ORIGINAL ARTICLE

Ambiguous workarounds in policy piloting in the NHS: Tensions, trade-offs and legacies of organisational change projects

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Abstract

Pilot projects are increasingly used as a mechanism to enact organisational change, particularly government policy. Information technology's centrality to organisations often makes it key to the introduction of new processes. However, it can give rise to workarounds as employees circumvent impediments it presents by rejecting its prescribed use. Workarounds tend to be conceptualised dichotomously, as either 'good' problem solving, or 'bad' subversion of the technology. In pilot projects, workarounds are more ambiguous because those that support projects' successful completion in the short-term may undermine day to day operations longer term. We draw on interview data from a policy pilot in general practice in the National Health Service in England aimed at extending access to care. We problematise the dichotomous conceptualisation of workarounds, finding they can be

The paper explores workarounds within a policy pilot project of information technology-oriented organisational change in health care using interview data from an empirical case study in the English National Health Service.

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simultaneously supportive and undermining of policy pilots. Workarounds thereby become political, as employees are required to trade-off consequences for themselves and the wider organisation.

INTRODUCTION

Many contemporary organisational change projects hinge on IT as an enabler of change, and it is within this context that the issue of workarounds arises. Workarounds have been defined as technology non-use, finding other ways to achieve work without using the technology, or use of technology other than as intended (Gasser, 1986). In certain literatures on organisational change, workarounds have long been problematised because they can undermine the intended benefits of change projects (Debono *et al*., 2010). In others, however, they are celebrated as examples of skillful and heroic improvisation (Dupret, 2017). Workarounds can be considered akin to the hidden 'materialisation work' required to make information systems, data management and information governance processes workable (Jones, 2019).

Thus, a range of perspectives on workarounds conceptualises them variously as an inevitable aspect of organisations/work or as unethical or risky deviations from formal procedures (Alter, 2014). We argue that this portrayal has shaped a dichotomous understanding of workarounds as either 'good' or 'bad' that we frame as characterising the 'ambiguity' of workarounds. This ambiguity of workarounds in relation to organisational change, and to projects in particular, as a ubiquitous mechanism of organisational change, has been under-explored. This article aims to address this by developing insights into the role of workarounds in pilot projects as an instance of organisational change, grounded in an empirical case study of a UK policy pilot in primary health care in the NHS (Bailey *et al*., 2017; Elvey *et al*., 2018). By exploring how ambiguous workarounds intersect with pilot projects, we aim to contribute to theory on workarounds, and secondly to understand the implications of workarounds for organisations and for the workforce and during and after organisational change projects and pilots. The article addresses the question: how do workarounds influence the role of pilot projects in bringing about organisational change?

Policy pilots act as an initiation phase for government-led innovation in public services, often involving significant organisational change. They incorporate opportunities to explore alternative ways of achieving policy aims, entailing openness to policy formulation, testing and adjustment (Mulgan and Albury, 2003). Policy pilots may have one or more goals, including experimentation, early adopter implementation, learning about 'what works', or demonstration of proof of concept (Ettelt *et al*., 2015). As such they involve multiple, often overlapping and ambiguous purposes which are frequently not made explicit (Ettelt *et al*., 2015), or which emerge through individual pilot projects (Bailey *et al*., 2017, 2019). Policy pilots tend to involve disruption of established arrangements in organisations and enable a break with what are seen as problematic ways of working, to provide opportunities to reconfigure work practices in novel and more effective ways (Arnold, 2015). This experimental dimension has led to a conception of pilots as a form of open or participatory policymaking; offering

empowerment to individuals working within local services who can bring their own ideas for practice to bear upon emergent policy problems (Ettelt *et al*., 2015; Bailey *et al*., 2017). At the same time, their equivocality leaves scope for the use of pilots as political devices that provide evidence and legitimacy for a pre-determined approach by demonstrating 'success' and constraining experimentation and potential for adjustment (Arnold, 2015; Ettelt *et al*., 2015; Nair and Howlett, 2016; Bailey *et al*., 2019), while rhetorically suggesting otherwise (Nair and Howlett, 2016).

The larger study from which this analysis is drawn explored the role of local actors in creating policy, providing the backdrop to this article's focus on the ways in which frontline staff enable or undermine the policy pilot through the use of workarounds.

The policy objective in this study was to extend patients' access to health care, which required the implementation of digital data sharing between healthcare organisations to enable the trialing of different modes of inter-organisational working that might support the objective. This was far from straightforward in practice because collaborating organisations have distinct local technology-related work practices and use differing IT systems that lack interoperability. This therefore positioned the pilot as hinging on technological change that entailed negotiating solutions to disparate technical platforms, capabilities and practices in order to be able to share data. By attending to what might be the simultaneously enabling and detrimental effects of workarounds on policy pilots, we are able to examine wider tensions within the politics of change projects between autonomy, empowerment and risk for frontline workers. Additionally, our argument draws attention to the recursive influence of the informal and emergent nature of decisions made within pilots upon the longer-term functioning of the systems in which they are embedded. We start by introducing the ongoing debate about workarounds and how they are conceptualised as either constructive, reflecting bounded rationality in planning and the complexity of work arrangements; or risky and problematic, reflecting critical technology work design failings.

We then present the details of the policy pilot and the methods used in the study before presenting empirical findings in relation to workarounds. We begin with a thematic analysis of workarounds conceptualised positively, as supportive of the pilot, or conceptualised negatively, as undermining the pilot. We then go on to consider what workarounds conceptualised in this way mean for the workforce and for organisations in organisational change, acknowledging tensions between short and long-term objectives and multiple goals.

We conclude that workarounds are both a necessary part of pilot projects and sources of risk, not only in terms of good governance and safety but also in relation to the sustainability of changed practices for the organisation and their consequences for workers. This article offers a contribution by proposing a nuanced understanding of the relationship between workarounds and pilot projects, and in producing a political theorisation of workarounds that is sensitive to interplay of their temporal dimensions. More specifically, this article builds on theory about projectification and policy pilots by theorising the implications of workarounds in pilot projects for frontline workers.

IT, workarounds and organisational change

Pilot projects have become a widespread mechanism for testing and rolling out organisational change such as policy interventions (Mulgan and Albury, 2003). Given the centrality of IT in contemporary organisations, such pilots also necessarily involve IT-led change. In turn, IT-led change/implementations have long been associated with workarounds (Gasser, 1986; Ferneley and Sobreperez, 2006; Safadi and Faraj, 2010, Davison *et al*., 2019).

In particular, workarounds draw attention to the embedding of assumptions about users' work practices within the design of systems. Technology designed without sufficient involvement of users tends to reflect formal understandings of work practices that can be significantly out of step with the (informal) realities of how work is done (Petrakaki and Kornelakis, 2016). Understanding how and why workarounds of information systems arise is important in order to create a better fit between systems and work practices (Blijleven *et al*., 2017).

