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Co-location as a catalyst for service innovation: a study of Scottish health and social care

Abstract

Academic literature and policy advice on co-location of local public services focuses on the cost benefits. Other benefits and outcomes of co-location including service innovations benefiting users are under conceptualised. This paper suggests a framework for evaluating co-location as a learning environment for innovation drawing on new case studies of five Community Health Partnerships in Scotland charged with more closely coordinating social and health care. We conclude that Partnerships using co-location are benefiting from additional service innovations.

1 Introduction

Discourse on co-location is largely framed in terms of reducing overheads by sharing costs, for example in Seddon (2009), Cowan and Jacobs (2009) and reports from public bodies such as the Cornwall Infrastructure Delivery Plan (2011) and Mathieson (2011). Service providers in both the US (Stein et al 2011) and UK (Scottish Government 2007) are adopting service co-location, which increasingly is endorsed by central government (Kearney, 2005; Colman, 2006; Whitfield 2007; Christie, 2011) and become part of the toolkit consultants offer to the modernise the public sector (Accenture 2005).

Our alternative focus is on a gap in the literature: the unforeseen yet desirable non-financial outcomes of co-location. We argue that co-location of local public services can result in a new creative learning environment resulting in service innovations. We answer two research questions: to what extent is co-location itself an innovative strategy for local public service providers and secondly, how does local public service co-location catalyse innovation processes?

Our literature review illustrates the importance of co-location; explores public service policy and practice, arguing that to conceive co-location simply in terms of cost-downs misses the point of co-location as an innovative learning environment. Finally, drawing this literature together, we suggest a framework of analysing co-location as an innovative environment. Using the framework we present qualitative evidence on the extent and perceived results of co-location from twenty-eight original interviews conducted in five Scottish Community Health Partnerships (CHPs). CHPs coordinate Scottish local council social care and local National Health Service (NHS) primary care services. They are an ideal dataset for our study, since degrees of co-location vary between CHPs.

As Audit Scotland (2011) note, CHPs are intended to eradicate or reduce gaps, from a client perspective, between primary and secondary healthcare and between health and social care, framing in new ways residential hospital entry, hospital exit and the degree of independent living supported in the community. In this sense Scottish policy is similar to health and social care integration in other European countries, however, in other countries budgets and services are often located within the same organisation, whereas in Scotland (and the UK) healthcare (National Health Service) and social care (local councils) are organisational separate, making its study highly relevant in all countries attempting to integrate health and social care.

2 Literature and framework development

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We identify and address an important gap in the literature: an emphasis on the cost-down benefits of co-location that underestimate its learning, creativity and innovation benefits. We do this by reviewing literature on co-location and innovation from which we derive a new analytical framework, which we use to structure our data presentation and analysis.

Co-location is the sharing of physical space and services, by previously distributed services. An innovation is the envisaging, creation and implementation of a *significantly improved* service/product or process or business model (OECD, Frascati Manual 2005), which may be radical or incremental (Freeman 1982).

2.1 Why Co-location matters

Location, location, location is the mantra of property developers and for the good reason that locations in *space* (e.g. a home) exists in relation to other locations (such as shops, schools and transport). Software provides interesting examples, since as a digital product it supposedly heralds (Cairncross, 1997) the *death of distance*, yet the evidence of software is that location matters: Microsoft's developers cluster in Seattle, Google's in Mountain View, California and public services in one-stop-shops or call centres. Baskerville *et al.* (2001) show that co-locating software developers shortens new product development cycles and time-to-market; Sliger (2001) illustrates how physically working together enhances developers' trust and performance, and Ebert and De Neve (2001) that proximity reduces defects. O'Connor and Coleman's (2009) Irish study reveals that software companies prefer co-location and its advantages of tacit knowledge sharing via distributed cognitions, which supports the Baskerville and Pries-Heje's (1999) earlier conclusions. Kavanagh and Kelly (2002) find that the best action faced with a failing virtual software product is to reorganise the team as a co-located group.

In summary, significant research from one of the most easily virtualised sectors, indicates that co-location is an important factor in creating innovations; the same appears true in the provision of public services. Co-location offers the possibility of meeting all user needs in one place, integrating services exemplified in Accident and Emergency units, maternity unit, high-dependency unit; cellular manufacturing, workbenches and computer desktops. User means formal users (other staff), informal users (carers) and final users (clients/patients/citizens) of public services (Pieper 1997). In public services, co-location offers personalisation using one-stop-shops, virtual joined-up sites, call centres and interoperability (see Kinder 2001; 2002 and 2003).

2.2 Innovation and public service co-location

The shared service imperative

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Shared services as a strategy straddles governances bringing multiple related services to a single point of delivery. Examples include Heathrow's Terminal-5 (all BA services); Yum restaurants (several branded food lines); outsourced functions (such as HR, accounting and legal advice); in-store speciality shops and many virtual examples such as joined-up-Government, shopping sites and Cloud-based services. Often, the focus of shared services is back office integration, as Cowan and Jacobs (2009) argue; reducing process costs and integrating databases, without co-locating service delivery. An alternative view represented by Whitfield (2007) and Seddon (2009) is that shared point-of-service to users is more likely to produce long-term savings from service integration. What unites these views, forcibly expressed by Bichard (2009) is their focus on process cost. Kearney (2005) regard the public sector as laggard in adopting shared services, thereby operating at sub-optimal efficiency, a view endorsed by the Christie Commission (2011) on the *Future delivery of public services*. Much of the research on shared or co-located public services simply focuses on cost downs: Allaby (2011), Audit Office (2012) being examples.

Policy and practice development

There is a long history in international local public service debate around integration, shared-services, joined-up-government; notable contributions being Scott's (1955) challenge to replace service *breakdown* with *coordination* and the US pragmatic tradition with Ostrom (1973) for example, arguing that locally shaped service integration enhances public value. Lauria (1997) views integration as the result of urban regimes coalescing. Bardach (1998) characterises service integration as *shared strategies*, (project-by-project), coordinating *processes*, without necessarily pooling resources or new organisational forms.

In the UK, service integration is *couleur de rose* framing social policy debate around public service modernisation (Scottish Government, 2005). Integration and co-location are celebrated as intrinsically good; the UK Government sponsored *Care Services Integration Programme* (CSIP, 2005) and Thistlethwaite (2004) urge service providers to travel as far as possible along a continuum from organisational autonomy via ad hoc partnering towards integration. Thistlethwaite's (2004) guide for the *Integrated Care Network* an approach criticised in Kinder (2011) as driven by organisational design rather than service quality.

