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ARTICLE

Remote care technologies, older people and the social care crisis in the United Kingdom: a Multiple Streams Approach to understanding the 'silver bullet' of telecare policy

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Abstract

The policy announcement in November 2018 by the Secretary of State for Health and Social Care that: 'from today, let this be clear: tech transformation is coming' indicates that confidence in care technologies, so apparent over the past decade in policy circles, remains unabated. This article suggests, based on evidence of significant limitations in technological solutions to care needs, that this confidence is misplaced. The focus is on remote care technologies – primarily telecare – which involve the passive or real-time monitoring of recipients, the majority of whom will be older people. These information and communication technologies (ICT) have been heralded by politicians, policy makers and industry interests alike as a solution to the challenges of demographic change and social care demand. While the research evidence suggests telecare works well for some people, in some circumstances, there are also significant complexities in its use, challenges presented to care relationships, and conflicting interpretations around its efficacy and cost-effectiveness. These critical issues have been marginalised in the mainstream discourse around telecare policy. This article explores the dissonance between this policy and the available evidence, drawing on a Multiple Streams Approach to analyse the emergence of, and continued confidence in, telecare policy based on a congruence of views across policy interests. To the extent that social care for older people is now in crisis, the article argues that the discourse around telecare represents an example of 'silver bullet' thinking: that is, too much focus on a single policy solution to address complex problems. Accordingly, the crisis in social care has deepened, without alternative policy proposals being available to address it. The renewed push for ICT-based solutions to this crisis in social care ought therefore to be viewed with some concern.

Keywords: remote care technologies; telecare; older people; Multiple Streams Approach

Introduction

The role to be played by care technologies continues to be at the forefront of policy making in health and social care in the United Kingdom (UK) with the announcement in November 2018, by the Secretary of State for Health and Social Care, that 'from today, let this be clear: tech transformation is coming. The opportunities of new technology, done right across the whole of health and social care, are vast' (*BMJ*, 2018: 1).

This article contends that, based on the experience of the past decade, this announcement needs to be tempered by recourse to evidence about the complexities of technologies in use in health and social care. The technologies focus of the article will be around remote care, based on information and communications technologies (ICT), in social care settings. These technologies have developed rapidly in the past decade, moving from basic home-based alarms and detectors to sensors for monitoring long-term health conditions and tracking of movement in people's homes and, more recently, GPS-based technologies which can track the movements, and health status, of people outside their home environments. These technologies cover social care, as well as aspects of health care and rehabilitation, resulting in the often imprecise categories of telecare, telehealth and telerehabilitation. As Pols (2012) argues, this is something of an arbitrary divide since they are all broadly aimed at human wellbeing, and thus suggests the term telecare should suffice. This is the term used in the discussion here; although documents drawn upon may also use related terminology to denote congruent technologies, the primary focus is around telecare in its use in social care settings. Recipients of remote care technologies in the UK have been preponderantly older people who are assessed as in need of care or support, and so the primary focus here will be the policy issues around telecare technologies for this particular group. The article draws on an expert conceptual review (Petticrew and Roberts, 2006) of the literature; that is, its focus is on research literature which offers evidence or commentary on areas relevant to the outcomes of telecare policy making, such as the juxtaposition around claims of its efficacy with the evidence from user experiences. Research-based literature is supplemented by use of 'grey literature' such as trade journals, which cover the views of telecare practitioners and clinicians, and government policy documents, in particular from the Department of Health and Social Care. The focus of the discussion is primarily on telecare in the UK, but contrasts are made with other, predominantly European, polities. That telecare development is neither so ambitious in the targets set for it, nor driven so centrally by national governments, in these other polities, offers a useful comparative element. Within the UK itself there are separate jurisdictions for the development of telecare policy between Scotland and England; the programmes are very similar in intent and implementation, and experience of each will be drawn upon to underpin the overall argument around the tensions between policy objectives and outcomes.