Gasser (1986) defines a workaround as technology non-use, finding other ways to achieve work without using the technology, or use of technology other than as intended. Others define workarounds as alternative work strategies to circumvent blocks or impediments presented by new technologies (Koopman and Hoffman, 2003; Halbesleben *et al*., 2008). Kobayashi *et al*. (2005) propose the notion of workarounds as informal practices that deviate from standard workflow, introducing a normative dimension to the discussion of workarounds that reflects user-resistance and rejection of new technologies (Boonstra *et al*., 2004; Ferneley and Sobreperez, 2006; Davison *et al*., 2019). This occurs particularly where 'off the shelf' and otherwise standardised systems that formalise certain modes of working are at odds with fluid, messy and informal work practices (Petrides *et al*., 2004; Petrakaki and Kornelakis, 2016; Al-Masslawi *et al*., 2017). Workarounds can be framed as a creative local response to the failure of standardised information systems to meet local information needs (Petrides *et al*., 2004; Petrakaki and Kornelakis, 2016; Al-Masslawi *et al*., 2017). The notion of workarounds therefore presumes an infrastructure of organisational rules, practices and norms that are worked around by employees (Alter, 2014).

A number of descriptions of workarounds in the literature allude to their temporary nature (Kobayashi *et al*., 2005; Morrison, 2015). Nonetheless, the temporal dimensions of workarounds remain largely unexplored, and few studies consider their longer-term impact on work, workers and organisations. An exception is Morrison's (2015) study, which notes that the use of workarounds as short-term responses to increased workload at the manufacturing front line has long-term consequences in terms of establishing and perpetuating resource shortages. In this respect, workarounds may carry a hidden cost if they go beyond being temporary responses to become crystallised and ingrained, when they can generate new problems, for example by producing new information silos (Petrides *et al*., 2004; Davison *et al*., 2019).

The inherent informality of workarounds makes them invisible practices (Star and Strauss, 1999), such that they permit impediments to workflow to be perpetuated by circumventing rather than seeking to resolve them. This can give rise to a reliance on workarounds in which users routinely circumvent official processes (Debono *et al*., 2010; Davison *et al*., 2019). Here a gap opens up between the expected outcomes from new policy-led practices (such as better access to care for patients), and the realities, so that evaluations of work may be flawed and inaccurate (Debono *et al*., 2010; Campbell, 2011).

Workarounds become a topic of concern within more functionalist literatures where deviation from prescribed modes of practice with systems is deemed problematic. One way to understand this perspective is through the lens of safety systems. A 'Safety I' view sees organisations as relatively closed, stable and predictable, and therefore able to be made failsafe (Jerak-Zuiderent, 2012; Sujan *et al*., 2016). Within 'high reliability' and safety critical domains, this gives rise to standardisation of systems and practices as a means of controlling or reducing their variability and exerting control to manage risk (Azad and King, 2008; Halbesleben *et al*., 2008). Therefore, workarounds in such settings have been seen as aspects of suboptimal processes that need to be eliminated (Azad and King, 2008; Halbesleben *et al*., 2008). There is an assumption, therefore, within the Safety I perspective that workarounds can and should be avoided through protocolising work. By exercising a high level of control over workers' activities, through highly prescriptive manuals, for example, improvisation

is discouraged and a minimum level of performance maintained (Orr, 1996). In health care, where ensuring patient safety dominates the organisation of work, workarounds have typically been seen as potential sources of harm because they bypass standard processes implemented for the purposes of safe care (Spear and Schmidhofer, 2005; Blijleven *et al*., 2017).

Perspectives on safety have shifted over time from a representation of organisations as relatively predictable to one that sees organisations as more changeable. This shift reflects recognition that the orthodox understanding of safety presumes a static and mechanistic organisational environment that is at odds with the fluid and responsive character of much healthcare work (Jerak-Zuiderent, 2012). Again, a safety lens offers an alternative perspective on standardisation and protocols with the 'Safety II' perspective in which the organisational image is dynamic, the environment is complex, and activities are situated and responsive to change. With increased understanding of the value of improvisation in complex and evolving work environments, workarounds become framed more positively in the literature as 'adaptive routines' (Kobayashi *et al*., 2005; Sujan *et al*., 2016), 'coping mechanisms' (Morrison, 2015) and 'inventive solutions' (Petrides *et al*., 2004) that enable organisations to be responsive to changing internal and external environments. The Safety II perspective therefore positions workarounds as a necessary element of adaptive and dynamic trade-offs that enable safety to be maintained (Sujan *et al*., 2015; de Carvalho *et al*., 2018).

However, this split between Safety I and Safety II perspectives sets up a paradox in relation to the question of how professionals in dynamic organisations are able to act effectively rather than in a haphazard way in response to changing circumstances. The Safety II perspective depends upon the idea that professionals are able to act under unpredictable circumstances precisely because their decisions are underpinned by a body of knowledge that implies a set of stable rules and protocols (Jerak-Zuiderent, 2012). Rather than abstract 'textbook' knowledge, it is the ability of professionals to accurately appraise the context and act appropriately that is of value (Contu and Willmott, 2003).

Contrary to the prevailing assumption that safety is increased by reducing uncertainty and thereby errors, safety protocols can threaten rather than enhance safety under some circumstances if rules are followed slavishly when circumstances call for different actions (Jerak-Zuiderent, 2012; Dupret, 2017). Indeed innovation, which policy pilots seek, calls for the judicious breaking of rules (Mulgan and Albury, 2003).

Organisations may formally co-opt workarounds that help make things work, which may then act as a source of incremental improvement to work processes (Halbesleben *et al*., 2008; Morrison, 2015) and support implementation by highlighting aspects of poor system design (Debono *et al*., 2010). In this respect, workarounds embody employee improvisation and creativity in response to organisational challenges (Petrides *et al*., 2004; Campbell, 2011; Dupret, 2017). Workarounds can enable professionals to balance the requirements of 'sound' work, professional norms, ethics, values and local practices with the requirements of new, technology-led work practices (Dupret, 2017).

Here, then, we have two contrasting views of workarounds. The first sees a workaround as avoidable, disruptive, risky and indicative of suboptimal design and poorly controlled work processes. The other sees a workaround as an inevitable, necessary, skillful response that maintains workflow and mitigates error and failure in contingent circumstances.

Contemporary organisational IT implementations require that IT users not only take it upon themselves to shape technology artefacts 'under the radar', customising them to local work practices and information needs; it also means that users are implicitly expected and indeed required to take on this role, making them active producers of the implemented product (Pollock, 2005; Safadi and Faraj, 2010; Davison *et al*., 2019). Workarounds can be seen as one such form of essential local configuration work. The shifting of configuration work onto organisations and users as a means of more effectively tailoring systems to local circumstances (Safadi and Faraj, 2010) reflects broader social trends

that have moved towards user self-service and prosumption. In this respect, it has been argued that information systems survive in organisations as a consequence of the skill of professionals in enabling technologies to dovetail with work practices—the 'work to make technology work' (Nicolini, 2006; Dupret, 2017).

Insofar as workarounds constitute a bricolage and 'making do' with the resources at hand in order to get the job done through informal, non-prescribed means, they can be considered a type of 'articulation work' (Star and Strauss, 1999). If we accept that workarounds are commonplace, indispensable and integral to, rather than outside of, formal 'work', then the boundaries between workarounds and formal organisation are blurred (Pollock, 2005). This opens up a need to explore the implications of workarounds for employees who are actively, yet somewhat invisibly, implicated in organisational change. In so far as there is scope for workarounds to either help or hinder change projects, this perspective focuses attention on 'shopfloor' employees exercising power through resisting change, or exercising agency in using their tacit knowledge of local processes to configure new practices to better fit local needs. We now consider the context of our examination of workarounds—policy pilot projects.