Internationally, faced with reduced public spending, Governments across the world are promoting local public service integration and co-location. In the UK this began with the *Modernising Government* paper (Cabinet Office, 1999). As Stein *et al.* (2011) show, similar processes are promoted in the US and examples range from South African service integration (Uyei *et al.,* 2012), Hong Kong holistic healthcare (Chung *et al.,* 2012) and

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Australian employment services (King *et al.,* 2006). These trends have resulted in the Dutch School of new governances, represented by Kooiman and Jentoft (2009).

Consultant services to the public sector now promote co-location as a major cost-saving initiative (Kearney 2005; Accenture 2005; Dunleavy (2010). Localised co-location initiatives in the UK emphasise scale economies in Northumberland (Guardian 2009) and Cornwall (Cornwall Infrastructure Delivery Plan, 2011), savings in building costs (Clow 2013). The driver of co-location is then cost-downs – a simple performance measure.

Despite increasing endorsement of service co-location by governments (Stein et al., 2011; Kearney, 2005; Colman, 2006; Christie Commission, 2011) and its adaptation as a means of modernising public services, its objective in public sector debate is limited to cost reduction, better resource utilisation and efficiency of service (Seddon, 2009; Cowan and Jacobs, 2009; Cornwall Infrastructure Delivery Plan, 2011; Whitfield, 2007; Allaby, 2011; Audit Office, 2012)

As Bardach (1998) argues in relation to service integration, higher costs precede savings; in all investments, *lemons ripen before plums*: it takes time for attitudinal change and new ways-of-working to catch up with the potential change provided by new technology or co-location buildings: attachment is important in human learning - forgetting and mourning old ideas and relationships takes time. The unintended non-monetary outcomes, particularly the managerial learning that arises out of co-location and which can be taken further is equally as important for innovating in the long run. Our contribution is to suggest a framework for understanding the learning and innovation in co-location contexts that recognises this. Using a grounded constructed theory approach, we derive an initial framework from the literature (Charmaz, 2006), which we then refine in the light of our findings.

2.3 Co-location and public service innovation: a framework

Literature from a diverse set of fields including the disadvantages of virtual universities, learning regions (Storper and Venables, 2004) and clustering of creative industries (Florida, 2002) point to the innovative impact of co-location. Aspects of co-location important to innovation include frequent face-to-face (F2F) contact and feedback resulting in shared values; enhanced trust and commitment arising from physically meeting and appropriate body language; negotiated shared concepts, language and meanings; adult 'playing' with new ideas or displayed performances. Flamm's (1988) story of creating the computer emphasises depth of interactivity and deep social discourse, playing with ideas in social settings, as being just as important as government funding and formal research. Kinder's (2003) research on knowledge flows in supply chains too emphasises how innovative ideas result from social interactions, in addition to

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transactional initiatives such as driving cost-downs. Emergent discourse, playing with analogical and metaphoric ideas, Bateson (1973) and Pinker (2014) suggest, is much easier in F2F interactions. Absence of F2F interactions is at the heart of the difficulties in managing virtual teams (Griffith et al., 2003) given the importance of grasping tacit, touchie-feely knowledge (Von Hippel, 1988).

Innovation in services

Osborne *et al* (2013) have argued that the nature of services requires different design and innovation processes than physical products. The nature of services as subjectively experienced, intangible, immediately consumed and co-produced means that knowledge informing innovation is more likely to be tacit; based upon user and provider experiences and feelings. This is why, as Radnor *et al.,* (2014) point out, blueprinting and walk-through are important to test the touch-points. We adopt Pieper's (1997) view of users to include other staff (formal users), family and friends (informal users) and final users – the patient/client. Not only does the nature of knowledge in service innovation process differ from manufactured products (more linear, physical prototypes, technical testing), the processes of sharing the knowledge differs, since service innovations are more prone to using distributed cognitions (of feelings and experiences and life events) to offer service solutions that are sufficiently flexible. Note, elsewhere we have focused on user co-production and empathy and innovation (Kinder et al., 2013).

Figure 1 portrays why it is that co-location supports innovation by drawing attention to the breadth and depth of interactions by service providers in a co-located setting.

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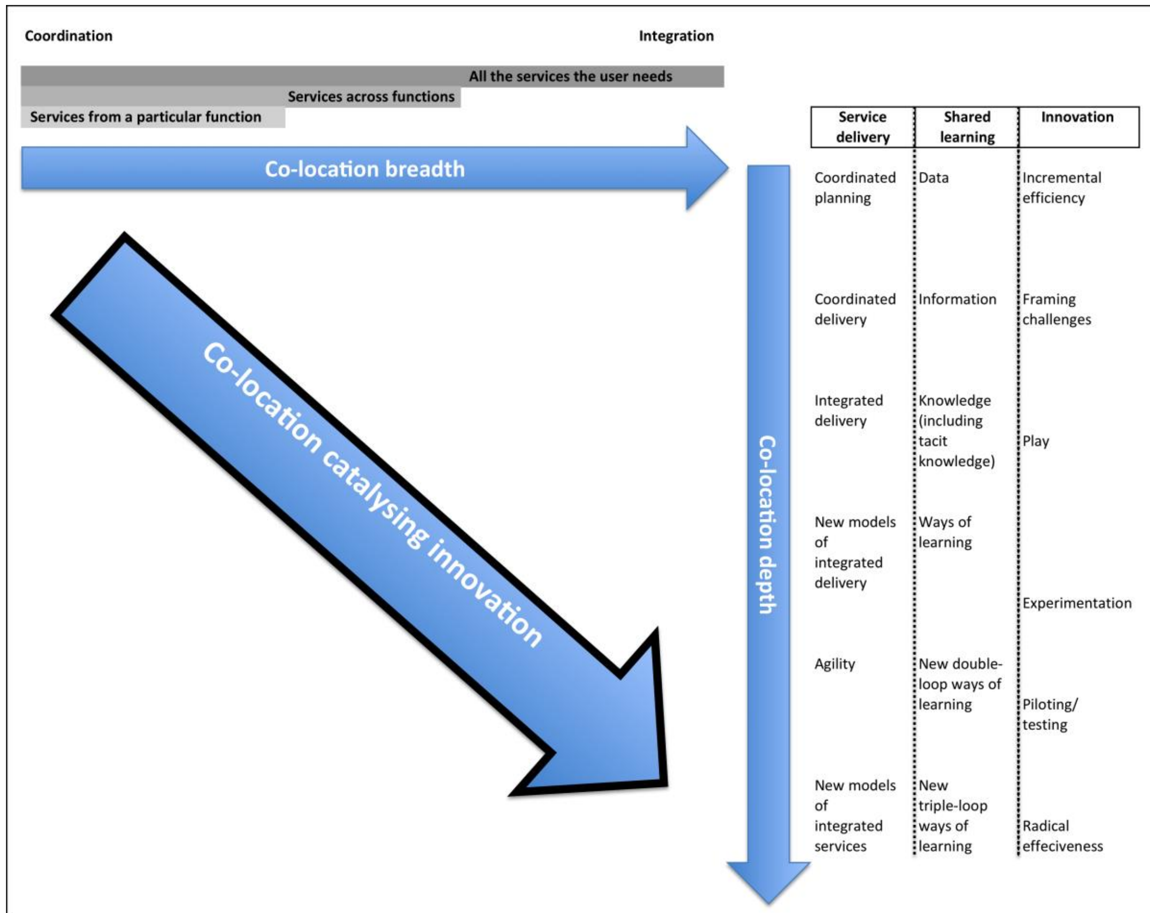