Telecare policy

Whether in terms of efficacy and scaling-up (Cartwright *et al.*, 2013), utility for users – both service users and practitioners (Pols, 2012; AKTIVE Consortium,

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2013; Greenhalgh *et al.*, 2016; Greenhalgh, 2018) or inchoate thinking around ethical context (Mort *et al.*, 2009; Eccles, 2010), the research evidence suggests that 'tech transformation' via telecare has been, at best, uneven over the past decade. While this research literature alights on significant beneficial aspects from the use of telecare – independence, living *in situ*, an added sense of security – these benefits might best be summarised as applicable to some people, in some circumstances, at some points in their lives. In short, it has been less of a panacea than policy agendas initially suggested. Based on their research around the complexities of technologies use in the Netherlands, Pols and Willems note this presumptive approach around the role of care technologies in the UK:

> The dubious status of promises and the unpredictable processes of domestication that are so hard to trap with standard research methods, make implementing telecare technologies on a large scale and on a top-down basis, as is done in the UK, a hazardous investment. (Pols and Willems, 2011: 496)

The hazards identified here are not only financial but operational, in that the UK has invested more heavily in remote technology solutions to health and care needs than other European countries, to the point where it has been recognised as a world leader (Dobrev *et al.*, 2013; Office for Life Sciences, 2015). As a 2017 European Union survey of the scene (Carrasqueiro *et al.*, 2017: 8) notes, 'coverage of the telemedicine services is not uniform throughout health-care institutions, within each country neither throughout [member states] when comparing with each other. Furthermore, the percentage of patients involved in telemedicine services is still very low'. In those countries which did invest more in remote care technologies than the European norm, the policy strategies are still noticeably less the result of centralised policy directives, and assumptions around projected usage, than in the UK (on the experience in Norway, *see e.g.* Moser and Thygesen, 2015; Berge, 2017; on the Netherlands, *see e.g.* Oudshoorn, 2011; Pols, 2012; Kamphof, 2013).

This article explores why care technologies have held such sway in policy circles in the UK despite evidence – from within the UK itself and across other comparable countries – that they embody a myriad of complexities in their implementation and, in terms of the policy promises around cost savings and quality of life, ambivalent evidence. The detail of these complexities have been well documented; the European Commission FP7-funded Ethical Frameworks for Telecare Technologies for Older People at Home (2011: 3), noted, in its introduction, 'the development of telecare systems for older people has largely occurred in industry or service contexts, while their social, ethical and democratic implications have received little or no attention' and alighted on particular complexities in telecare use, including the lack of sensitivity to the changing health and social circumstances of older people and the potential for a care-experienced workforce to be replaced by more generic call operatives. There have also been insightful case studies around telecare use, which point to a paucity of understanding around the complexities from actual user experiences, *e.g.* the limits to utility of standardised equipment, the lack of interoperability across technologies and the limitations of remote care technologies to deal with multiple morbidities (Postema *et al.*, 2012; Greenhalgh *et al.*, 2013, 2018), as well as the potential for social isolation in

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replacing human care with ICT-based devices (Eccles, 2015) and managerial, rather than user, decisions over their appropriate use (Mort *et al.*, 2013).

In light of this critical appraisal of telecare in use, the discussion here approaches the question from a new angle, namely how can this UK policy exceptionalism be explained, why does it persist, and what might be the wider social costs of such a 'hazardous investment' in this policy approach?

Conceptual approach

Addressing this absence of an overarching approach in the literature to explain UK exceptionalism requires not only exploring the policy direction, and the persistence of this policy direction in the face of countervailing evidence, but an explanatory conceptual framework. The framework employed here is a Multiple Streams Approach (MSA), first elaborated and subsequently revised by Kingdon (1995, 2011). An MSA has been widely used to understand policy formation (for overviews, *see* Cairney, 2012; Greer, 2015; specifically in its application to health policy, *see* Exworthy and Powell, 2004; Exworthy, 2008). Its strength lies in the conceptual space it affords for thinking through why some policy ideas – amongst so many competing possibilities – are particularly successful in coming to fruition as actual policy, and it will be argued here that it offers an explanation to understand the development of telecare policy in the UK. This in itself offers a new perspective.

