that collective action problems regarding usage of common pools, characterised by a conflict between the immediate self-interest of the individual and longer term collective interests, must always lead to overgrazing and resource degradation (as characterised by 'The Tragedy of the Commons' (Hardin, 1968)). She contends that communities can agree rules governing the 'appropriation' (withdrawal) of such limited common pool resources in a way that benefits all community members and leads to the sustainability of the resource.

This paper is concerned with the allocation and utilisation of financial resources at the 'local' level in the NHS, by providers of NHS services to local populations and the NHS commissioning bodies (CCGs) which purchase services on behalf of the local population. It may initially appear that there is little commonality between Ostrom's description of common

pool resources and the utilisation of financial resources to provide health services. However, divergences from common conceptions of common pool resources do not preclude the use of Ostrom's framework as an analytic tool, as both her own involvement with the study of knowledge as a commons (Hess and Ostrom, 2006), and the extension by others of the common pool resource concept to less tangible common pools illustrates, including social capital, information commons and business reputation, and the global commons (Hoffman and Ireland, 2013).

In some respects, the financial resources available in a local area for the provision of NHS services share the characteristics of common pool resources. NHS resources are distributed by an annual budgetary allocation from a central authority to local CCGs. Despite the tendency of the centre to act as the 'lender of last resort' intervening with one-off savings, emergency extra cash and other short-term fixes that boost the financial position of NHS organisations (National Audit Office, 2019), these annual local allocations are presented in policy terms as both finite and depletable (NHS England and NHS Improvement, 2016). They are also subtractable and, within the confines of eligible providers, non-excludable.

The policy and regulatory framework positions individual NHS purchasers and providers as self-interested actors who are seeking to maximise the amount they appropriate. Each organisation is held accountable in relation to achieving financial sustainability for their organisation (namely being able to successfully manage activity, quality and financial pressures within the income they receive (National Audit Office, 2016)), and they are subject to legislation which encourages competition between providers for contracts for the provision of services, and for the treatment of individual patients. The utilisation of financial resources to provide health services is also an inherently collective task, both at the level of co-ordinating

the care of the individual patient who requires treatment from a number of organisations and professionals, and at a system level, where organisations may be driven to work together to make use of limited facilities and expertise. This dynamic of self-interested actors with interdependences around a common resource is analogous to that of appropriators around a common pool.

Equally however, there is significant differences between common pool resources and the utilisation of financial resources to provide health services. While there are drivers which incentivise providers to maximise the harvesting of financial resources for reasons of organisational self-interest (for instance to avoid sanctions or to increase status), unlike common pool resource appropriators, providers of NHS services are not predominantly harvesting a resource for their own direct advantage, instead the financial resource is appropriated to be turned into services to patients and the wider public. The appropriation of financial resources for the delivery of health services is further complicated by the nature of the complex production process which converts a financial resource into a public service. The institutional context of the English NHS is predominantly state led, with some elements of market co-ordination, an environment in which hierarchical management tiers co-ordinate the work of separate organisations, modes of co-ordination which arguably leave little space for the development of self-governance.

In summary therefore, while aspects of the way in which purchasers and providers access financial resources in the English NHS are similar to the characteristics of common pool resources, there are also significant areas of departure, including the nature of the wider institutional context. This paper, however, focuses on a significant policy turn in the English NHS, whereby NHS policy has appeared to emphasise the collective nature of the delivery of

health services with the issuance of policy directives which call on ‘systems’ of local NHS purchasers and providers to put self-interest aside and work collectively to achieve financial sustainability at the system level (National Audit Office, 2019, NHS England, 2017a). A significant policy in this regard, and the subject of the empirical element of this paper, is that of Sustainability and Transformation Partnerships (STPs). STPs are non-statutory inter-organisational collaborations which cover geographical areas with an average population size of 1.2 million people with memberships from local partners, consisting of (multiple) CCGs (purchasers), NHS providers, Local Authorities and other health and care services, and dedicated governance structures (NHS England, 2017a).