Figure 1: Framework of co-location and innovation

Breadth

Across the top of figure 1 on a continuum ranging from coordination to integration of services are shown a *breadth* of co-located functions beginning with a single function (e.g. a police station), wider breadth introduces associated functions (e.g. court, cells, criminal justice social work) and finally the ideal type or all relevant services, such as in this example of local council and healthcare services.

Depth

Co-location is conceptualised in figure 1 not as space, rather the creation of new place characterised by new forms of interaction amongst service providers: these are shown in three columns – service delivery, shared learning and innovation. These are selected to capture that stability and change characteristic of innovation processes of active

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organisations. Other possible variables in a complete evaluation framework would include also costs, access, risk and affordances enabling service models.

Service delivery

Organisations deliver public services as a statutory duty or in response to local needs; either way invariably they innovate (change) whilst continuing to deliver services (stability). The first column to the right of figure 1 captures this, indicating that as co-location enhances degrees of service integration, provided the organisation is able to restructure and re-strategise (agility), then new models of integrated services will result.

Shared learning

Who is learning: since all service systems involve co-production both (traditionally separated) providers and users learn. Here our focus is on staff (internal customers) learning from each other, Kinder (2010) and Kinder *et al* (2015). What is being learned is how (radical or incremental) service redesign (co-design) can improve services; in particular to improve processes (for example in joint assessments or coordinated visits) or final user service experience (for example early discharge or personalised service package choices), see Laitinen *et al* (2015). Motivation to learn is two-fold: firstly commitment to the service experience, secondly internal targets such as cost-downs and thirdly professional commitment to doing the best job possible (Sennett 2003). We take a Vygotskian social learning perspective (Wertsch 1985) in which cognitive and social processes referencing cumulated experiences (including heuristics) make sense of new ideas (from play or discourse) to re-envision artefacts (in this case services) using *expansive cycles* of learning (Engeström *et al* 2007) that digs ever more deeply into cause and effect. Important tools such as identifying service touch-points and emotional attachments are likely to feature in these learning processes. Note that such learning processes are far removed from top-down programmed change (such as lean initiatives and supposed best practice transfers in formally recorded knowledge management repositories). Cross-disciplinary learning is likely to feature creative tension around nomenclatures, standards and inherited ways-of-working (Kinder, 2012). Informal social learning (such as play) only results in service improvement when the environment enables *distributed learning* (Nardi 1996) and experimentation. Learning then focuses on the service: action learning in the tradition of Pedlar et al. (1991) and Raelin (2000).

Innovation - play and experimentation in co-location

Our argument is that work and play are not binary and that co-location enables play in the sense of leading activities ("what about," "why can't we …") that can envision new structures and rules for services. Since Froebel (1895) the early nineteenth century work, we have understood that adult friends, partners and workmates enjoy playing, luxuriating in meandering conversations or mind games and that this is important for learning. In

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suggesting that play is an activity enjoyed for its own sake, Dewey (1909) was not intending to suggest that it is meaningless. Play hones creativity and social bonding breaking down functional barriers (Granovetter, 1973) in an amusing way; March (1976:81) *Playfulness is the deliberate, temporary relaxation of rules in order to explore possibilities of alternative rules.* Vygotsky (1987) calls this *leading activities* – imagineering that may result in emergent conceptualisations – play is cognitive, affective and verbal; and as Huizinga (1949) argues new rules and structures. Following Vygotsky, Mainemelis and Ronson (2006) suggest five elements to play, which they insist is a behavioural attitude, rather than simply an enjoyable set of activities. Play occurs at the threshold between reality and falsehood, what Coleridge called *that willing suspension of disbelief for the moment, which constitutes poetic faith*. Play is festive (Huizinga, 1949), occupying time and space outside of work and ordinary life, taking people into flows of 'what-ifs' (Csikszentmihalyi, 1990). Albeit with structures, such as games, play entails uncertainty and surprise that entertain. It is an enjoyable journey to a goal, rather than the most efficient way route. Finally, play is affectively positive; it results in desirable emotions.

As Burawoy (1979) showed people at work find ways to play though the cognitive spontaneity for playfulness is unevenly distributed: women according to Glynn and Webster's (1992) Adult Playfulness Scale are more playful. March's (1976) point is that work discipline and structures are designed to suppress play, highlighting the tensions between stability (work) and change (creativity). This is why Weick (1998) suggests that thinking of organising rather than organisations is more useful: the latter focuses on functions the former on goals. People learn (and take therapeutic solace according to Levy (2011) when amusing themselves with 'what-ifs,' what Linkner (2011) terms *disciplined dreaming*. The learning results from new ways of seeing issues, new combinations of ideas across disciplinary boundaries; in short creativity and innovation. Of course some play at work is simply distractive, (for its own fun sake), like any cognitive activity, as Ricoeur (1995) argues, one cannot predict which paths not to follow or which paths to follow result in worthwhile new cognitions.

In Goffman's (1974) idea of framing as schemata of interpretation, consciously selecting and privileging (Entman, 1993) some thought-strands as more relevant than others. We will show that service user needs can frame play and experimentation with innovative ideas. There are many examples of play resulting in creativity and innovation in business literature. Semler (2003) describes how playfulness at work helped grow his Brazilian services company by encouraging creative thinking outside of traditional structures and authority: play he argues produces more innovative thinking than business techniques. Capodagli and Jackson's (2010) analysis of Pixar (famous for the children's' films such as Toy Story and WALL-E) is that focus on quality comes from playing, dreaming, experimenting and *never compromise on your dreams*: playing with ideas, images and

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feelings produces creative innovation. Isaksen *et al's* (2000) study concludes the organisations embracing play are more innovation.