As McConnell (2010) notes, there is no shortage of policy ideas that have foundered in their implementation in the UK. The particular significance of the complexities experienced in the implementation of telecare lie in the wider context of the circumstances of social care provision for older people in the UK. Social care has variously been highlighted as at a tipping point (Care Quality Commission, 2017) and 'beyond crisis' (Collinson, 2016). Thus, the weakness in translating policy into implementation here has more than just a passing interest for policy studies: it has had serious social impact. The article will argue that the particular circumstances of telecare policy development, unpacked conceptually by an MSA, will reveal an approach to the assumed role to be played by telecare technologies in social care for older people which amounts to a form of 'silver bullet' thinking – that is, over-reliance in a singular policy solution – that has distracted, or dissuaded, policy makers from adequately tackling the reality of the crisis in social care. The notion of 'silver bullet' policy thinking has been applied to a diverse range of social research, *e.g.* social control (Marx, 1995), but also poverty reduction (Ghosh, 2011) and the governance of public–private partnerships (Dunn Cavelty and Suter, 2009), each study highlighting the way in which policy solutions to complex problems have alighted on overly simplistic assumptions around the potential, and often assumed linearity, in implementation. These examples have all had consequences; in the case of social care for older people these are of particularly serious import given the prevailing crisis in the sector. Thus, the recent announcement that 'tech transformation is coming' to social care, in light of the experience of the past decade, adds to the apprehension that the 'silver bullet' is still firmly lodged in the policy armoury. The argument in this article is that this 'silver bullet' thinking around telecare is directly linked to what can be understood about the telecare policy process through the application of an MSA lens.

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The article is in three sections. First, it outlines the MSA. Second, it tests telecare policy in the UK against the MSA, offering evidence in support of the proposition that MSA is a useful and innovative conceptual model in this field of social policy. Third, it contends that MSA offers an explanation for the shortcomings of telecare policy implementation, and that pursuing the care technologies route, as renewed ministerial pronouncements would have it, risks deflecting further from the scale of the crisis in social care for older people. To this end, current policy may amount to a continuation of 'silver bullet' thinking around telecare, facilitated by a weaknesses in reflective policy making which can be exposed through application of an MSA to the telecare policy process.

The Multiple Streams Approach

Despite the substantial critical literature around telecare policy and its implementation, there has been, as noted earlier, very limited theorising about telecare in relation to policy analysis. Fujimoto *et al.* (2000) explored the issue in a case study of remote technologies in Japan, where the social conditions – an ageing population and strain on financial and labour resources – resonate with the current concerns of policy makers in the UK. Betwixt policy objectives and implementation, their study makes clear there are numerous complexities at play which resulted in implementation falling short of policy intentions. Apropos the UK itself, Barlow *et al.* (2012) have explored the organisational complexities of policy delivery, in detail, via a case study approach, noting that not all parties to the social care agenda are thinking or functioning congruently when it comes to implementation. The issues raised by these case studies remain relevant; in relation to the most recent push by politicians and policy makers for technological solutions to health and social care, Oliver (2018: 1) argues: 'The current over-claiming about technology seems to be a solution in search of a problem, driven by industry lobbying, marketing, the financial bottom line, and passive acceptance of workforce gaps'.

This article now turns to exploring this disjuncture, in the broader framework of analysing not just the problems of implementation, but the likelihood that these problems were inevitable given the incautious claims offered at the policy stage around efficacy, and the failure to shift policy direction when robust contrary evidence became available. It is clear from the research evidence already noted that complexities were not adequately considered nor factored into the framing of telecare policy nor its implementation, via both an under-appreciation of the intricacy involved at the end-user stage and an over-reliance on assumptions of linearity between policy intentions and user outcomes.

A multitude of models can be drawn upon to help conceptualise the policy process (for an overview, *see* Cairney, 2012). Across these different models there is some overlap but also considerable debate. Indeed, the desirability of 'modelling' the policy process has been challenged (John, 2012) as almost inherently unable to contend with the actual messiness of policy and its implementation. But policy models do have their uses, as they can allow the process of policy formation to be unpacked and scrutinised systematically, albeit this may be to a greater or lesser degree depending on the specific policy being explored. This article does now employ a conceptual model, in the form of an MSA (Kingdon, 1995, 2011)

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which, as already noted above, has been used across related fields. It will argue that this model – notwithstanding its broad scope – has particular utility in relation to telecare policy. Although Kingdon's application of the model was in the context of the United States of America, the MSA has gained traction across a wide range of policy arenas, both national and supranational (Ackrill *et al.*, 2013).