This paper argues that, through the creation of STPs, English NHS policy appears to have created conditions at a ‘system’ level which require purchasers and providers to act as appropriators of a self-governed common pool. Financial resources, usage of which was previously monitored on an individual organisation basis, are reframed in STP policy as finite ‘pools’ at a system level (NHS England et al., 2015b.). STPs are required to produce a financial sustainability plan, indicating how the ‘financial gap’ for NHS services will be closed and sustainable financial balance in aggregate achieved (NHS England, 2016). Written policy states that members of these local ‘systems’ should be willing to put aside self-interest and agree collective strategies for resource utilisation to achieve financial sustainability at a system level. There appears to be the expectation in policy that STP members should prioritise the good of the system over that of individual organisations, despite the wider legislative framework and regulatory focus on the performance of the individual organisation:

> *‘STPs ...represent a different way of working, with partnership behaviours becoming the new norm. What makes most sense for patients, communities and the taxpayer*

> *should always trump the narrower interests of individual organisations.'* (NHS England and NHS Improvement, 2016a)

System members are asked to agree collective strategies to return to financial balance in systems, and additionally to improve the quality of services delivered in the system. However importantly, this move towards self-governance of the 'common' STP resources occurs in the residual wider institutional context of hierarchical control. As STPs are not statutory bodies their success is determined by the willingness of the bodies within the system to work together to agree strategies for resource utilisation which may be against their own direct interest, within a wider policy and regulatory framework which continues to hold individual organisations to account for performance.

Conditions for enduring self-governance of common pool resources and the role of the state

The intent of this paper is to interrogate the convergences and divergences between the appropriation of resources within STP 'common pools' and Ostrom's work concerning the self-governance of common pool resources, in order to illuminate both our understanding of the challenge of self-governance of the allocation of resources to provide health services, and the usefulness of Ostrom's work as a frame. Part of Ostrom's work, achieved through multiple case studies of long-enduring, self-governed common pool resources, was the development of eight design principles (Table 1) which describe the environment in which 'appropriators' (those who withdraw resources) are willing to devise and commit to shared operational rules and to monitor each other's conformance (Ostrom, 1990). This paper draws on these principles in order to understand the ways in which STPs and the wider institutional context in which they are situated may support the development of self-governance.

The principles address the need for ‘communities’ (those with a shared dependence on the common pool) to set up clear boundaries and membership around the common pool, agree for themselves rules regarding appropriation and provision of resources, and agree the process for monitoring of behaviour and sanctions.

TABLE 1 here

Ostrom conceptualises the institutional context as a series of rules that regulate the behaviour of actors. She proposed a multi-level framework of analysis (Figure 1), ranging from operational situations (in which resources are ‘appropriated’), to collective-choice situations, constitutional situations and metaconstitutional situations. Rules are socially situated, subject to interpretation, agreement or rejection, and need to be understood to be enacted. Actors at each level interpret the rules from higher levels, and may themselves form new rules and alter rules at a higher level. The interpretation or enactment of rules can also be influenced by factors in the local context, for example monitoring, enforcement and sanctioning institutions, and the relationships between actors.

Rules can help or hinder levels of co-operation, the development of trustworthiness and the achievement of ‘effective, equitable and sustainable outcomes’ (Ostrom, 2010). In this paper, the rules relating to the establishment of collective governance at the collective-choice level (relating to the commissioning and provision of services) are analysed on the light of the constitutional (NHS policy and regulation) and metaconstitutional (legislative) level rules and actors.

FIGURE 1 here

The role the state can take in facilitating, and even steering, the development of common pool resources is explored in this paper. Ostrom’s framework is based upon empirical evidence from

case studies of small-scale enterprises, such as pastures or fisheries. Whilst recognising that common pools are likely to be nested in a wider context, which must recognise and respect them, and acknowledging there may be a minimal role for a 'facilitator state' which supplies dispute resolution, and technical and scientific expertise (Ostrom, 1990), Ostrom's work is generally taken to imply that state involvement is almost entirely coercive, prioritising the needs of the state over the community. However, the application of her framework to contexts in which the common resource is of a larger scale has led to argument that the state can have a beneficial influence on self-governance beyond this minimal role (Anthony and Campbell, 2011, Pennington, 2013, Sarker, 2013, Mansbridge, 2014). Based on a study of state involvement in irrigation in Japan, Sarker (2013) proposes the possibility of 'state reinforced self-governance' in which a financially, technologically, statutorily and politically strong state federates, supports and assists non-state actors to self-manage a common pool resource without undermining community autonomy. The possibility of this type of state involvement will be explored in the context of the development of NHS STPs where the vast majority of actors are state actors.

METHODS

This paper uses data from a study to investigate the implications of recent policy developments in the English NHS (Anonymous, 2018) . The research consisted of three in depth case studies, each based around a single CCG, which explored CCGs and local stakeholder organisations (e.g. provider organisations, local authorities) navigation of the institutional context, including the STP of which they were members, to work collaboratively to plan the provision of services in local geographic areas.