Projects and pilots

Policy piloting aims to foster innovation and develop solutions to real-world policy problems by demarcating a zone of licensed creativity intended to enable local actors delivering services, or 'street level bureaucrats' (Arnold, 2015), to explore and define solutions that might offer generalisable models and lessons for other areas (Martin and Sanderson, 1999). In so doing, policy pilots are a mode of policymaking that conspicuously aims for empowerment of local initiative, in which the detailed adaptation of work practices and the crafting of solutions are delegated to the shop floor (Bullock *et al.*, 2001). This is in marked contrast to traditional policymaking in which blueprints for change are pre-determined and therefore abstracted from local context, knowledge and expertise (Harrison and Wood, 1999). Instead, good ideas are allowed to emerge from practice (Harrison and Wood, 1999). Policy pilots therefore appear to offer empowerment for employees, access to local knowledge for better local adaptation of policy for project managers, and, ultimately, more effective policy (Bullock *et al.*, 2001).

Policy pilots are a specific form of project, and as such manifest certain characteristics that are of relevance to this study. Projects are temporary, time-bound modes of working that have become increasingly prevalent as a form of organising (Sjöblom *et al.*, 2013; Aroles *et al.*, 2019). Projects promise to produce their desired outcomes by a given deadline through rational planning, presenting a notion of 'smoothness', control and predictability by virtue of the processes and activities of project management (Hodgson, 2004).

However, the rise of project forms of organising has been accompanied by critique of 'projectification', that argues that these assumptions are flawed, and that projects can have profoundly negative consequences for work, organisations and workers (Sjöblom *et al.*, 2013).

During a pilot project, the change being trialed is separated and desynchronised from other ongoing organisational processes (Bailey *et al.*, 2019). Projects therefore operate outside of the organisation's bureaucratic processes of managing activity and, because of this, they are seen as a means of enabling creative reimagining of how work might be organised – a promise of both 'controllability and adventure' (Sahlin-Andersson and Söderholm, 2002), and of innovating through policy implementation. In policy pilots, therefore, the project format implies a transition from the change project to 'business as usual' working (Bailey *et al.*, 2019).

Policy pilots are reliant on the expertise of frontline staff, drawing on and often codifying their local knowledge (Arnold, 2015). In so doing, they may be considered both empowering and exploitative. Projects encourage extraordinary, heroic effort on the part of employees to make the project 'successful' that arises from the mismatch of 'idealised' rational planning and the reality of the work required (Cicmil *et al*., 2016). Projectified work engenders vulnerability among employees because of the requirement for repeated extraordinary effort and exposure to risks (Cicmil *et al*., 2016). Risks arise from the temporariness and instability of project work, including the loss of secure relations, sense of reputation, achievement and professionalism that must be serially performed (Ekman, 2015; Cicmil *et al*., 2016). In other respects, policy pilots can be seen as empowering frontline staff by providing opportunities to use their expertise to shape changes that will affect their own work practices and in a general sense conceding them influence and 'voice'. Participation in policy piloting therefore carries inherent tensions related to the extent to which it permits both flexibility and control in practice. The article takes off from this tension by advancing the notion that workarounds are potentially both empowering and problematic for employees, and that they are essential to the success of policy pilots and, paradoxically, undermine the capacity of organisations to fully implement policy.

CASE STUDY

The 'tech revolution in healthcare' heralded by Secretary of State for Health and Social Care Matt Hancock seeks to bring about transformations in how health care is delivered, enabled by information technologies (NHS Digital, 2018). However, technology-led change is notoriously challenging, and experiences of IT-led change programmes in the NHS, notably the National Programme for IT (House of Commons Committee of Public Accounts, 2013), have been particularly fraught.

It has been observed that the NHS is a particularly challenging context in which to enact change because of its fragmented and complex structures, regulation, underfunding and diverse user-stakeholders (Asthana *et al*., 2019). However, this situation is neither unique to the NHS, nor to the healthcare sector (Omar *et al*., 2017).

The case study that forms the basis for this article is that of a policy pilot in one of 27 semi-autonomous regional teams designated by the national body responsible for planning and contracting health services; NHS England. During a brief period of relative autonomy over its budget, the team invited a set of regional NHS healthcare organisations to propose and trial solutions to the policy aim of extending access to care, with an emphasis on service integration and the use of technology. The bid process allocated up to £500,000 of funding each for proposals from collaborations between healthcare organisations within certain local health economies, of which 6 bids were funded. In the majority of cases, pilots were led by General Practitioners (GPs).

General Practice is the mainstay of primary care and the first point of contact for patients seeking health care, leading treatment of patients and acting as a gatekeeper to secondary care services. GPs, also known as 'family doctors', also interface with social care organisations, such as care homes, particularly for elderly and vulnerable patients. Recent NHS reforms have sought to improve the coordination between primary and social care in addition to reducing hospital admissions, and the use of A&E services in particular (NHS England, 2019), and the policy pilot reflected these high level policy objectives. In the four GP-led pilots, the main component of the pilot was extending surgery opening hours into evenings and weekends. In order to do this, the pilots proposed a 'hub' model, in which one practice would host an extended hours service on behalf of several practices within a specified area. In the remaining two pilots, which were led by the local commissioning group, the main component was a 'step down' service, in which secondary care staff provided services in care homes

and other community settings in order to help prevent hospital admissions. In all cases, the innovation came to revolve strongly around IT because the pilots required inter-organisational collaboration that in practice relied on the ability of organisations to share clinical and administrative information about patients in digital form.

Healthcare organisations including GP practices, hospitals and community health organisations frequently use differing software for patient records systems, which tends to confound or complicate direct electronic exchange of patient records data between organisations. Even where organisations use the same software, its customisation, often over many years in response to particular local needs, hinders compatibility between different systems in practice. In the case of general practices, these same systems are also the means by which they are paid by government through enabling practices to report on their activities and to produce 'evidence' for such reports. These factors represent complex barriers to change, as information sharing is circumscribed by organisational boundaries, without data sharing agreements, making information governance considerations crucial to this pilot.

METHODOLOGY

This article draws on semi-structured interviews conducted as part of the qualitative process evaluation element of the study, comprising interviews, documentary analysis and observations, and situated within a larger mixed methods study (Bailey *et al.*, 2017). It sought to understand how policy was being made by local actors, how pilots contributed to policymaking and how organisational change was being conducted in the public sector (Bailey *et al.*, 2017). Purposive sampling was used, determined by the characteristics of the case study sites and to capture a range of viewpoints from strategic and operational levels within general practices and other organisations involved (Elvey *et al.*, 2018). Details of the 6 sites and their respective briefs for the pilot are included in Table A1. Analysis was conducted using NVivo 10 on 72 semi- or unstructured interviews with staff involved in the policy pilot at the six participating NHS sites in England. Interviews included open-ended questions about the project, its aims and the context in which it had developed, participants' roles, experiences of working in the pilot, and perspectives on what was working well, what was not working well and possible reasons why (Elvey *et al.*, 2018).

Formal ethical approval was not required for the study since it was classified by NHS governance procedures as service evaluation. However, all participants received an information sheet and provided written consent to the recording of their interview and use of their data.

An open coding framework was developed using broad categories drawn from primary content analysis of the data: 'policy', 'enablers', 'context', 'pilots', 'open codes' and 'lists' (Bailey *et al.*, 2017). A second phase of thematic analysis established a more extensive framework of 60 codes representing themes or topics discussed during interview, which were then grouped according to the broader categories first identified (Bailey *et al.*, 2017).