In summary, unlike many previous researchers who see co-location as primarily cost-saving, our view is the co-location unleashes creative and innovative potential, in part by making new playmates available.

3 Method

Research design

Our research design is exploratory, following Stebbins (2001) we strive for new insights and understandings capable of providing managers with lessons and setting a research agenda that focuses on innovation processes inside co-located services. In our framework we develop what Bulmer (1969) terms as *sensitizing concepts* to guide further research and sense making, outside of established definitions. Our overall approach is constructed grounded theory (Charmaz, 2006; Mills et al., 2006; Glaser 2002) since whilst we use figure-1 to structure our data gathering, which we then subject to thematic analysis, we distil our learning into the figure-3 framework as a contribution and guide to further research.

We rejected using Quantitative comparative analysis (QCA), which aims to bridge the gap between large sample quantitative data and small sample quantitative data (validity arising from typicality and depth), where the quantitative data is (a) "more than a handful of cases," and (b) gathered at a macro level where Boolean algebra is systematically used to cross-reference between dichotomously generated categories in 'truth table' (Ragin 1989; Goldthorpe 1997) Often applied to meta-analysis of other people's research, QCA most usefully assembles causal relationships from macro-sociological data or (Miles and Weizman 1994) category formulation based on logical deductions from values ascribed to each variable. As Hug (2013) point out, the ascribing of values to variables introduces an illusion of precision. We considered using QCA as a method of analysis, however, we decided that unlike (for example) Blackman's (2013) work on teenage pregnancies, our data is not meta and that OUR METHOD is preferable since we wanted to inquire into less quantifiable results of co-location. Our 28 interviews resulted in five case studies; following Weitzman and Miles we consider this too small to apply QCA.

Our unit of analysis is the Community Health Partnerships (CHPs). Historically in the UK, social (care) services and NHS healthcare services are funded, delivered and organised by two separate sets of organisations: local Councils and the NHS; each with

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their own budgets, accountabilities, professional staff, standards and cultures. Coordinating these services is a major policy challenge (NHS Confederation, 2013; Robertson, 2011). A series of policy/ legislation initiatives in Scotland, from 2001 aims to bring the two sets of services closer, and in 2005, CHPs were born. Two types of CHP have evolved: one integrating health services only and the other combining health and social service across NHS/Council boundaries (see Forbes and Evans, 2008 and Watt *et al* 2010). Effectively, both types are subcommittees of NHS Boards. The 36 CHPs are configurable to local needs ranging from data and planning coordination to pooled resources and joint delivery (Scottish Government 2010; Audit Scotland 2011).

Some health Boards and Councils are not exclusively co-terminus, for some rurality is a major issue; we therefore selected a sample (figure 2) size of five, since a small pilot study of the questionnaire revealed the importance of rurality (cases 2, 3 and 5 being defined in terms of population density as semi-rural). These cases share commonalities principally that they are charged with closer coordination between health and social services. However, since the CHPs they have adopted different coordinating models, in different timescales, it is not possible to take a before-and-after look at their co-location, instead we take a snapshot of practice in mid-2014.

Since our focus is on non-financial results of co-location, our research is qualitative. We choose a case-based approach since as Yin (2009) notes this is suitable for exploratory research in which concepts are emergent. Our study is cross-sectional since we compare between the five cases. Previous researchers such as Forbes and Evans (2008) use a similar method.

Data capture, presentation and analysis

This study explores the views of 25 senior NHS and Council managers across 5 CHPs in Scotland using cognitive interviews, focus groups and documentary analysis (see figure 2). Participants are senior managers in CHP Management teams delivering health and/or social services. The questionnaire was piloted with four Managers, subsequent to which wording was amended and issues of rurality given more prominence. Interviews employed a cognitive conversation method (Geiselman *et al,* 1985) allowing respondents to choose their own terminology and sequencing.

Our results section clarifies concepts that can provide testable hypotheses in later research and triangulates with existing theory, structured by themes that emerged from rigorous coding of transcribed interviews. These are (1) degree of co-location experienced; (2) Positive enabling features and opportunities from co-location; (3) contested features and challenges of co-location (areas for improvement); (4) co-location facilitating shared and new learning; and (5) co-location facilitating service innovation. We also seek counter-factual evidence and draw attention to reported negative aspects of

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co-location. Open and paragraph coding was employed as recommended by Charmaz (2006).

Validity and generalisability

This is an interpretive inquiry: we socially construct rather than 'discover' facts (Rabinow and Sullivan 1985); what Yanow (1999; 2003) calls *meaning making.* Thus, as in all social research, causal relationships are inferred and constructed narrative and analysis, noting the emergent nature of the practice and hybrid forms of governances in the cases.

Case	Population Density	Co-terminosity	Respondents	Positions
CHP 1	*Urban*	*Exclusively Co-terminous*	R1	Localities Manager
			R2	Associate Nursing Director
			R3	Head of Physiotherapy Services
			R4	Director of Organisational Development
			R5	CHP General Manager
CHP 2	*Semi Rural*	*Co-terminous*	R6	CHP General Manager
			R7	Lead Nurse
			R8	Assistant Head of Social Services
			R9	Service Manager Social Services
CHP 3	*Semi Rural*	*Exclusively Co-terminous*	R10	Associate Medical Director
			R12	Head of Children Services
			R13	Development Manager
			R14	Head of Planning & Performance
CHP 4	*Urban*	*Co-terminous*	R15	Joint Manager Learning Disability Service
			R16	Head of Health Improvement
			R17	Children`s Services Manager
			R18	Head of HR
			R19	Localities Children's Services Manager
			R20	Head of Specialist Children's Services
			R21	CHP Director
			R22	Head of Primary Care and Community Services
			R23	Head of Organisational Development
CHP 5	*Semi Rural*	*Co-terminous*	R22	Head of Primary Care and Community Services
			R25	Head of Health Services
			R26	Primary Care Manager
			R27	Senior Manager Community Care
			R28	Head of Council Services

Figure 2: Respondents and dataset

Since causal relationships are based on participant's comments and the believability of the case narratives, we are unable at this stage to suggest theorisations (Llewelyn, 2003), though we reintegrate our work with previous literature (Miles and Hubermann, 1984). Our conclusions (see Alvesson And Sköldberg, 2000) suggest a revised framework for

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further research and tentative conclusions needing re-contextualisation (Burns and Grove 1999:296). Validity and trustworthiness in ethnographic research rests on honestly gathered data, honestly interpreted, respecting alternative interpretations (Angen 2000). In this we are following pathways trodden by such as Parasuraman *et al.* (1985) who took insights from four cases to create a conceptual model for service quality, that has since been validated as the SERVQUAL framework (Parasuraman *et al.* 2005); Uys and Basson's (1991:38) characteristics of exploratory research and Jensen and Karpos (1993) who used exploratory method to problematise over-stretched concepts.