The research methods were indepth interviews and examination of local documents (including STP plans and STP consultation documents). Case study sites comprised a mix of rural and urban settings and were located in the North, Midlands and London in order to obtain geographical variation. We conducted in depth face to face interviews with 22 people (in 21 interviews) from CCGs, NHS providers and local authorities. The interviewees comprised Director (19) and managerial (3) level staff. Participants were purposively selected to include managers involved in integrated working, including STP levels. Interviewees included the lead of the STP in each case study area. However as our case studies were focused on the organisational unit of a single CCG, we did not interview all the members of each STP (STPs span multiple CCGs). Table 2 shows the number of interviewees by case study site and organisation. Author 2, Author 3, and Author 4conducted the interviews

TABLE 2 here

Ethical approval for the study was granted by the Anonymous internal ethics committee in July 2017.The fieldwork was undertaken between November 2017 and July 2018. Data analysis was conducted using a thematic analysis with the main themes derived from the research questions.

RESULTS

This paper uses the analytic framework derived from Ostrom's work to analyse the empirical data in three ways. Firstly we explore local actors' interpretation of the rules at the collective-choice (STP), constitutional (NHS policy and regulation) and metaconstitutional (legislative) levels, and their resultant understandings of the capacity of the STP to agree the rules of the 'appropriation' of NHS financial resources. Secondly, we discuss the emergent role of the STP in relation to Ostrom's design principles, and present an alternative interpretation of what it

means to 'appropriate' resources to provide health services. Finally, we explore the role of the state in relation to the establishment of collective resource utilisation strategies through the STP.

Agreement of rules of appropriation

Written NHS policy states that one of the mandatory tasks for each STP is to return the system to 'aggregate financial balance' (NHS England et al., 2015a). This section examines the understanding of local actors about the capacity of the STP to agree collective rules of the 'appropriation' of NHS financial resources, particularly in light of the wider institutional context which held organisations to account on an individual basis for financial performance. We found that while there was capacity for local actors at the STP ('collective choice') level to act against the wider policy and regulatory framework ('constitutional' level), in practice they were not able to agree local rules for the collective use of resources, citing the conflict with the continued regulatory focus on the financial sustainability of individual organisations.

The policy focus on system level financial sustainability had served to a degree to formalise for some local actors the notion of a collective endeavour around a single pot of resources:

> *"We are one system with one bag of resource, with one common purpose and it is a collaborative effort to square the triangle or whatever you want to call it." (Case study 1, Integrated Acute and Community Trust, Director of Finance)*

However this generalised acceptance of the collective nature of the task of providing health services from a limited 'pot' did not translate into an acceptance of the STP as a forum for agreeing collective rules for resource appropriation (such as agreements for particular providers to reduce their activity, or how deficits should be shared). Firstly, there was not consensus amongst local actors that the STP represented the optimum 'system level' at which such issues should be resolved. In our case studies organisations were also working together, of their own

volition, both within CCG areas and at intermediate system levels between CCGs and STPs. Secondly, a concern of local actors was the primacy of rules and accountabilities at the 'constitutional' (NHS policy and regulation) and 'metaconstitutional' (legislative) level which was at odds with the establishment of collective rules for resource appropriation at a 'collective-choice' (STP) level. A common view was that local organisations and Board members did not view themselves as accountable to the STP, instead their primary concerns were their legal duties to act in the organisation's best interests and their hierarchical accountabilities for organisational financial performance:

> *'The boards of directors are charged with not breaching their statutory duties even if it's for the greater good' (Case Study 1,CCG AO and STP Lead)*

However, Ostrom argues that rules are socially constructed and subject to interpretation, and our findings also suggest rules, including those from the higher 'constitutional' and 'metaconstitutional' levels, are not immutable. This point is illustrated by local actors' attitude to the rules of competition in our case studies. While the use of competitive approaches to the allocation of resources was enshrined in the duties of both purchasers and providers through the Health and Social Care Act 2012, it was noted by local actors that these rules were commonly circumvented, for example through the suspension or modification of the rules relating to payment structures, as both regulators and local commissioners and providers condoned the circumvention of competition, resulting in a situation where *'The entire system is breaking the law all at once by mutual agreement'(Case Study 1, CCG Accountable Officer (AO) and STP Lead).*

While therefore it would be possible for actors to similarly ignore the wider institutional context which focuses on the individual organisation's responsibilities for financial sustainability, this did not occur. The interviews suggested that the agreement of collective

rules regarding the appropriation of NHS financial resources was stymied, at least in part, by a lack of consensus due to the scale of difference between organisations' financial interests. In practice within each STP some provider organisations were carrying substantial deficits and others not. Local actors recognised that the financial challenges facing some organisations were so great that other organisations would not agree to share them. These differences in interest persisted despite the introduction of measures to encourage STPs to take a collective approach to resource utilisation, most significantly the introduction by NHSE and NHSI (the national regulators) of 'system wide' financial control totals (a target financial position against which performance is monitored). These system totals had not been agreed in two of our case studies, presumably because organisations did not agree to share financial risks, and in the third (Case Study Three) the CCG viewed the system control total as largely symbolic, serving to create a sense of a shared collective responsibility.