Kingdon introduces the MSA by stating: 'The phrase "an idea whose time has come" captures a fundamental reality about an irresistible movement that sweeps over our politics' (Kingdon, 2011: 1), but goes on to note the complexities of actual policy formation and the limited 'window of opportunity' wherein policy change might emerge. The key to Kingdon's argument – although Kingdon himself emphasises that MSA is not a precise schema – is the simultaneous congruence of three separate streams which 'couple' in this 'window of opportunity': the problem stream, the policy stream and the politics stream. The problem stream is where – amidst a myriad of potential policy claims – a very few particular policies develop momentum, sometimes in response to an impending crisis, and usually aided by the ability of policy advocates to demonstrate that a well thought-out solution is available to hand. The policy stream is where a particular (perceived) solution to the policy problem takes hold among policy experts and policy makers in the civil service and, as Greenhalgh *et al.* (2012) note in relation to telecare, starts to take shape as the dominant discourse in the policy field. In the politics stream, politicians have to have the motive and opportunity to pursue the ideas towards actual policy on the ground; these motives will include political pressures to resolve issues of particular concern to the (voting) public. Given the changing demographic, increased longevity and propensity of older people to participate in parliamentary elections (Ipsos MORI, 2017), long-term social care is just such a key political issue for politicians.

Crucially, the MSA analysis involves these three streams – of problem, policy and politics operating simultaneously in a 'policy window' – and as Exworthy (2008: 322) notes, 'The ability of policy-makers to "fix the window open" … will largely determine the long-term viability of the policy'. So the variables here will be the co-incidence of the three different streams within a given window of opportunity. It is the absence of congruence across these variables – the inability of the streams to 'couple' – which presents a particular challenge to successful policy formation. One of the critical reflections on MSA (Cairney, 2012; Rawat and Morris, 2016) is that its broadness may obscure some of the specifics and complexities of a given policy in its formation; in other words it has a wide scope, which is useful in allowing policy to be theorised, but is limited in its utility around a depth in capacity to theorise. But the obverse is that its very scope will allow capture of enough overall understanding to make some initial theorising – very largely absent to date in the literature around telecare policy – possible and accessible. Equally, given the extent to which an MSA has been deployed, over the past two decades, as an explanatory tool in policy case studies, there is the risk that it may become less an explanatory device and more a way in which policy developments can be made to fit the three streams approach – the downside, specifically, of its imprecision as a model (Greer, 2015). That caveat is noted, but as the discussion here unfolds, the capacity for MSA to be a useful explanatory framework specifically for telecare policy becomes

evident. The discussion starts with an outline of the formation of telecare policy in the UK through the specifics of this MSA lens.

The problem stream: the crisis in social care

In his initial public address on 24 July 2019, the incoming Prime Minister of the United Kingdom stated: 'I am announcing now that we will fix the crisis in social care once and for all' (Reuters, 2019: para. 10), arguing further that his government would 'solve the problem of social care that has been shirked for decades' (Johnson, 2019: para. 11). His remarks followed the publication, in June 2019, of a cross-political party report of the Economic Affairs Committee of the UK Parliament, entitled – with unusual edge for a parliamentary publication – *Social Care Funding: Time to End a Scandal* (House of Lords Economic Affairs Committee, 2019). This report offered ample evidence of the scale of the crisis in social care, and of the multiple stalled policy initiatives of the past two decades putatively intended to address the issues underpinning it.

It is preponderantly the needs of older people that are served by social care services in the UK (NHS Digital, 2017), with approximately two-thirds of expenditure allocated thus. Recent comprehensive analysis about the provision of social care highlights that it is in a 'precarious state' in terms of the quality of care provided, has a crisis in funding and alights on significant evidence of a lack of dignity afforded to the recipients of care services (Care Quality Commission, 2017). The analysis concludes:

> It appears to be increasingly difficult for some providers to deliver the safe, high quality and compassionate care people deserve and have every right to expect. With demand for social care expected to rise over the next two decades, this is more worrying than ever [and offers a] stark warning that adult social care is approaching a tipping point … driven by more people with increasingly complex conditions needing care but in a challenging economic climate, facing greater difficulties in accessing the care they need. (Care Quality Commission, 2017: 1)