This qualitative research aspires to internal (logical, conceptual robustness) validity, providing the scaffolding for further research testing concepts as hypotheses, with a wider array of cases and quantitative data to strengthen external validity. Our work was non-interventionist and granted level-1 ethical consent.

4 Case Studies

The five short Community Health Partnerships (CHPs) share the commonality of each seeking to more closely coordinate local health and social care services, however, they set about this in different ways, including different approaches to co-location. Respondents requested anonymity and therefore we term the CHPs 1,2,3,4 and 5.

4.1 CHP-1

Degree of Co-location

The small number of co-located staff incidentally results from inter-agency joint projects and is not strategic objective, as (R1) Localities Manager says, *Internally in health the out of hours service is co-located on some sites with some of the acute services.*

Positive Enabling features and opportunities for co-location

What co-location exists is viewed positively as augmenting cultural understanding and coordination of operations, the Physiotherapy Head of (R3) notes, *The benefits are that you begin to understand each other's role and remits so much quicker.* Director of Organisational Development (R4) sees advantages in close working between disciplines: *I think bringing people together to exchange experiences, to network, to learn from each other is vital .. establishing those personal relationships, and developing an intimacy and ultimately the trust between each other*. In summary, managers see the advantages of co-location, despite having little of it.

Contested features and Challenges of Co-location

Co-location is seen as troublesome and unnecessary; purely symbolic. Whilst NHS Health Centres were designed with space for social workers, the Council would not locate

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its social workers in them. For example, the CHP General Manager (R5) comments that *the co-location issue is a bit of a red herring. Because what is required is the right measure of care and that the staff should be wrapping themselves around, in forming themselves into teams that provide the best care. But I think that it is also important symbolically.* Co-location in CHP-1 is a contentious issue.

Co-location facilitating shared and new learning

Some respondents highlight the importance of informal learning between co-located staff, for example the Director of Organisational Development (R4) notes that, *I think co-location is very good because it breaks down the barriers. Instead of just doing it as a formal learning approach, bringing people together in action learning … people working in the same office, begin to form these relationships organically.*

Co-location facilitating service innovation

Although some interviewees favour more co-location, its effectiveness as a catalyst of service innovation is contested. The CHP General Manager (R5) feels it is a physical symbol for politicians to point to, though the LHCC Localities Manager (R1) emphasises that building relationships from closely working together *does contribute actually to better integration and better services for patients or clients* a view endorsed by the Associate Nursing Director (R2) who argues that issues over terms and conditions will be resolved only *when you actually have people co-located.*

4.2 CHP-2

Degree of Co-location

Co-location is occasional - heath and council staff project or placement; more co-location is anticipated (but not planned): the CHP General Manager (R6) says *We have got co-location on this site, we're looking at bringing more social work onto this site.* However, managers are sceptical about the benefits. A Lead Nurse (R7) says, *Yea, well we have had that to some degree, because in xxx we co-located district nursing, health visiting, a lot of the AHP teams and community care teams.* (Lead Nurse, R7) and the Assistant Head of Social Services (R8) *I don't know why people would not look at reducing buildings through integration if they could.* In summary, co-location may be extended for efficiency reasons.

Positive Enabling features and opportunities for co-location

Reflecting contradictory views on co-location, the CHP General Manager (R6) takes a wider perspective on co-location, *It breaks down that barrier in terms of sharing things … it encourages solutions, quick solutions.* Some managers mention cultural, operational and financial advantages; co-location and integration are used synonymously.

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Contested features and Challenges of Co-location

For some managers co-location as unappealing because it is synonymous with service integration as the Assistant Head of Social Services (R8) says, .. *we sometimes fall into the trap of saying co-locating is joint working, when its not. I have seen many examples of services that have been co-located but never talked to one another; you achieve nothing.* Rural Managers are worried that co-locating teams separates them from senior managers. Noting membership of central and decentralised teams, the CHP General Manager (R6) says, *, so where does my principle loyalty lie in terms who I am co-located with.* This dilemma, a Lead Nurse (R7) points out, is especially sharp in a rural setting pointing out the cost of co-located facilities and the difficulties arising separating teams from senior manager who may be centrally located.

Co-location facilitating shared and new learning

Managers emphasise decision speed rather than innovation resulting from co-location, the CHP General Manager (R6) comments, *I think it does enhance relationships and it potentially enhances solutions quicker solutions to things.*

Co-location facilitating service innovation

Co-location is seen as beneficially reducing costs. However, it is not a driver of integration as a form of service improvement. As the Assistant Head of Social Services (R8) comments, *I would imagine though that we will be looking at co-location for efficiency reasons only* a view echoed by the Service Manager of Social Services (R9).

4.3 CHP-3

Degree of Co-location

Co-location is not systematic and whilst its expansion is envisaged, in resource planning it competes with other strategies: since rurality is a major issue co-location synergises with one-stop-shop provision: the Head of Children Services (R12) states, *In a rural setting ... which is a huge area, trying to pool people together can be difficult. So we would co-locate staff tomorrow if it was possible.* Head of Planning and Performance (R14) says *definitely and absolutely, co-location is high up there on the agenda.*

The Associate Medical Director (R10) comments, *We have had a programme of co-location for several years* a model that the Strategic Development Manager (R13) suggests is in process. Head of Children Services (R12) spoke of Early Years Centres though without back-office co-location (building constraints). Disability services co-located six years previously, a one-stop-shop *locality model*.

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Positive Enabling features and opportunities for co-location

Co-location is an important component and driver of service integration. All managers emphasise positive aspects of co-location. The Associate Medical Director (R10) says, *I don't think you can integrate services unless people are co-located* and the (Head of Children Services (R12) sees co-location as essential to close inter-disciplinary team working based on *inter-personal relationships*. The Joint Manager Learning Disability Service (R15) too comments on the advantages of co-location for service innovation.