Having observed through the initial analysis both the frequency with which workarounds appeared in the data, and their importance for sustaining pilot objectives, a subset of the research team reviewed coded data related to information systems and workarounds. These included the following six additional codes identified by cross-referencing 'workarounds' in NVivo: 'enablers', 'IT', 'trust', 'sustainability', 'state of exception' and 'supporting infrastructure'. Participants' narratives about workarounds deployed by themselves or others were identified in the data within those codes, along with the justifications and underlying intentions attributed to them. In the case of rule-breaking, as workarounds are often considered to be, the construction of intentions is important in so far as they are social acts that invoke different forms of ordering (Busby and Iszatt-White, 2015). The distinction

between ordering as coordinative and ordering as reflective of values and social mores enables individuals to break rules while rationalising to themselves and others that their actions are nonetheless compatible with maintaining order (Busby and Iszatt-White, 2015). Therefore, understanding justifications and intentions was central to our analysis of workarounds.

Themes were generated inductively from the workarounds we found in our data. We considered these in terms of how they are represented workarounds, either positively (conceptualised as articulation work), or negatively (conceptualised as disruption, subversion or resistance to the pilot). In each case, we considered the implications of workarounds for their contribution to the situation at hand—the pilot itself—but also the longer-term implications of workarounds becoming embedded in routine practice.

CONCEPTUALISING AND CATEGORISING WORKAROUNDS

The findings set out below capture workarounds across multiple interpretations of the pilot, that is different sites and briefs. Workarounds arose when the prescribed information sharing mechanisms between collaborating organisations were circumvented by one or other of the parties. For each site, information sharing mechanisms critical to the collaborative brief are listed in Table A1. Those deploying workarounds were reception staff at 'hub' practices, A&E staff, a care home case manager, GPs and out of hours GPs, ambulance service staff and hospital managers.

We now examine instances of workarounds in the empirical data, considering how they are conceptualised (e.g. positively or negatively) by those performing them, through a contextualised interpretation of intent and justification by participants. In doing so, we identify the principle meanings underlying the workarounds in our study in relation to their roles within the pilot as enabling and supportive, or undermining and disruptive of the pilot.

Workarounds as disruption, subversion or resistance

A number of workarounds can be characterised negatively in so far as they involved rejecting use of the technology as prescribed by the new work practices. This therefore hampered the pilot. Reasons given by individuals deploying these workarounds were that proposed new arrangements and processes conflicted with local interpretations of information governance or were found to be impractical because they generated additional work.

For example, as part of the pilot, telehealth consultations were to be held between GPs at a surgery, the nursing home case manager and the patient at a participating nursing home, to improve access to care for patients in nursing homes. However, these consultations were difficult to implement in practice because of the need to synchronise schedules and set up equipment in particular spaces for specific time slots during which professionals had to remain available. Under such circumstances, the nursing home case manager reverted to telephone liaison with GPs, expressing their preference for simpler and more familiar technology and processes:

> You've got to have the basics right before you can introduce something like teleconferencing, So, the care homes have got to be on board, they've got to buy into it, we've found that it's got to fit in with their regime which has been very difficult because trying to find a time when it fits in with them…so it's all been to do with timings.

Alternatively, non-compliance in the use of new systems and processes sometimes involved rejection of the principles upon which they were based. For example, the pilot sought to enable better coordination between primary care and A&E by enlisting A&E staff to book patients a GP follow-up via a shared appointment booking system. However, due to disagreements with participating GPs about interpretations of information governance, A&E staff were unwilling to use the shared system. A GP stated that:

> Because A&E can't use the system because of issue at their end we're trying to open it up now so patients can just access it themselves

Information governance was again a point of contention where a GP care diary had to be changed to fit the hospital's differing interpretation of information governance before both parties would engage with the process being piloted:

> The diary would ask for date of birth and their view was date of birth is too specific, put age on so it's not as identifiable

Other non-compliance workarounds involved staff avoiding duplication of work. For example, hospital staff would not use a system shared with GPs to refer patients to the GP mental health clinic because it entailed additional work for them:

> If it takes three minutes longer, if it's difficult to do it just won't get done. So whatever system we're putting into the demonstrator sites has got to be as easy as, if not easier than, the system that they're working with now, because that extra three minutes they won't have.

Still further 'non-compliance' workarounds reflected competing priorities arising within the pilot. For example, a hub practice was designated to provide additional appointments out of hours to patients from a number of local practices, supported by out of hours GPs (from outside the hub practice). The out of hours GPs had not been trained to use the hub's clinical system ('EMIS') and found it too difficult to use, so they reverted to using their usual clinical system ('Adastra') when seeing patients.

> Now all the time you've got a GP in there with patients outside coming in. It wasn't working. You have to make a decision to, right, stop what you're doing and work on the Adastra system until we can revisit this.

This kind of workaround reflects professionals' commitment to patients over and above success of the pilot. It evidenced prioritisation of upholding professional values related to patient-centredness in spite of the pilot when it threatened to compromise professionals' ability to effectively deliver care. What might be characterised from a project management or managerial perspective as 'resistance' might also therefore be seen as adhering to higher principles related to the primacy of patient care, and/or upholding systems of governance and accountability.

Workarounds as constructive local articulation work

Workarounds that could be characterised positively were those in which staff performed work outside their usual procedures as a means of facilitating the integration of the processes and practices being

piloted. For example, at one site ambulance service professionals collaborated with GPs to identify the services' regular users for unplanned, acute hospital visits, in order to enable more targeted GP intervention and to better keep those patients out of hospital. However, as the ambulance service despatch systems did not link individual patients with their GPs, ambulance service professionals instead produced reports manually from their system for onwards referrals to GPs. This workaround arose because organisational information systems were not able to accommodate the information requirements of the collaborative processes being piloted. Here, the challenges of rapidly aligning different organisations' existing information systems and processes brought lack of interoperability to the fore.

This workaround reflected a commitment to making the pilot work in the short-term, although it involved additional work for those staff. The short-term focus on getting through the pilot is apparent in a number of workarounds that could not be expected to be sustained indefinitely, particularly where they involved inefficient manual or paper-based processes.

At practices designated as out of hours 'hubs', reception staff managed appointment bookings for all participating practices. These staff found that they had to log into six separate systems, each belonging to a different collaborating practice, in order to be able to make appointments for patients. Although a technical solution was devised to create a single virtual practice to simplify hub appointment bookings, it was not set up during the pilot. This meant that the necessary technical functionality was deferred to the future, forcing reception staff to bridge the gap through handling additional work and work complexity. Deferral enabled the project to get 'over the finish line' without fully resolving issues that may take time to address.

> At the moment we log onto six, all six different sites, and you've got them all on the bottom, and you're clicking in on one and then the other

This workaround, which was essential to the pilot's success, came at the cost of onerous processes for staff. There were a number of instances in this study of workarounds of what were perceived as problematic processes in one area generating workarounds in other areas. For example, hospital managers would not allow in-reach GPs to access their urgent care dashboard for information governance reasons, so ward managers manually produced lists for GPs.

> We had an urgent care dashboard, which practices access and they can see patient names, who've been admitted the day before. But because of data security we couldn't handle patient identifiable information, so the dashboard went down. So we haven't been able to use that, so we had to do a work around, which meant that one of the directorate managers at the hospital has to press a button to say all the patients admitted the previous week, give it to the GP who goes through and looking for her patients, so it's a bit of a faff.