This assessment of a crisis in social care for older people in the UK comes on the back of a sustained pattern of underpinning evidence, in particular during the period of 'austerity' in public finances in the UK, *e.g.* even at the outset of 'austerity' resourcing, the enquiry by the Equality and Human Rights Commission (2011) into care provision for people resident in their own homes highlighted services that were often impersonal, very time-limited and inconsistent in the delivery of care – factors which impacted particularly adversely on the potential for relationships to develop between older people and their paid carers. Data from the Institute for Fiscal Studies (Phillips and Simpson, 2018) indicate there has been a marked decline in spending by local authorities (at which level of government adult social care services are strategised) over the past decade, with a real terms per person funding decrease, comparing fiscal years 2009/10 with 2017/18, of 9 per cent. This figure sits amidst a total service spend per person (including both adult social care and other services) reduction of 24 per cent. Three caveats on these data are useful. First, the 30 areas of highest deprivation in England saw cuts, per person, to

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adult social care of 17 per cent. Second, these areas also had higher cuts to overall local authority spending – at 32 per cent. Third, these additional service cuts (*e.g.* the provision of libraries and library services) will also, in addition to specific social care services, impact on the quality of lives of older people.

This combination of circumstances has led the Chair of the National Care Association to observe 'There is not a crisis in adult social care … we are now beyond the crisis point' (Collinson, 2016). It should be noted that local authorities in the UK are overwhelmingly reliant on funding settlements from central government and have thus been at the cutting edge (by default or design) of delivering on the austerity programmes of the 2010, 2015 and 2017 UK governments, given their inability to leverage substantial compensatory funding via their local taxation base.

This crisis in social care has long been anticipated, having been mooted by the Audit Commission – one-time guardian of public finance expenditure in the UK – some 30 years ago. Yet successive UK governments have declined to address fundamental financial, cultural or structural change to deal with it, preferring instead organisational restructuring (for a historical perspective, *see* Hudson and Henwood, 2002). Care policy in the UK exhibits a sometimes complex pattern of input by family, private sector, voluntary organisations and the state (for an overview, *see* Phillips, 2007), with equally complex arrangements – including significant divergence across the UK itself – around funding arrangements. These complexities extend beyond just policy and finance, for example – certainly in European terms – there are relatively low levels of obligation placed on family members to take responsibility – either in a legal or cultural sense – for their ageing parents (Saraceno, 2008). It was into this policy conundrum – rising demand, limits to spending and specific family/state obligations – that the prospect offered by remote care technologies, such as telecare, emerged some 15 years ago in central government thinking, particularly relating to their role around the care and wellbeing of older people (Poole, 2006; Clark and Goodwin, 2010). As such, since 2006, there have been programmes to develop telecare strategies across the constituent parts of the UK. These programmes emerged swiftly after the Audit Commission mooted the possibility of telecare providing cost savings at the same time as better service provision (Audit Commission, 2004). Subsequent to the Audit Commission report, this speculative comment swiftly became policy writ large, being embraced by policy makers and technology companies alike in the UK (Clark and Goodwin, 2010), with both parties explicitly promoting telecare technologies as a solution to the problem stream – drawing on an MSA analysis – on the basis of cost savings and enhanced quality of life.

The policy stream: telecare development

Telecare technologies rapidly sat at the heart of strategic planning for the delivery of care services, being seen as not only a possible, but necessary, way of delivering future community-based care, with policy agendas developed on this basis. By way of example, the Scottish Government (2008: 6) proposed, at the outset of its Telecare Development Programme, that by the year 2015 'remote long term condition monitoring undertaken from home will be the norm'. Thus, while the UK was not alone in exploring this agenda of 'care at a distance', it did rapidly become

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globally pre-eminent in terms of the scale of the endeavour and the assumptions made for its potential, being viewed by the European Commission in its survey of ICT use as a 'world leader' (Dobrev *et al*., 2013). From the outset, telecare in the UK had a central strategic research direction under the aegis of the government-funded Technology Strategy Board (TSB) (Digital Health, 2008). The TSB pitched its role as 'a business focused organisation … with a cross-Government leadership role to stimulate and accelerate technology development and innovation in the areas which offer the greatest potential for boosting UK growth and productivity' (Department for Business, Innovation and Skills, 2013: 16), thus highlighting the government and industry nexus in telecare development.