Emerging role – supporting the use of resources

The STPs in our three case studies were developing alternatives to rule-making as ways of influencing resource appropriation. . These reflected a wider conceptualisation of what it might mean to 'appropriate' NHS resources, focused on collectively addressing *how* resources were utilised to deliver health services. This distinction can be characterised as one between the 'harvesting' of resources and the 'utilisation' of resources. The STP roles described by local actors in the case studies are characterised here as a *distributor* (of ring fenced resources), a *discursive forum* (about rules affecting appropriation), and a *monitor* (of resource utilisation). Ostrom uses the term 'monitor' in her work to describe the 'guard' function which monitors rule conformance, whereas the terms 'distributor' and 'discursive forum' are drawn from this work. All three terms have resonance with Ostrom's characteristics of successfully self-governed common pool resources (Table 3 below), and suggest that the collective governance

structures of STPs were leading to the establishment of the some of the principles which support successful self-governance.

There was an emergent role for STPs in our case studies as a *distributor* of ring-fenced collective resources. This distributor role has two areas of convergence with the design principles. Firstly, it reflects an assertion of STP boundaries in relation to the harvesting and utilisation of limited ring-fenced resources, and secondly, it moves towards equivalence of benefits and costs for STP members. Partly this distributor role was mandated by the hierarchy as STPs are used by NHSI and NHSE as a conduit for the allocation of national transformation money. For example, NHS provider organisations are required to submit capital bids for approval by their local STPs before they can be considered for national capital funding. They are also the single application and approval process for acceptance onto programmes with transformational funding. Other variants of the distributor role were not hierarchically mandated. The STPs in our case studies were also the site of the pooling of resources between providers as they sought to maximise the value which could be extracted from their individual resources. For example, the acute services providers in Case Study 3 were entering into joint procurements for shared services and equipment. The conceptualisation of a distributor role can be further extended beyond financial resources to include the collection and distribution of 'soft' resources, such as expertise and examples of best practice. STP work in this area across our case studies included encouraging organisations to share best practice related to access to cancer services, workforce shortages and reconfiguration of stroke services across a wider footprint.

Table 3 here

A second STP role suggested by the empirical data is a *discursive forum*, a 'shared space' (Case Study 2, CCG GP) used to debate common issues and develop a collective perspective. This is a similar function to the 'collective choice' arrangements identified in Ostrom's design principles through which the members of the common pool arrangements can debate appropriation rules. The discursive forum described in relation to STPs did not seek to agree rules of harvesting of resources, but to develop a shared vision around resource utilisation. Local actors variously described STPs as a network of organisations that work together to create shared plans and ambitions, and as a forum for challenging conversations concerning the differing interests of STP member organisations. In Case Study 3, the STP functioned as a forum to discuss the reconfiguration of acute services, addressing the problem of resources skewing to the acute sector which was of concern to the CCGs and Mental Health Trust. A further function of the STP discursive forum was to debate rules relating to the wider institutional context. For example in Case Study 2 it was reported the STP had consulted on the benefits and drawbacks of the payment approaches used in STP and alternative payment mechanisms to support system working such as capitated budgets, outcome or incentive based payments, and risk and gain share.

A valued outcome of the 'discursive' forum was the establishment of open and trusting relationships between STP members. This view was particularly prominent in Case Study 3, where it was reported that an increase in trusting relationships had enabled the sharing of sensitive financial information between member organisations' Boards. This was viewed as a hitherto unprecedented development which aided financial planning and the development of trusting relationships, and which in turn enabled discussion of system disparities and perceived inequity of resource distribution:

> *'For this year's planning, we know what position the acute hospitals and other providers are in, we know what the CCG positions are, we've reconciled those two. We know the efficiency requirements for every organisation and we also critically know the degree of risk that people are currently carrying to achieve their control total which allows you to see that some people are carrying a great deal but say that they can achieve their financial targets but carry a great deal more risk than some people who are saying they can't. Now I don't think we've ever had that before but that's a degree of trust that exists in the system.' (Case Study 3, Mental Health provider)*

These kinds of behaviours indicate the establishment of norms of trust and reciprocity, which Ostrom argues are essential to encourage 'contingent' co-operators (those who will co-operate in the right context) to participate in the common pool.