Contested features and Challenges of Co-location

Whilst lauding the principle of co-location, managers are aware of practical challenges: professional identity, IT and co-locating the senior management teams. The Associate Medical Director (R10) points to, *People fear being moved away from their professional family. ....., you cannot overestimate the personal anxieties it causes for people.*

IT systems integration is a major challenge; the Joint Manager of Learning Disability Services (R15) says it is *one of the biggest things that is absolutely critical to the whole business* a view Head of Planning and Performance (R14) points to the inefficiency of separated *data collection systems, patient systems,* though the Head of Children Services (R12) suggests that IT interoperability is important, though shared space without beneficially effects services.

Another challenge is co-locating the senior management. The Associate Medical Director (R10) suggests co-locating senior management teams is just as important as front-line staff.

Co-location facilitating shared and new learning

Managers equate co-location with multi-agency working and changing managerial functions; the Joint Manager Learning Disability Service (R15) says, *So I think it has been incredibly successful and the spin off of learning across the professions and the whole strengthening of the multi-disciplinary approach is very evident.*

Co-location facilitating service innovation

Co-location is identified as component of integration and the change process and considered to have a direct impact on service improvement, for example the Joint Manager Learning Disability Service (R15) states, *Joint working goes on in relation to projects. Collaboration on different pieces of work and that is fine, but it doesn't bring about the flowness of integration.*

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4.4 CHP-4

Degree of Co-location

Co-location is limited to joint projects and not systematic: following the 'divorce' from the organisationally-integrating Community Health Care Partnership, the Council and the Health Board both value organisational independence. The Head of Health Improvement (R16) points to three new health centres jointly housing social workers whilst the Head of Specialist Children's Services (R20) points to previously co-located staff now separated.

Positive enabling features and opportunities from co-location

Co-location, Head of HR (R18) believes, has cultural advantages, improves communication and enables separate agencies to collaborate and delivery joint services, whilst, organisational merger is dangerous. The Localities Children's Services Manager (R19) says .. *finance decisions and things like that worked better because they were co-located.*

Managers emphasise the need for joint working where there is no co-location; a Children`s Services Manager (R17) points out, *we work just as closely when we weren't together.* Other managers (from health and Council services) prefer to co-locate, for example a CHP Director (R21) says, *.., just to have at any level, people across the corridor to be able to talk .. it makes utter sense to do that.* A Localities Children's Services Manager (R19) comments, *It's creating that social capital. What you get consistently is that you get people together in these areas; they understand their roles better.*

Contested features and challenges of co-location

Managers highlight issues such as accommodation (R21), terms and conditions for integrated staff, loss of managerial authority, resistance to change, communication amongst staff, IT systems and lack of infrastructure: many of these issues reflect failed organisational integration. The Head of Organisational Development (R23) suggests, *The difficulties we came across were related to the human factors around resistance to change* and the Head of HR (R18) says, *Because people are with each other, doesn't mean they are talking to each other.* During the CHP period some staff resented as the Head of Primary Care and Community Services (R22) reveals, *... different people working in the same jobs on different pay scales and different terms and conditions ,.. there's a real rub and causes huge tension.* In general, managers saw IT as a major issue associated with co-location and service integration. The Head of Organisational Development (R23) reflecting on the CHP experience comments, (the) *biggest difficulty was IT where everyone was on different systems ... People ended up with two computers on their desks.*

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Co-location facilitating shared and new learning

Co-location promoted learning about service improvements. The Head of Organisational Development (R23) comments, … *the difference between individuals and seeing the bigger picture, is hugely helped by people being able to talk to each other about it and to understand where they are coming from* a view the Head of HR (R18) endorsed.

Co-location facilitating service innovation

Managers state that co-location can help service innovation; in the Head of Health Improvement's (R16) terms, *the flow of people between services that becomes easier.* The Head of Organisational Development (R23) *It's helpful and positive for people to be co-located even if services are not integrated ... co-location was one of the most important things that could be done to work collaboratively,* though the Head of Health Improvement (R24) points out that creativity occurs in separately located settings: *you can't say if in comparison to people who aren't co-located, that staff are somehow more creative or innovative. They are just more creative and innovative in different ways ...*

Reflecting the generally held view that co-location and integration are synonymous, the Head of Primary Care and Community Services (R22) says, *I think it depends on the level to which they being integrated down to, the last time we integrated right down, we had local teams co-located and working together.*

In summary, co-location is unsystematic in CHP-4 and whilst managers see its advantages the negative heritage of the failed CHP service integration dominates.

4.5 CHP-5

Positive enabling features and opportunities from co-location

CHP-5 systematically co-locates health and social service, often in one-stop-shops alongside other public and community services; Health, Police, Fire, Court and Council leaders are co-located in a purpose-built Civic Centre and services integrated under a new hybrid organisation.

Managers enjoy what R28 calls *the spontaneity of it all* discussing ideas and problems with staff from other disciplines, what R27 refers to as the *advantages and benefits of holding informal corridor conversations.* CHP-5's facilities are open plan, which Managers note stimulates social interaction between previously siloed disciplines as the Head of Health Services (R25) notes, *There's also because when you're co-located and you maybe have someone sitting with you, and suddenly you have got a dilemma of something that comes up, then it will be let's just go outside for a minute and can I just*

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ask you a question. And they get the answer there and then and they come back in, so it informs that discussion.

Interestingly, the Senior Manager Community Care (R27) draws attention of building layout and group dynamics. *The advantage of being in open plan is more than co-location itself; co-location in separate offices will make no difference, because that was our experience. You work in your siloes, your work in your office and in your boundary. … the benefit is around the 'shared' office space, not about necessarily co-location as co-location on its own.*

Contested features and Challenges of Co-location

Every manager favours co-location. Issues do arise, for example R28 highlighted noise levels and the importance of quiet space and private meeting rooms. A major theme in CHP-5 is integrating the IT systems inherited from the participating organisations. Even after ten-years of service integration process, Senior Manager Community Care (R27) points to heritage IT systems still being integrated. As the Head of Health Services (R25) notes, IT integration is not a problem of confidentiality (which is presumed) rather it is heritage data, access protocols and terminologies. The Head of Council Services (R28) suggests that *Its just IT function have the challenge of linking it all up.* Senior Manager Community Care (R27) suggests these are challenges within and also between organisations.