This instance demonstrates how a workaround by hospital staff necessitated use of a workaround by ward managers. Similarly, non-compliance with use of the care diary by the hospital staff to book GP appointments for patients on the basis of their interpretation of information governance rules (which differed from that of GPs), obliges the GPs or their patients to deploy a workaround. Such additional work puts pressure on professionals that may be acceptable to them only for the duration of the pilot. Many of the conceptualisations of workarounds in the case study can therefore be concurrently seen as problematic for subverting prescribed work practices and as constructive articulation work. Having examined how workarounds can be conceptualised in different and changing ways, we turn now to discuss the implications of these findings for pilot projects, for organisations and for the workforce.

DISCUSSION

The conceptualisation of workarounds in positive or negative terms depends on the perspective of the reporter in relation to how they are interpreted and either justified or problematised. Their ambiguity arises from the co-existence of distinct perspectives: those of staff deploying the workaround, and those of policymakers and others advancing and advocating the change that is being worked around. The latter might be framed as the 'project perspective'. We have characterised workarounds in our data negatively when they were disruptive of the pilot because they involved working around the new processes and practices that the pilot was meant to test out. By contrast, we have characterised workarounds that supported the pilot as positive where they facilitated the new collaborative processes and practices that operationalised its aims. They did so through the skilful bridging of gaps by employees between new systems and processes and existing ones. While different roles have differing scopes for autonomy and task discretion (Petrakaki and Kornelakis, 2016), a range of employee roles deployed workarounds.

Learning

Although some workarounds, including non-use by hospital staff of the GP care diary, have been characterised negatively, they also revealed issues that needed to be addressed in order for piloted practices to be established in the longer term. The pilot, even where it did not necessarily achieve its objectives, was sometimes of value in identifying blockage points, such as divergent interpretations of information governance between healthcare organisations, which, rather than necessitating articulation work, could be addressed openly. In doing so, they offered an opportunity for learning about what works, one of the multiple purposes of policy pilots (Bullock *et al*., 2001). In this respect, workarounds might, if attended to, allow adjustment of the direction of the pilot, if specific efforts are made to document and incorporate them, where judged to be of value, into formal organisation (Campbell, 2011).

   Poor design-reality fit is to some extent to be expected within pilot projects, which, by their nature, tend to allow for limited prior planning by participants. Added to this, the emphasis on inter-organisational collaboration in this particular pilot entailed a further level of 'fit' in the form of interoperability issues to be grappled with, namely the degree of concordance between systems and processes in different organisations. Finally, the contingency of the changes trialed as part of the pilot, depending on the purpose(s) of piloting being emphasised, can mean they are of uncertain duration, with some rejected, while others are incorporated into day to day practices.

   Learning from workarounds that perform articulation work is curtailed when they are rendered invisible in pursuit of a 'successful' pilot. On the other hand, ensuring scope for learning would allow policies to be modified and make them more adaptive to implementation in conditions different to those under which they were developed (Swanson *et al*., 2010).

Policy pilots

While Alter's (2014) theory of workarounds posits an organisational infrastructure of rules, practices, and norms that are variously worked around by employees, this does not accord with the context of pilot projects. This is because policy pilots are intended to suspend a range of processes and practices in the interests of facilitating innovation (Bailey *et al*., 2017). The encouragement, facilitation or at least permitting of

informal practices in the pilot that gives license to workers to do what's needed to make the change happen, manifests a 'state of exception' that is characteristic of projectified work (Cicmil *et al*., 2016; Bailey *et al*., 2019). In a project context, therefore, workarounds cannot be straightforwardly conceptualised as unsanctioned behaviour or resistance to new systems and processes. This reflects a subtle understanding of workarounds as sophisticated strategies and responses to standardisation of work practices and other disciplinary techniques and norms (Davison *et al*., 2019). Within a pilot, the new ways of working being tested may present professionals with decisions to make about multiple competing sets of 'rules'. Where new and existing rules come into conflict, then individuals must decide which take precedence, weighing up, for example, ability to access patients' records to support patient safety against navigating an unfamiliar electronic patient records system, or providing certain patient data to other healthcare organisations against upholding local information governance rules. In the context of pilots, therefore, workarounds become political because workers are required to make decisions about which rules to comply with and when to deploy workarounds. The political pressure to make the pilot work points to the ambiguity of policy piloting in terms of whether it functions on a rational level as an experiment, or functions in the interests of policymakers by providing evidence of 'successful' policymaking (Ettelt *et al*., 2015; Nair and Howlett, 2016). In this way, the multiple purposes and agendas at work within policy pilots point to differing perspectives on change projects, and it is within this context that workarounds are deployed, and alternately problematised and justified.

Implications for the workforce

Delivering a policy pilot through extensive use of workarounds that intensify work passes risk from policymakers onto staff. One way in which this is manifested is where pilots that are deemed successful lead to the continuation of the new and enhanced services as 'business as usual' without any additional resources. Workarounds may create the illusion that dysfunctional systems are indeed functioning such that continued operation with the status quo allows further dysfunction to emerge (Morrison, 2015). In this way, when the initiation phase ends, pilots may undermine the organisation's ability to move to full implementation of policy by encouraging workarounds that obscure the true resource costs of new processes. Professionals who deploy workarounds are arguably therefore complicit in enabling their skillful articulation work to go unacknowledged and to be taken for granted, thereby participating in their own exploitation (Contu and Willmott, 2003; Morrison, 2015; Cicmil *et al*., 2016). The requirement for frontline employees to nuance standardised ways of working to fit local requirements and to bridge between different localities, such as by logging in to multiple booking systems, constitutes responsibilisation of the workforce. Staff using their knowledge of local systems and processes to make changes more feasible may be considered a form of empowerment. However, if the organisation devolves responsibility to staff without sufficient license or scope to shape work practices, then it may, conversely, be seen as exploitative.

Exceptional circumstances that define a project put pressure on workers to make a project work and to achieve project aims to deadlines and invoke a state of crisis associated with projectification that sees these circumstances and demands accepted as the norm (Cicmil *et al*., 2016; Bailey *et al*., 2019). This was seen in our study in the case of manual workarounds such as reception staff having to access 6 different appointment systems, or hospital ward managers generating ad hoc reports for use by GPs. In the context of healthcare organisations, capacity to cope with changes is undermined when services are delivered via new practices that are inadequately resourced, putting those services and the safety of patients at risk and potentially lending the pilot project only short-lived success.

The suspension of the ordinary 'rules of engagement' arising from a projectified state of exception in policy piloting can result in governance of processes and accountability for decisions made being

tacitly dropped (Bailey *et al.*, 2019). The tacit endorsement of workarounds, which involves 'turning a blind eye' to the suspension of governance arrangements, generates organisational risks during change projects in addition to those generated for individuals.

Theorising workarounds

In the context of a pilot project, we have seen that workarounds can be considered simultaneously 'good' and 'bad', and therefore ambiguous. They may be disruptive and undermining of the pilot project from the perspective of the purpose of pilots as demonstrators of pre-determined objectives (in this case, new collaborative processes and practices). However, if the pilot is treated as an adaptive process, emphasising its experimental purpose, then workarounds can be viewed as constructive. Workarounds may also be seen in a positive light where they are deployed to enable new processes and practices through articulation work, necessary due to their inevitably imperfect fit with existing processes and practices. Where workarounds are supportive of the pilot project, they can nevertheless be detrimental to the workforce, who are burdened with more onerous work processes. Conversely, when workarounds are viewed as disruptive, they make manifest frontline professionals' decision-making about the competing priorities of supporting the pilot, or upholding and adhering to principles and standards (whether formal or informal) that conflict with pilot processes and practices.