The contrast between the uncertainties of using telecare technologies, as detailed in the social research, with the policy position adopted by UK governments is clear, whether with the early commitment, *e.g.* from the Scottish Government (2008: 6), that 'telehealth will be widely recognised by service users and their carers as the route to greater independence and quality of life', or the ambitious expansion of telecare with the 3millionlives programme in England (Department of Health, 2012a). By 2012 there was, however, little evidence to suggest enough 'wide recognition' to underpin this expansion. A survey of adults in the UK (Lintern, 2012) indicated that 91 per cent had not heard of either telecare or telehealth, and of those participants who were aged 55 or over – the most likely intended recipients of these technologies – 93 per cent had heard of neither. It is these assumptions – that telecare 'will be widely recognised' by users – that gave rise to concern in the research literature of a dissonance between policy aspirations and public readiness.

The scale of ambition for the use of telecare technologies in the UK was further illustrated by the Whole System Demonstrator (WSD) project, the largest telecare research programme undertaken anywhere in the world to date, at a cost – funded by the UK Government – of £31 million (US $61 million at the contemporary rates in 2009) (Goodwin, 2011). This project variously involved a randomised control trial (RCT) of 6,191 users of telehealth and telecare across three sites in England, with data collection over 12 months and analysis over a further 12 months. The full results of this research came *after* the announcement by the Department of Health and Social Care of further ambitious telecare policy proposals that its use be enhanced as part of the 3millionlives initiative, albeit the expansion was underpinned by a pre-publication 'headline' paper (Department of Health, 2011). As will be noted, this Department of Health and Social Care paper alighted on evidence from the trial that advocated the policy expansion, which demonstrably – and presumably with deliberation – misrepresented the full trial data through the use of selective 'headlines' which fitted its policy agenda.

It is not in the remit of this article to explore the WSD results in detail; a summary was published by the Parliamentary Office of Science and Technology (2014: 2), which reported that 'The results … showed no statistically significant reduction in health or social care use between the telecare and non-telecare groups' and further recorded: 'The results of the telehealth economic evaluation … showed that telehealth was not cost-effective at the scale implemented in the trial'. To this can be added no evidence, overall, of enhanced quality of life (Parliamentary Office of Science and Technology, 2014) with the codicil in the original analysis (Cartwright *et al*., 2013) that further, qualitative research would be needed in this area. These findings were

at odds with the prevailing policy on telecare (Innes *et al.*, 2012). In addition to the results, the WSD trial itself, by dint of its research design, focused primarily on cost-effectiveness and clinical factors and not on the specific issues around user experiences, nor the ethical complexities, both of which were highlighted in the social research literature noted above. Aside from the results, and the absence of substantial qualitative data, the trial design also proved frustrating for advocates of telecare, as a key participant in one of the test organisations in the study argued soon after the results were released:

> The technology is unrecognizable [as now it] is far more efficacious and far cheaper; and it can be deployed much faster & for many more conditions, opening up many possibilities … when a part of an overall programme for improving care and not, as the WSD randomised control trial treated it, as a simple intervention. (Lowe, 2013)

Further critical comment alighted on the method and the narrow focus of the project: as Hendy *et al.* (2012: 1) noted, 'While remote care was successfully rolled-out, wider implementation lessons and levels of organisational learning across the sites were hindered by the requirements of the RCT'. This wariness around the data has continued; in a recent, large-scale study of local authority telecare practice undertaken by the UTOPIA (Using Telecare for Older People in Adult Social Care) project between 2016 and 2017, the findings note '47 per cent (of those responsible for telecare) said they were aware of the Whole System Demonstrator but did not seem to agree with its findings' (Woolham *et al.*, 2018: 2).

Despite the lack of clear evidence around efficacy, the limitations of the research design imposed by an RCT on the WSD project and the absence of qualitative research enquiry as a significant element in policy documents, telecare policy in the UK moved on apace. The telecare programme in Scotland, for example, projecting forward to 2020, noted the need to: 'Maximise and increase the use of telehealth and telecare to improve access for citizens to planned and unplanned care' (Scottish Government, 2012: 26), whilst the UK Prime Minister at the time, David Cameron, speaking to an industry forum in December 2011, announced of the telecare programme: 'We've done a trial, it's been a huge success and now we're on a drive to roll this out nationwide' (Cameron, 2011: n.p.).