The third STP role was a *monitor* of resource utilisation. Taking the form of peer monitoring, this emergent STP role is similar to the monitoring function identified in Ostrom's design principles. In the STP case though, the purpose of peer monitoring was to scrutinise the use resources were put to, rather than to monitor resource allocation. Across all three case studies, local actors referred to an STP performance management function, involving the development of a set of system wide standards. At its most formalised, the monitor function was envisaged to involve the allocation of specific roles and responsibilities, performance against which would be subject to peer review. The means of performance management was referred to as 'mutual accountability', defined as accounting to peers, rather than a regulator, for performance. In this configuration, regulatory intervention from external regulators came to be seen as a last resort or 'backstop'. It was felt that this approach was preferable to external regulation because actors were more likely to accept the judgement of peers, and peers were better placed to diagnose problems and offer solutions.

Role of the state

As discussed earlier in this paper, the nature of state influence on self-governed common pool resources is contested, particularly whether the state can beneficially influence the self-governance of common pools beyond the minimal 'facilitator' role envisaged by Ostrom. The empirical data considered here suggests that the role of the state in relation to the STP was complex and multifaceted, acting as a facilitator but also a coercive force.

The influence of the 'facilitator' state was clear in relation to the STPs, and arguably, the state role in this regard was closer to that of 'mandator'. As the engineer of STP policy, the 'state' (the regulatory and hierarchical bodies of the NHS) was facilitative and supportive. NHSE encouraged and enabled organisations to participate in the STPs through the establishment of dedicated transformation funding, shared control totals and CQUIN payments (a financial performance incentive scheme) for providers. The state also delegated authority to the STPs, as described in the preceding section, most significantly through designating STPs as intermediary decision makers, with responsibility for approving organisations' requests for central funding. In some respects, STPs were instruments of the state. The NHS hierarchy officially sanctioned the STP configurations, leaders and plans. NHS organisations' STP membership was a mandatory requirement (although they could choose which STP they joined). In our case studies local actors suggested that STPs were recognised by actors at the 'constitutional' (NHS policy) level as an accountable body. It was reported that NHSE increasingly wanted to work through the STP leadership, rather than with individual CCGs, that STPs were being positioned as accountable for care standards, and that the leaders of STPs were being held to account for STP performance. Indeed this interpretation is supported by the development by NHSE of 'progress dashboards' in order to monitor STP progress across nine domains including leadership, demand management and finance (NHS England, 2017b).

The state facilitation of STPs was not viewed by all local actors as benevolent. There was the perception that the STPs may be perceived by local actors as *'the government'* coming in to tell people what to do (Case Study 2, CCG, Director). Local actors in two of our case studies (Case Studies 1 and 2) interpreted the formation of the STP as an essentially coercive act, which aspired to shut down debate about resource availability at the constitutional (NHS policy) level, re-creating this as a resource allocation problem, which rested and was soluble, at the collective-choice (STP) level. These interviewees spoke about the need for national recognition and ownership of the challenge of achieving financial sustainability, particularly a recognition of '*the art of the possible'* (Case Study 1, Community and/or Mental Health, Director of Finance), where the financial gaps were too significant for the STP to manage. A variant of this perspective from an acute provider in Case Study 2 was to argue that the devolution of responsibility to STPs (in this case referring to responsibility for capital spending decisions) was in effect a 'push back' of 'difficult' decisions from the national regulators to local health systems. Indeed, from this perspective it can be argued that STPs required more, not less, national oversight and assistance in order to form and develop risk share arrangements and mechanism.

DISCUSSION AND CONCLUSION

This paper has analysed views regarding STPs within three case studies of CCG areas in the English NHS, drawing on the work of Ostrom to explore the understanding of local actors of the challenges of collective governance within the shadow of the hierarchy, the ways in which this approach succeeds in encouraging local actors to adopt collective strategies in their resource appropriation to deliver financially sustainable health services at a STP system level, and the role of the state in relation to this collective governance. In doing so, the paper has

explored the explanatory power of Ostrom's work to understand self-governance in relation to the utilisation of financial resources to provide health services.