While the literature recognises that there are both local and broader consequences of workarounds (Alter, 2014), our findings indicate that these consequences go beyond generating further workarounds in the wider organisation, adding a further temporal dimension. When workarounds are deployed, they have 'local' consequences. This is, as we have seen, because they cause others to deploy workarounds that can involve more onerous processes. However, they may also have longer-term consequences through generating additional hidden workload that may ultimately affect the sustainability of those processes. This highlights the way in which the temporality of workarounds noted in relation to their temporariness (Kobayashi *et al.*, 2005; Morrison, 2015) intersects with that of pilot projects, which are themselves time-limited.

CONCLUSIONS

This article challenges prima facie understandings of the enabling / undermining role of workarounds in policy pilots. In contrast to workarounds being seen as either disruptive and problematic *or* constructive and skillful practices, this study has found that in technology-led pilot projects workarounds can be conceptualised as simultaneously valuable *and* problematic and are therefore ambiguous.

Workarounds can make it possible to push through change within limited project timescales and minimise short-term disruption within the project context. However, they can produce unstable working conditions that make employees vulnerable through responsibilisation that takes the form of intensified work *during* pilots and under-resourcing *after* pilots have ended in ways that perpetuate intensified work. Workarounds are crucial to the tensions between the short-term time horizons of pilots and more enduring work practices, drawing attention to the temporal dynamics across different phases within organisational change. At the intersection of digital transformation with the project form, workarounds become not only inevitable but *necessary* to make the project work. This means that there is to some extent a trade-off between pilot success now and a potential longer-term detrimental impact on the organisation and its workforce. In this respect, it is not only the case that workarounds have implications for pilot projects, but also that pilot projects have implications for workarounds.

By deviating from standard practices and protocols, workarounds in health care may generate risks to patient safety (Spear and Schmidhofer, 2005; Debono *et al.*, 2010, Blijleven *et al.*, 2017), where high

levels of formal organisation and governance exist to maintain minimum standards of safe care. New risks emerge as work done under the carte blanche mandate of pilots is not properly governed, and we might therefore see the pilot itself as a workaround of existing protocols and governance rules. Alternate positive and negative characterisations of workarounds therefore reflect the balance between the competing goods of innovation and accountability (Campbell 2011) in allowing 'creative subversion' that sets aside the normal governance to enable new ways of working to be trialed, versus maintaining robust governance.

As informal and invisible practices, workarounds present a double-edged sword for professionals because their tacit acceptance licenses a degree of autonomy in the 'interpretation' of changes in the local context, which is demanded by the pilot context. However, this work is not acknowledged or legitimised, and therefore, it subjects individuals to the risks of overwork and the organisation to the risks from a lack of governance (Bailey *et al*., 2019). In contrast to the rhetoric of empowerment associated with policy pilots, then, while workarounds are a manifestation of professionals' autonomy, their association with change projects, projectification and intensified work means that the 'win-win' is elusive for frontline professionals (Ekman, 2015). Our findings bring to the fore political dimensions of workarounds that have not previously been addressed. Workarounds are inherently political whether employees engage in resistance to changes or in configuration and articulation work to tailor changes to their local context. The NHS' uniquely multi-professional make-up intensifies these politics through competing agendas. We might also acknowledge that in the act of making some practices formal and visible, for example in standards and protocols, other practices, such as articulation work, are rendered invisible (Star and Bowker, 2007; Bailey *et al*., 2020). This implies that workarounds are both necessary to the rules and protocols that define them and also necessarily invisible.

New technology-led work practices rather than simply slotting neatly into the place of old practices are interwoven, through the use of workarounds, into wider networks of existing practices. In this way, workarounds are enablers of change but they also threaten continued stability, meaning that the disruptive innovation of technological change projects may easily become entrenched disruption for frontline employees if attention is not paid to workarounds as critical features of the organisational change process.

This article contributes to theory and practice in terms of the applicability of our findings not only within the healthcare context or indeed that of policy pilots, but in organisational change contexts more broadly. In conclusion, there is a need for explicit acknowledgement of workarounds and the tensions/trade-offs they engender in terms of short- and longer-term impacts on pilot projects, the workforce and the organisation. In doing so, we can go beyond their conceptualisation as positive or negative and treat them as an ambivalent and conflicted but essential resource for more adaptive change.

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APPENDIX 1

TABLE A1   Checklist description of the demonstrator pilot sites

Item number	Item
1	**BRIEF NAME** Site A: Pro-active case management for care home residents
2	**WHY** High ambulance and GP callouts to care homes; too many non-elective admissions to hospital; Care home residents having long lengths of stay in hospital; lack of access to clinical (GP) records from care homes. Goals: to improve access to clinical care outside hospital, specifically reducing GP and ambulance call-outs, hospital attendances and admissions, to facilitate integrated records and allow direct patient access to these
3 4	**WHAT** Pro-active case management for adult residents, most aged 65+, of five care homes, registered with one of three general practices in one CCG area. Risk-stratifying care home residents and providing enhanced care planning, including end of life and crisis planning, using risk stratification. Procedure: Care home residents were risk stratified, using the model previously employed in Greater Lever. For each, the case manager, carried out an initial, face-to-face holistic assessment and put a care plan in place, which was recorded on the GP system using a template. At the start of the demonstrator, the case manager had access to general practice records via a computer in her office, partway through the demonstrator, she acquired direct read–write access to the records via a laptop. After the initial assessment, the case manager would manage patients using a video conferencing facility. Materials: General practices involved used EMIS[a], Vision[a] and TPP[a], laptop provided to the case manager
5	**WHO** The service was provided by an advanced nurse practitioner (ANP) who worked during the demonstrator as a case manager (seconded from an acute trust), with input from care home carers and managers, GPs, practice managers and other administrative staff, a CCG pharmacist and members of the local Mental Health Trust's dementia team. CCG and CSU project managers and the integrated care lead (from the local Foundation Trust) also contributed
6	**HOW** An initial face-to-face assessment, followed by case management of patients using a video conferencing facility, with the ANP 'ringing in' to run through the residents on her caseload with care home staff, hearing about any changes and performing consultations with patients, where necessary
7	**WHERE** The assessments and consultations took place in care homes, additional work was undertaken in general practices.
8	**WHEN AND HOW MUCH** Each care home resident had one initial assessment and then consultations were performed as required.
9	**TAILORING** Individual assessments were undertaken and care plans produced for each care home resident receiving case management

(Continues)

TABLE A1 (Continued)

Item number	Item
10	MODIFICATIONS In practice, the video conferencing technology was not used for both technical and organisational reasons. Rather, the care home staff contacted the ANP by telephone, to discuss residents or to ask her to visit the home. Notably, when at a home, the ANP was often asked, by care home staff, to respond to acute problems for residents that were not on her caseload