This claim of telecare being a 'huge success' is belied by the evidence, and resonates instead with Greenhalgh (2012: 1) who argued that the Department of Health and Social Care had engaged in the 'cherry-picking of unanalysed data to put on its website before the trial had finished recruiting [which] was scientifically inappropriate but politically expedient'. The political expediency reflects the decision to undertake an ambitious telecare programme without a sufficient evidence base, and the need, retrospectively, for justification; it perhaps also reflects the powerful nexus between the UK governments and technology companies. Nevertheless, this coalescing of policy interests – what Greenhalgh (2012: 1) termed 'an increasingly powerful industrial–political complex' – has proved to be problematic. There are a number of reasons for this, succinctly discussed by Barlow *et al.* when they note:

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> The challenge for suppliers is how to balance a 'one size fits all' approach – with sufficient adaptability to respond to future patient needs and expectations – and a mass-customised model designed around the specific needs of end-users but using standardised components. (Barlow *et al.*, 2012: 14)

Problems arising from this policy push, in the face of weak evidence, included the lack of inter-operability of equipment but also adaptability of equipment to the specific needs of users, a weakness consistently found by the qualitative, social research on telecare. There has also been scepticism on the part of health professionals around the efficacy of telecare technologies. Despite the 'cherry picking' of data from the WSD trials by the Department of Health and Social Care, the full results (Hendy *et al.*, 2012; Cartwright *et al.*, 2013) – which were at odds with the cherry-picked data – were well established across the health professions by dint of being readily available for scrutiny.

The Department of Health and Social Care continued to plan for the provision of telecare based on financial calculations that were simply not borne out by the evidence of the WSD trials, assumptions based on a projected use of telecare underpinned by financial savings coming from fewer hospital admissions (Robinson, 2012). But these figures were based on substitute costings between hospital admissions and telecare deployment, which ignored the fact that telecare use would often be a component part of community-based, non-admission care. Remote care, in this context, may be a misnomer; actual hands-on care, and not just telecare, may also be required as part of the avoidance of admission to hospital, but not factored in to the cost calculations. This shaping of the evidence to suit the policy contributed to 'silver bullet' thinking on the part of policy makers, as inconvenient data and arguments were largely not factored in. As issues around costs and efficacy were challenged, the policy response became increasingly defensive, *e.g.* a request by the journal of general practitioners, *GP*, for a breakdown of telecare cost assumptions was rebuffed:

> The DH [Department of Health] originally blocked GP's request for the evidence behind its savings claim, but published a summary of its calculations after an appeal. It said disclosing the full evidence would 'be a prejudice to the effective conduct of public affairs, given that the information sought is in statistical format'. (Robinson, 2012: n.p.)

As already noted, the policy response to this uncertainty about the efficacy of telecare and organisational problems with its implementation was the announcement, in 2012, of the 3millionlives project (Department of Health, 2012a). This was a government-announced, but largely industry-led, policy concordat which aimed to have three million users of telecare devices in England by 2017. The preponderance of this expansion, based on previous patterns of usage, would be older people. In large part this can be seen as an attempt by policy makers to engage with the telecare industry in a way that might address the industry's concerns. These concerns were primarily about the uncertainties of future markets (and thus the industry's reluctance to invest in product development to address the weaknesses revealed in research around the limitations of standardised telecare products).

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But it also represented a reboot of the telecare policy programme, despite the caveat that – to recall Pols and Willems (2011) – 'implementing telecare technologies on a large scale and on a top-down basis, as is done in the UK, a hazardous investment'. The 3millionlives programme rationale was clear:

> The Department of Health believes that at least three million people with long term conditions and/or social care needs could benefit from the use of telehealth and telecare services. Implemented effectively as part of a whole system redesign of care, telehealth and telecare can alleviate pressure on long term NHS [National Health Service] costs and improve people's quality of life through better self-care in the home setting. (Department of Health, 2012a)

However, a more detailed reading of the aims of the programme reveal the underlying industry concerns about telecare implementation. These include, in the concordat, the requirement for the Department of Health