Viewing NHS STPs through the frame of Ostrom's work concerning the collective governance of common pool resources illuminates a number of complexities. The first notable complexity relates to the meaning of 'appropriation' in relation to NHS resources. The idea of 'appropriation' has not been greatly interrogated in relation to Ostrom's work, despite the application of her theories to increasingly complex and diverse institutional settings, beyond her own observation that appropriation may refer to direct consumption, appropriation of resources for use in a production process (e.g. irrigators who apply water to fields to produce rice) or appropriation for immediate transfer of ownership (sale) (1990, p31). However, the application of the notion of appropriation to a more complex resource (in this case a financial resource which will be converted into a public service) suggests that the term should be interrogated and developed to capture the nuances of the act of appropriation in more complex production chains.

In this paper two interpretations of appropriation emerged. Firstly, reflecting the conventional usage of the term, it refers to the NHS money 'harvested' by organisations responsible for providing NHS services. Considering appropriation as 'harvesting', the STPs in our study did not function as self-governing common pools because local actors were not able to agree rule regarding the appropriation of resources. This may be due to the divergent interests of local actors in light of individual organisations' accountabilities in the wider institutional context.

This paper further argues that, in relation to the appropriation of resources leading to the production of complex products or services, such as health services, Ostrom's definition of 'appropriation' should be extended beyond the 'harvesting' of resources, to address the collective *utilisation* of resources. In relation to health (and indeed all public services), the

extraction of funds is not an end in itself, the value of resources (in terms of both quality and efficiency) is inextricably tied to how they are utilised. The emergent roles of the STP as *distributor, discursive forum* and *monitor,* which are drawn from Ostrom's design principles, illustrate the focus of local actors on achieving collective financial sustainability through improving how resources are utilised: sharing limited resources, best practice, knowledge and information; changing the 'rules of the game' to reduce perverse incentives; and holding each other to account in relation to performance. Notably, however, these emergent roles did not result in the agreement of rules regarding the utilisation of resources.

This second definition of appropriation reflected the understanding of local actors in our case studies of where the health 'common pool' existed, and how the remit of STPs could be developed to facilitate a collective approach to issues of financial sustainability. Notably, these emergent roles (*distributor, discursive forum,* and *monitor*) address some of the characteristics of communities which have evolved to successfully self-govern common pool resources, and indicate the evolution of norms of trust and reciprocity which Ostrom holds are necessary for successful self-governance. The development of such norms suggest the possibility that the capacity of the STP to agree rules regarding the harvesting of financial resources may develop over time. However, it is unclear whether these norms would ever be sufficient to overcome the lack of convergence of interests due to organisations' individual accountabilities for financial performance.

Collective governance within the STP developed within the context of the 'strong' state at 'constitutional' (NHS policy) and 'metaconstitutional' (legal) levels. Whilst it has been argued that the involvement of the 'strong' state in common pool resources can be wholly supportive (Sarker, 2013), we found the role of the state to be more complex. As has been noted elsewhere,

the move to create STPs can be interpreted as a coercive act (Hammond et al., 2017). Invoking the common pool, as NHS STP policy does, shifts the sustainability debate from a provision problem (sufficiency of resources) to one of appropriation (distribution of resources), and from the 'metaconstitutional' (legal) and 'constitutional' (policy) level to that of local actors. However, given the nature of health services as a public good, state sanction and facilitation was also a necessary element of the endeavour of creating common pool conditions at the collective-choice level. In the case of the delivery of health services, organisational (or system) financial unsustainability has repercussions beyond the organisation (or system) itself, with overgrazing and degradation (of the 'pot' allocated by the state) ultimately affecting the public as recipients of health services, and it is therefore necessary that oversight is retained. An advantage of hierarchy is its potential to combine the management of multiple complex tasks across diverse groups to satisfy the need for accountability in public services (Jacques, 1991, Anonymous, 2013).

Our analysis suggests that the role of state involvement in the establishment of the self-governance of common pools, whether it is a help or a hindrance, depends to a significant degree on the harmonisation between different elements of the institutional context. In this case, local actors were unable to agree collective rules regarding the harvesting of financial resources because of the disconnect between STP policy which encouraged a collective approach to financial sustainability, and the residual wider context which retained a focus on the performance of the individual organisation. Given the need for accountability and oversight in public services, any significant disharmony and associated uncertainty is likely to discourage local actors from enacting self-governance.