Item number	Item
1	BRIEF NAME Site B: Additional availability appointments
2	WHY Difficulty for patients in obtaining timely and convenient access to general practice; too many emergency hospital admissions. Goals: To improve access to care, specifically providing quicker and more convenient access to routine primary care, reducing attendances at A&E
3 4	WHAT Additional availability appointments for registered patients of five practices in a township plus one other three miles away, (c. 33,000) Procedure: Additional availability appointments were provided by two GPs, working 6.30 p.m. to 8 p.m. Monday to Friday and 8 a.m. to 6 p.m. at weekends. Three of the practices involved were housed within a purpose—built primary care centre; two of these practices and the practice located outside Radcliffe were owned by the same GP partner. Most appointments were pre-booked, with six kept as emergency appointments for allocation after 6 p.m. From 6 p.m., the practice phone lines diverted to A Healthier Radcliffe. Materials: The appointment booking system was hosted at one practice and the other five logged into this to book appointments. All six practices used Vision with access to the full record, allowed through a data sharing agreement on a read–write basis. GPs used a smartcard to log into each practice system
5	WHO Two GPs and receptionists
6	HOW Face-to-face appointments
7	WHERE GP practices
8	WHEN AND HOW MUCH Patients booked appointments as required. Each appointment was 10 min in length, 18 appointments per day were provided Monday –Friday and 12 per day Saturday and Sunday
9	TAILORING N/A
10	MODIFICATIONS N/A

Item number	Item
1	BRIEF NAME Site C: Additional availability appointments; responsiveness appointments; homelessness service; extension of specialist advice lines

TABLE A1 (Continued)

Item number	Item
2	**WHY** Some patients being unable to access timely GP appointments; patients with long-term conditions not having timely access to a healthcare professional; insufficient healthcare provision for homeless people. Goals: To improve access to care, specifically reducing A&E attendances, by providing urgent same day (responsiveness) and additional availability appointments in general practice. To improve specialist primary care services and reduce secondary care planned activity, by shifting specialist service provision from secondary to primary care
3	**WHAT** 1. Additional availability appointments (33/35 practices). Procedure: Additional availability appointments were provided at four 'host' practices. The additional availability appointments were provided by 1 GP at each site, between 6 p.m. and 8 p.m. Monday to Friday, and 9 a.m. to 11 a.m. at weekends. The participating practices across the CCG area and A&E at the local acute trust booked appointments at the host practice, which were available on a quota basis, until 1 p.m. and then made available on a first come first served basis. Materials: Practices logged into the host practice's system. All practices ran EMIS, either EMIS web or as streaming practices with access to the full record, allowed through a data sharing agreement, on a read-only basis
4	2. Responsiveness appointments (31/35 practices); Procedure: Practices fitted the responsiveness appointments within the regular working hours of the practice. For example, one practice allocated four telephone triage slots and four appointments to the on—call doctor and two appointments each to all other doctors (the number of doctors in the practice varied). Materials: a macro was put onto each practice system and used to log the outcome of appointment. 3. Homelessness service (1 practice); Procedure: provided under a Locally Enhanced Service arrangement, run at a practice with a large local homeless population (often transient). A health questionnaire for patients was completed, to ascertain health needs and then the patient was signposted to various services (clinics for dressings, immunisations, substance misuse services), several of which operated from the same premises as the practice. 4. Extension of specialist advice lines; Procedure: The 'specialist advice lines' were a facility for GPs to get advice from hospital consultants. The service was pre-existing and the additional specialities were added as part of the demonstrator. Materials: Advice lines operated through a dedicated email address for GPs to use
5	**WHO** The additional availability appointments were provided by 1 GP at each site, supported by two reception staff, Lead organisation was a GP federation; some additional availability appointments were staffed by locum GPs; the A&E department could refer into the additional availability appointments, local voluntary services could refer into the homelessness service. Hospital consultants staffed the advice lines
6	**HOW** Appointments took place face to face and via the telephone

(Continues)

TABLE A1 (Continued)

Item number	Item
7	WHERE GP practices
8	WHEN AND HOW MUCH Patients booked appointments as required. Each additional availability appointment was 10 min in length, 12 appointments per day were provided Monday–Sunday
9	TAILORING N/A
10	MODIFICATIONS Some changes to the original timings and booking arrangements were made. The weekday additional availability appointments were originally offered entirely on a quota basis and the weekend appointments continued until 12 p.m. It appeared some GPs ended up seeing the patient again in normal surgery hours after the additional availability appointment, because they were unsure about what had happened at the appointment. Some practices did not participate in providing the responsiveness appointments; Reasons for non-participation included a lack of capacity in the practice for responsiveness, concerns around IG for one practice and proximity, and being situated on the CCG geographical border

Item number	Item
1	BRIEF NAME Site D: Additional availability appointments; GP-led care planning; multi-skilled care worker led care planning; hospital navigator service
2	WHY Too much demand on general practice; 'inappropriate' use of A&E for problems that could be handled in general practice; A&E used by frail elderly that resulted in avoidable admissions; increase in A&E attendances from 1 p.m. onwards (when practices are open). Goals: To develop integrated care in line with the CCG strategy. To improve access to care, specifically access to general practice, reduced A&E attendances and hospital admissions. To improve care of the frail elderly through care planning. To develop the IT infrastructure, specifically to allow hub clinicians to access patients' records, allow practices and patients to book appointments at the hub (a GP practice), and let practices know when their patients are in hospital
3	WHAT 1. Additional availability appointments for patients registered with GPs in one locality. Procedure: A hub was set up to provide additional GP and nurse appointments, with three nurse clinics and three GP sessions each day. GPs provided additional appointments 4 p.m. to 9 p.m. on weekdays and 10 a.m. to 8 p.m. at weekends. Practices ran the appointment bookings until 6 p.m., after which time patients could phone and book directly. The acute trust provided a late-night path laboratory collection. Materials: Four practices used EMIS, two used Vision. Host practice accessed summary care record on Adastra* on a read-only basis. 2. Care planning Procedure: GPs produced care plans for their frailest elderly patients. The multi-skilled care worker visited patients aged 85 and over at home to identify and assess their needs and produce a care plan

(Continues)

TABLE A1 (Continued)

Item number	Item
4	3. Navigator service Procedure: The navigator kept track of presentations to one local A&E department, focussing particularly on those aged 65 and over, so tended to see patients with confusion, falls and long-term conditions, particularly multiple sclerosis and chronic obstructive pulmonary disease. She assessed each patient (each patient was also assessed by the medical team and had tests done as appropriate). Where patients were medically fit and did not need to be admitted, the navigator took responsibility for ensuring that the relevant support was in place, either in the form of a placement, if they were not safe to return home, or home support services (e.g. from team providing crisis response)
5	WHO The project lead was a GP. Local out of hours provider (supplied GPs and receptionists for additional availability appointments); the navigator was an occupational therapist based at a local general hospital, the multi-skilled care worker was based at a foundation trust
6	HOW See 'procedure' for a description of how each component operated
7	WHERE Additional availability appointments took place in person, at GP practices, care planning took places in GP practices and at patients' homes, the navigator service operated in hospital
8	WHEN AND HOW MUCH Patients booked appointments as required. Each additional availability appointment was 15 min in length, 28 appointments per day were provided Monday–Friday, 51 on Saturday and 24 on Sunday
9	TAILORING Care plans were prepared for individual patients. The navigator service arranged tailored care packages for patients
10	MODIFICATIONS The additional availability GP appointments were typically booked, but the nursing ones were less popular and were replaced with GP appointments after six weeks. Issues arose as practices which had been allocated appointments were unwilling to give up their allocated slots to other practices which had filled theirs