Co-location facilitating shared and new learning

The major advantage of co-location for these Managers is learning, often in informal settings and even beginning with playing intellectual games about what terminologies mean or how processes can improve. As the Primary Care Manager (R26) notes, *As long as you have a very clear objective and how you're going to do it, then that will work very well.* Senior Manager Community Care (R27) notes that shared assessments has proven a useful driver of learning and system innovation; learning the Primary Care Manager (R26) suggests is now *embedded in our processes.* Several managers spoke of playing with new ideas as the origin of service innovations, examples cited include services for children at risk and debt recovery.

Co-location facilitating service improvement (integration as innovation)

Managers deem co-location as means of shared planning and implementation of change, service improvement and innovation. The Senior Manager Community Care R27) suggests that goal congruency is critical. *I think that innovation does occur but I think what's particularly positive about CHP-5 is that it occurs within an environment of shared strategic goals. For example we have done quite a bit of new things in the last 2 or 3 years mainly around re-shaping care for older people but that's been done within a*

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context of a shared strategic vision, so that then might have translated into innovation within one agency or another. These goals, Head of Council Services (R28) are output driven. *At the end of the day, what we are interested in is outcomes for our customers or clients or patients. If they get better service where in one visit they can get multiple services through such resources then that's key success.*

5 Discussion

Our motivation for this research was dismay at the narrowness with which co-location is currently conceptualised, even as it diffuses as a strategy: our argument is that co-location is itself an innovation and also an environment catalysing further innovations. Taking a service-dominant logic perspective (Vargo and Lusch, 2008; Osborne *et al.,* 2013) and highlighting the trend towards integration between local service providers, we argue that co-location is itself an innovation and further, that it catalyses *effective* service integration innovations, by creating a learning environment that stimulates informal learning (including play). In doing so we dispute much of the literature on co-location, such as Bichard (2009), which frames co-location narrowly as a cost-saving *efficiency*.

We note that some managers are sceptical about any benefits from co-location: CHP-2 managers are divided, with some seeing co-location in a rural setting posing resource (change-over) difficulties and challenges in where Senior Managers should locate. CHP-4 suffered a failed organisational integration and especially the Local Council managers cannot disassociate the HR challenges arising from organisational integration with those of co-location. Nonetheless, these Managers are a minority: overwhelmingly Managers we interviewed see co-location as advantageous to services and an environment spurring peer-to-peer action learning resulting in service innovation.

5.1 Contested features and Challenges of Co-location

Acknowledging (cases A and B) that rurality poses particular issues for co-location; we conclude that the more CHPs experience co-location the less contested it becomes. In CHP-A where co-location is seen as troublesome, unnecessary and symbolic, it remains a contentious concept. Similarly CHP-B refers to co-location as unappealing in practise, raising concerns that increased co-locating of teams between agencies would disconnect teams from their respective senior managers because senior managers were not in position to co-locate. Whereas CHP-C and CHP-D who believe in the benefits and opportunity of co-location and have more frequent co-located service delivery, they highlight the practical challenges of co-location such as resistance to change from staff, loss of managerial authority and terms and conditions of employment for co-located integrated staff. CHP-E systematically uses co-located teams to jointly deliver services

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and uses the challenge of integrating IT, finance and HR systems as an opportunity to modernise.

5.2 Degree of co-location experienced

In the case of CHP-1 and CHP-2, co-location is incidental, occasional and not strategically intended: managers view it as resource efficiency: co-located services are anticipated but not planned. In contrast CHP-3 envisions co-location as a service improvement strategy and even though not yet systematically involved in delivering co-located services, it makes sporadic use of co-located projects and programs running across different localities. Management see value in it, seeking to expand co-located services and overcome the difficulties posed by rurality. CHP-4 from its prior experiences of health and social care integration is acutely aware of the benefits co-location carries vouching for its beneficial service innovation outcomes. Co-location though frequent is limited to joint projects between health and social care; managers identify co-location as a useful tool for delivering effective joint services but are negative about it as a tool for organisational integration. In contrast to the varying degrees of experienced co-location, CHP-5 systematically and strategically co-locates services in purpose built centres and delivers joint co-located services constantly. The strategic intent for co-location as a driver of change is shared by health and social care agencies. A sense of joint goals and target setting exists while the joint learning opportunities that arise out of being co-located are emphasised. CHP-5 has regular systematic use of co-location, its management recognises the value of shared space supporting a shared vision, shared innovation and implementation whilst CHPs that have project based and non-systematic use of co-location envisage it only in terms of cost savings.

5.3 Positive Enabling Features and opportunities of co-location

As the use of co-location increases managers become aware of its non-financial benefits, especially learning and service innovation. CHP-1 makes little planned use of co-location; managers envision only efficiency benefits. CHP-2 has a similar low level of co-location; managers hold contradictory views about its benefits, suggesting that service integration is achievable without co-location and co-location may not result in service integration. CHP-3 has a culture of localising service delivery while envisioning the benefits of co-location; all managers associate it with cultural, operational and monetary advantages, highlighting relationship building as an outcome. CHP-4 experienced organisational integration and has a history of coordinated service delivery; managers question the value of co-location. Even though managers in this case vouch positively for the cultural, operational and monetary benefits that co-location carries, they are wary of co-locating as leading to organisational merger. CHP-5 enthusiastically embraces co-

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location highlighting the strategic development of *co-located space* and *co-located group dynamics* as catalysing innovative joint service delivery.

5.4 Co-location facilitating shared and new learning

Where there is systematic co-location in practise and it is envisioned as beneficial to service innovation, we encounter informal learning, speedier decision-making, learning a multi-agency approach and changing managerial functions in CHP-5. CHP-5 is characterised by management learning in informal settings, playing intellectual games, with terminologies exchanged and negotiated, highlighting that the gains from co-location reach much deeper than efficiency savings on build costs into the effectiveness of services. For example, 'shared assessments' and 'embedded learning' are identified as processes and drivers of service innovation that are resulting from co-location. The experience in CHP-5, (and in part CHP-4), support our emphasis on play as relevant to learning and innovation, drawing from the work of Vygotsky (1997), Huizinga (1949) and more recently Csikszentmihalyi (1990). Moving along the spectrum, CHP-4 uses project based co-location as a means of improving services facing challenges; for the other CHPs, co-location is a tactic to reduce accommodation costs.