To accept both the coercive influence of state involvement, and the necessity of state involvement for reasons of accountability, raises questions about the value of the endeavour to establish self-managed common pools in the shadow of the hierarchy. Arguably, the STPs in our study had value as a symbolic common pool, representing a commitment to and acknowledgement of the interdependencies between those organisations delivering health services, and the inherently collective nature of the endeavour. Indeed it is argued that the social significance of common pool resources and the way in which such formations serve in part to mediate social roles in addition to acting as a material resource is largely neglected by Ostrom (Forsyth and Johnson, 2014). Furthermore, the development of STP roles of *distributor, discursive forum* and *monitor* observed in our case studies relating to improving the *utilisation* of resources, suggest that, notwithstanding the disharmony in the wider institutional context, structures may be able to successfully establish ways to influence the utilisation of common pool resources within the shadow of the hierarchy. Given the complex nature of the health services, it may be that these approaches will bring significant gains in relation to financial sustainability.

This study has some limitations. This data was collected in the first two years of the life of STPs. It is possible that the role of the STP, particularly its capacity to put in place collective rules governing the harvesting of financial resources, may change as governance arrangements become fully embedded, and as a fruition of the discussions taking place in the STP 'discursive forum' observed in this study. However, given the structural inhibitors of collective agreement of the harvesting of financial resources, a substantial change in the role of the STPs is considered unlikely. A further limitation is that the study referred to experiences of only three STPs, and, as our case studies were focused on the organisational unit of a single CCG, we did not interview all members of those three STPs. This limited our ability to quantify the

prevalence of the observed phenomena. It should also be noted that our study has limited applicability beyond the NHS to other health systems, particularly in light of the strong hierarchy in the English NHS.

In conclusion, we found Ostrom's theories concerning communities' self-management of common pool resources to provide an insightful analytic frame through which to interpret the nature of NHS STPs, and NHS actor's responses to them. The convergences and divergences between the empirical data and Ostrom's theories indicated how notions of collective governance of resource utilisation were developing in STPs, and also important areas of divergence in relation to the nature of the 'resources' for health and the necessity of state oversight to retain accountability. These areas of divergence suggest that Ostrom's framework, in particular what it means to 'appropriate' resources, can be developed in order to suit more complex production processes. In relation to STPs, we found their value as modes of collective governance to encourage individually accountable organisations to co-ordinate their 'harvest' of limited financial resources, was limited due to the disconnect between STP policy and the wider institutional context. Indeed, the NHS hierarchy is now exploring ways in which the 'collective' interests of discrete organisations can become more formalised, with the proposed development of Integrated Care Systems which incorporate strengthened regulatory incentives and sanctions to mandate cooperation between organisations, and proposals for substantial changes to the legislative framework to facilitate inter organisational co-operation (NHS England, 2019). It is unclear at this early stage whether such changes will facilitate the development of more substantial common pool arrangements or whether these common pool structures will be absorbed fully into the hierarchy.

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FIGURE 1: Levels of analysis applied to the planning and provision of NHS services (adapted from Ostrom 2005)