Item number	Item
1	BRIEF NAME Site E: Additional availability appointments; mental health crisis clinics
2	WHY Too much demand on general practice; lack of an accessible mental health service locally. Goals: To improve access to care, specifically providing quicker and more convenient access to routine primary care, reducing attendances at A&E and increasing access to mental health services, by extending access to routine primary care and providing additional mental health services in the community. To make better use of local resources and support the local population to do this, specifically to reduce attendances at A&E, reduce hospital admissions and facilitate quicker discharge from hospital, by providing signposting and education to local services in the community, improving patient pathways and supporting collaboration between professionals in different agencies

TABLE A1 (Continued)

Item number	Item
3	**WHAT** 1. Additional availability appointments for patients registered with GPs in one locality. Procedure: The general practice additional availability appointments ran from the lead practice. A purposely developed Care Diary was used by GPs, the local out of hours provider and A&E staff to book patients into the additional availability appointments. Patients were triaged at A&E and, if the ailment could be managed in the community, they could be booked into a GP or nurse appointment by staff at A&E using the Care Diary. Materials: six practices used EMIS, two used Vision. EMIS practices were able to share records on a read-only basis, Vision practices were not able to access records. Since December 2014 all practices have been EMIS web allowing all to share records on a read-only basis
4	2. Mental health crisis clinics for patients registered with GPs in one locality. Procedure: The clinics were organised by a trained counsellor, who co-ordinated the service and provided appointments, plus other counsellors (and trainees) who also worked at another local general practice. Appointments were provided between 6.30 p.m. and 9.30 p.m., Monday to Friday
5	**WHO** The project lead was a GP. The additional availability appointments were provided to registered patients, at the lead practice, by GPs, supported by receptionists, all supplied by the local Out of Hours provider. The mental health appointments were provided by trained counsellors and counselling students. The demonstrator appointed a dedicated project manager partway through. CSU and EMIS also contributed to the project
6	**HOW** See 'procedure' for a description of how each component operated
7	**WHERE** In person, at GP practices
8	**WHEN AND HOW MUCH** Patients booked appointments as required. The additional availability appointments were each 10 min in length and 18 appointments were provided per day, Monday–Sunday. The mental health appointments were each one hour in length and three per day were provided, Monday–Friday
9	**TAILORING**
10	**MODIFICATIONS** The additional availability GP appointments were typically booked, but the nursing ones were less popular. Issues arose as practices which had been allocated appointments were unwilling to give up their allocated slots to other practices which had filled theirs. Some local GP practices did not refer patients to the mental health appointments, the lead GP was aware of this but the reasons for non-engagement are not known

Item number	Item
1	**BRIEF NAME** Site F: Rapid response step-up service; complex care service; enhanced end of life service; carer needs assessment service; mental health liaison, care homes; end of life training, care homes and locality
2	**WHY** Too many non-elective hospital admissions; too many patients dying in hospital; district nurses were under pressure and did not have enough time to provide the right end of life care and support to patients and carers. Goals: To proactively identify and manage people with complex needs via a core integrated team that can draw on specialist support when necessary. To support people with heart failure by extending telehealth services. Support for people to be maintained in their own home or care home where this is their preferred place prior to and including death. A reduction in unplanned, avoidable non-elective activity prior to and including death

(Continues)

TABLE A1   (Continued)

Item number	Item
3	**WHAT** Overall: The demonstrator was part of the restructuring across health and social care, through the development of an 'integrated hub' in each CCG locality. The demonstrator took place in one locality, where the first hub had been established. The hub premises accommodated social workers and third sector staff. Stockport had shared patient information via the Stockport Health record which enabled GPs, secondary care and Out of Hours services to access each other's systems. An extension of the Stockport Health Record, to include health and social care data and integrated care plans, was planned to support the implementation of the Stockport One Integrated Care Team and was further developed within the demonstrator community demonstrator to ensure that the whole range of services within the hub had appropriate access to information. In terms of specific systems operating locally, social care used CareFirst, district nurses used DominiC, the REaCH service used Staffplan, and domiciliary workers users used CM2000 (to log each visit)
4	1. Rapid response step-up service provided to people aged 18 and over. Procedure: GPs referred into the service via a dedicated number at a contact centre when they felt a patient did not need to go to hospital, but needed support putting rapidly in place. Once the GP had made the referral, the patient received a response within 2 h from a team comprising a district nurse and a social worker. The patient could be maintained in their own home or go into a step-up bed. This service ran from 9 a.m. to 5 p.m. and the intermediate care service provided an Out of Hours service. Materials: six practices used EMIS, two used Vision. EMIS practices were able to share records on a read-only basis, Vision practices were not able to access records. Since December 2014 all practices have been EMIS web allowing all to share records on a read-only basis. 2. Complex care service Procedure: the population was risk stratified. Multidisciplinary teams (MDTs), involving a GP and a practice nurse, worked to agree an integrated pathway and model of care for individual patients. The work undertaken followed the same basis as the GP care plans which had already been developed, but allowed other healthcare professionals to contribute to these. The task of coordinating the care plan was undertaken by various professionals (GPs, district nurses, social workers) and also voluntary sector workers. The multidisciplinary group (MDG) was a wider network of professionals which operated at a more strategic level, looking across the locality and identifying, for example, high rates of chronic obstructive pulmonary disease and considering what action should be taken, rather than necessarily focussing only on patients within the high-risk stratification. Materials: the People at Risk of Readmission tool was used for risk stratification 3. End of life care service Procedure: The end of life care service was newly designed service that focussed on integrating health and social care. This is a jointly delivered service between district nursing (health) and assistant practitioners (social care) in the community. The service delivers end of life care to people in the last weeks and days of life undertaking joint assessments, care planning and visiting the person in their home to deliver interventions that meet the needs of the patient and their carers or family. The health and well-being service was planned as an extension of the existing service, into a different area. The end of life training consisted of delivering a module to care home staff. The dementia-focussed training consisted of several one-hour training sessions delivered to care home staff. Materials: End of life training based on the Six Steps programme and providing follow-up telephone support. 4. The mental health liaison in-reach service involved working with three care homes to provide advice and support, particularly care planning

TABLE A1   (Continued)

Item number	Item
5	WHO The demonstrator was part of a programme of work developed by the CCG and local authority, a hub was established and a hub co-ordinator was employed; the local Foundation Trust, Community mental health trust and local authority reablement service were involved; Project managers and general practice staff contributed. The MDT and MDGs were comprised of GPs, district nurses, social workers, primary care pharmacist and third sector staff. The end of life service was provided by assistant practitioners (domiciliary workers) from the REaCH service. The end of life training for care homes was provided by end of life facilitators. The health and well-being service was led by project managers, liaising with general practice staff. The carer assessments were carried out in general practice, with input from GPs and administrative staff. The mental health liaison in-reach service was provided by a community psychiatric nurse and a support worker
6	HOW All services were provided in person
7	WHERE At GP practices, in patients' homes, in step-up facilities, care homes
8	WHEN AND HOW MUCH Services were provided to patients as required
9	TAILORING
10	MODIFICATIONS The aim was for district nurses to be co-located at the hub but this was not possible within the timeframes associated with the demonstrator. In practice, social workers were 'paperless' while district nurses used paper records

From: Implementing new care models: learning from the Greater Manchester demonstrator pilot experience, Elvey *et al*. (2018).