5.5 Co-location facilitating service innovation

Our argument is that co-location may save on accommodation costs and enable shared services (such as IT, finance and HR), however, greater gains result from action learning resulting in novel, more effective, service models. Despite little experience of co-location, CHP-1 discounts the possibility of effectiveness gains; CHP-2 privileges organisational autonomy above service effectiveness; and CHP-3 whilst convinced of the efficiency and effectiveness gains resulting from co-location faces the genuine issue of resource scarcity, issues associated with rurality and concern at disconnecting senior managers from service teams. CHP-4 managers know from experience that co-location results in service innovation, however, they fear accompanying organisational merger and prefer to promote service integration without co-location. CHP-5 makes explicit the use of co-location as conscious design and tool to innovate service. This is not evident in other cases where co-location is only considered or perceived to facilitate service improvement and innovation. In other words, others intend to use co-location to improve service but CHP-5 is using co-location to improve services.

5.6 Other data supporting our conclusions

It is difficult to isolate innovations as the result of co-location only, as opposed to associated process, such as service integration or multidisciplinary working, changing

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culture and leadership. Since Womack and Jones (1996) and MacDuffie (1997) we have understood that bringing disparate expertise together create innovative solutions; a trend reflected in conferences such as Visions of Work (2016) and acknowledged even by those highlighting the cost-savings from property of co-location (such as Kearney 2005). To our knowledge no quantitative work has been done cost-benefitting innovation arising from co-location, though Kinder (2012) refers to council-level cost-benefit computations. Research such as Wally (2003) highlights evidence supporting our conclusions, as does CHP (2011). As Solow (1956) concluded, after accounting for the efficiency gains from investment, the residue of improved performance is attributable to innovation: a case for further research.

6 Conclusions and suggested framework

In answering out research questions, the case show that whilst a minority of managers express contrary views, the majority believe that co-location is an innovative strategy to employ in delivering local social and health care and that it catalyses innovation as a result of peer-to-peer learning.

Is co-location an innovative strategy? Our cases reveal that it is where public service agencies also have a strategy of integrating services, including back-office IT, finance and HR services. Co-location as an accommodation cost-saving strategy may be worthwhile, however, we believe that creating new service models are more likely to reduce costs in the long-term and service innovation as the CHP-5 case illustrates is both a result of new (integrative) service models and an enabler of such innovation.

How does local public service co-location catalyse innovation processes? CHP-1/2/3 cases illustrate that 'islands' of co-location whilst beneficial for user access, fail to result in radical innovation. One reason may be the absence of service-wide IT, finance and HR function integration, another reason can be the absence of devolved authority to the co-location teams to experiment and propose innovations. CHP-4's case illustrates that shared understandings were strengthening in co-located settings, however, the absence of shared governances (i.e. financial or HR) led to senior management distrust and fear of organisational merger. CHP-5 illustrates co-location resulting in service innovations: building shared understanding and trust, engaging closely with service users, encouraging experiments and proposals for innovation in an overall atmosphere of informal learning and playing with ideas. This last case aligns closely with the idea of service-dominant logic in public services (Osborne *et al.,* 2013), one aspect of which is the creation of multi-disciplinary learning environments focusing on effectiveness of delivery with co-producing users. We note in Case-E the importance of playing with ideas of service innovation in the learning processes.

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Figure 1 represents a single service area, showing that the wider the breadth and deeper the depth of co-location the richer its impact on service deliver, shared learning and eventually innovation. Though our research is exploratory, the diversity of attitudes towards and experience of co-location in our five cases, suggests there is some usefulness in this framework for further research. In figure 3 we replace the top-line coordination-integration continuum with a metric of co-location use (non-systematic is the accidental or rare use of co-location as strategy and tool; project based is sporadic or random use of co-location; and systematic is the intentional and regular use of co-location as strategy and tool). We then plot the five CHP cases on the arrow charting co-location as a catalyser of innovation in figure 3. As taking from the case studies CHP activity on joint-working/collaboration, shared and new learning and service improvement/innovation, we illustrate in figure 3 the benchmarked position of the five cases.

Further research may develop this benchmarking use of the framework using quantifiable criteria and a wider survey of co-location use in local public services. On basis of our qualitative data, we suggest that framing co-location simply in terms of cost savings on accommodation misses the important point of its catalytic role in innovation, especially where co-location is accompanied by a service integration strategy and the encouragement of informal learning, playing with new ideas and senior management willingness to support experimentation. In further research we propose to take the variables in figure 3 and explore more closely the learning processes arising in co-located settings.

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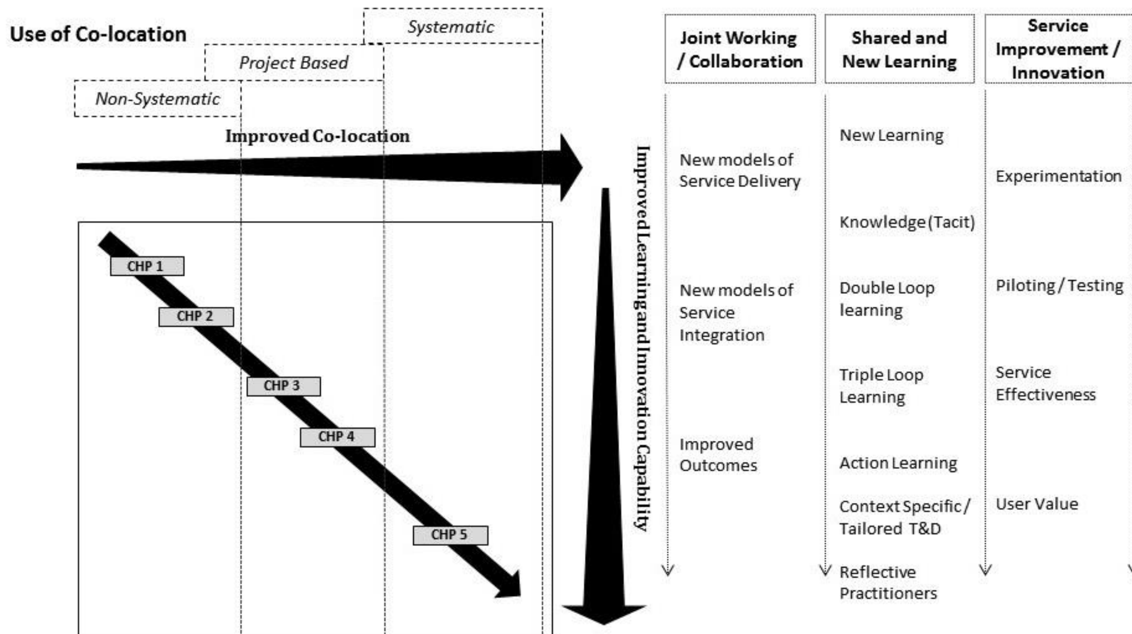

Figure 3: Co-location framework as benchmark tool

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