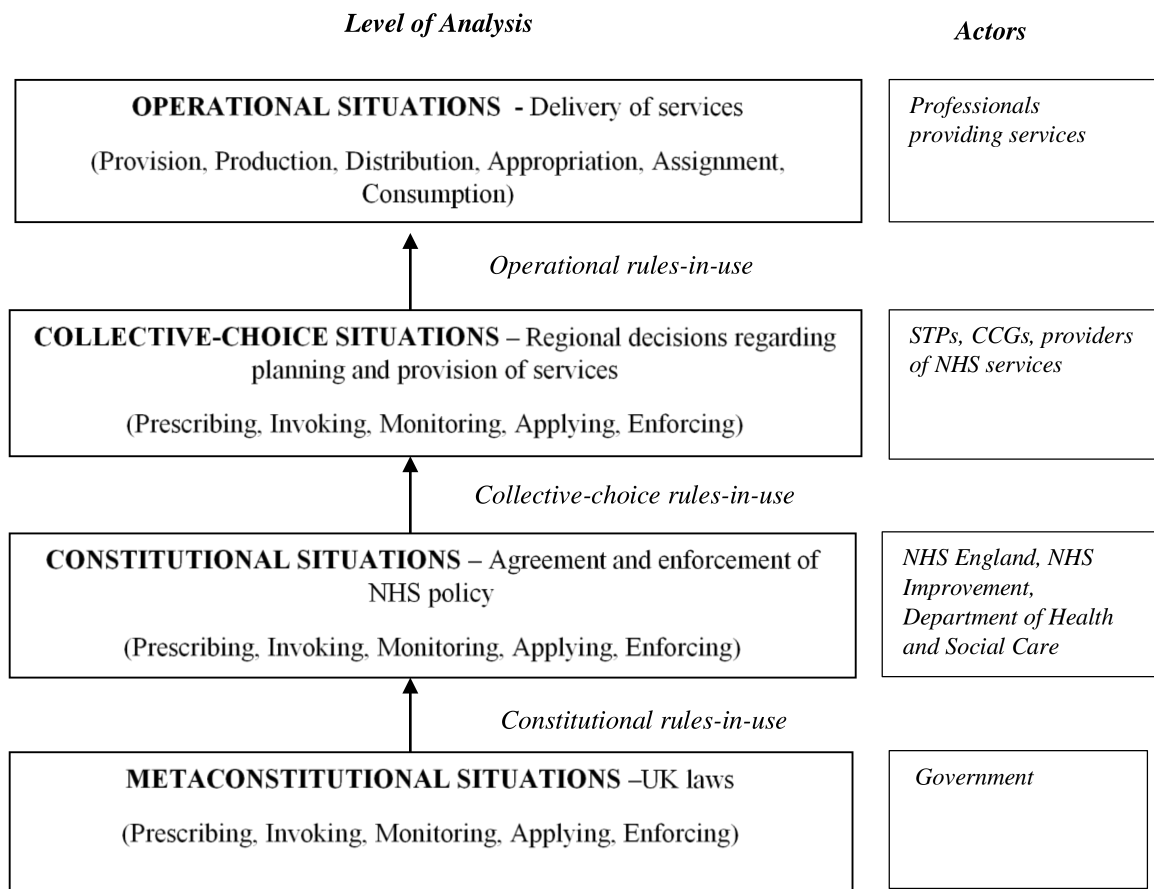

TABLE 1: Summary of Ostrom's design principles for successful self-governance of CPRs (adapted from (Ostrom, 2005) and (Ostrom, 1990))

Design Principle	Description
Clearly defined boundaries	Boundaries of the resource system and the parties with rights to harvest resources are clearly defined, preventing free riding. Agreement of membership and boundaries by the group develops trust and reciprocity.
Proportional equivalence between benefits and costs	Allocation of benefits proportional to required inputs. Agreed rules in this respect emphasise fairness and encourage observance of rules.
Collective choice arrangements	Most individuals affected by the regime are authorised to participate in making and modifying their rules, resulting in better-tailored local rules and perceived fairness. .
Monitoring	Monitoring encourages contingent co-operators to co-operate without fear of free riding. Most long surviving resource regimes select their own monitors, who are accountable to the appropriators or are appropriators themselves.
Graduated sanctions	A system of graduated sanctions in place to prevent rule infractions that inhibit co-operation.
Conflict resolution mechanisms	Access to rapid, low-cost, local arenas to resolve conflict among users or between users and officials, thereby ensuring conformance with the rules.
Minimal recognition of rights to organise	Minimal recognition of the right to organize by a national or local government ensures that communities have the authority to craft their own rules.
Nested enterprises	Among long-enduring self-governed regimes, smaller-scale organisations tend to be nested in ever larger organisations.

Table 2. Number of interviews by case study site and organisation

	Case Study 1	Case Study 2	Case Study 3
Commissioners			
CCG	2	3	4
Local Authorities	0	1	1
Providers: NHS			
Integrated Acute and Community	4	1	1
Community and/or Mental Health	2	1	1
Total	8	6	8

Table 3: Mapping of STP 'health commons' against Ostrom's design principles

Design principle	Characteristics of STPs in case studies
Clearly defined boundaries	Boundaries and membership are clearly defined, but ratified by the state. Rights to harvest ring-fenced resources clearly defined. Parties with rights to harvest non-ringfenced resources not limited.
Proportional equivalence between benefits and costs	STP members subject to both benefits (e.g. advantages of economies of scale and spread of best practice, access to limited financial incentives for participation) and costs (e.g. agreement of change which is financially detrimental to individual organisations, financial contribution to STP running costs). Proportional equivalence of benefits and costs disputed by some members
Collective choice	Members encouraged to establish own governance arrangements, within overall rule framework set by the state
Monitoring	Monitoring of the activities of the STP undertaken by state. Development of peer monitoring through internal targets and performance management arrangements to reduce external monitoring.
Graduated sanctions	State sanctions in place for financial deficits
Conflict resolution mechanisms	State expects conflicts to be internally resolved within STPs
Minimal recognition of rights to organise	STPs are mandated by the state. STPs must perform within the remit designated by the state
Nested enterprises	STPs nested within the overall NHS hierarchy