> to create the right environment to support the uptake of telehealth and telecare including rewarding organisations for adopting and integrating these technologies … for industry to work with the NHS, social care and other stakeholders to simplify procurement and commissioning processes for telehealth and telecare services at scale [and] to put the NHS and UK industry at the forefront of telehealth and telecare globally, developing significant opportunities for UK plc. (Department of Health, 2012a)

Three aspects of this 3millionlives programme are worth commenting on, in terms of the lack of congruence between policy intentions and subsequent implementation. First, the weaknesses of implementing telecare cost-effectively, to scale, as illustrated by the WSD trials, were simply not addressed; in the face of countervailing evidence, policy makers doubled down. As Hendy *et al.* noted:

> The implementation of a complex innovation such as remote care requires it to organically evolve, be responsive and adaptable to the local health and social care system, driven by support from front-line staff and management. This need for evolution was not always aligned with the imperative to gather robust benefits evidence. This tension needs to be resolved if government ambitions for the evidence-based scaling-up of remote care are to be realised. (Hendy *et al.*, 2012: 1)

Second, the projections were – in terms of realistic assumptions around future take up – indefensible. As Hunn (2013) has argued, the projected *global* figure for telecare users for 2017 – the projected end-point of the 3millionlives project – based on comparable definitions of the technologies, was 1.8 million people. Hunn notes:

> Trying to target numbers is not helpful. We could deploy 3 million devices quite easily, but most would sit gathering dust or be hidden in the back of drawers … the aim should be about achieving a better quality of life for patients. That's not about procurement managers writing contracts for devices. (Hunn, 2013: 5)

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Third, in the rather disarming phrase of the Telecare Services Association, 'When the Whole System Demonstrator project failed to deliver the business case for telehealth, the government decided to try again with the Delivering Assisted Living Lifestyles at Scale [DALLAS] programme' (Telecare Services Association, 2016). In fact, the DALLAS programme moved significantly beyond the limitations of an RCT-based method and cost-effectiveness calculations, to explore the complexities of local delivery of telecare, fitness of organisation across agencies which might be expected to deliver and, crucially – given the social research findings to this point – interoperability of different technologies. But the key point here is the decision to go ahead with the 3millionlives programme *before* the three-year DALLAS project even got off the ground, which reinforces the argument that industry interests were looking for projections of market penetration and stability of growth before organisational issues were addressed, and that policy makers were still on the same trajectory of ignoring the inconvenience of evidence. The DALLAS project also came under the aegis of the aforementioned TSB, which had initiated a shift to more user-focused research on telecare via the Assisted Living Innovation Platform (ALIP) programme. Nonetheless, the business nexus remained; ALIP, the TSB (2013: n.p.) noted, 'is about making the future brighter for people in later life and for the wealth creation capability of the UK'.

Even with the policy push, subsequent to the 3millionlives programme, telecare adoption has continued to be uneven. The UTOPIA project notes that

> barriers to promoting telecare for commissioners and senior managers were perceived to include skill deficits amongst professional staff to assess for telecare, the inflexibility of 'service bundles' or contracts with existing suppliers of technology, and lack of staff with the right skills to install telecare. (Woolham *et al.*, 2018: 3)

These issues were essentially local – and so unlikely to be responsive to top-down policy imperatives, but also – in the case of inflexible contracts – often outside the control of front-line telecare assessors and practitioners in their interactions with service users (Eccles, 2015).

Kingdon's astute comment that there are ideas 'whose time has come' in policy circles implies that the idea will display an irresistible logic that may brook a good deal less reflection about its impending complexities in practice. The problem stream – in the MSA schema – has been outlined at length above: in essence, the problem is the requirement to deal with the care needs of older people in a rapidly changing set of demographics and shifting 'dependency ratio' (Dobrev *et al.*, 2013), between the recipients of care and an available labour supply. Drawing on the MSA, this problem stream met what was perceived to be a policy solution already available and waiting to be taken up. This is an important aspect of policy development in the MSA; the gap between the urgency of a policy problem and the protracted process of finding solutions (which may require a long gestation) is most effectively circumvented by the adoption of an existing *presumed* solution waiting in the wings. Indeed, as Greer (2015) notes, in discussion of the policy stream of MSA, industry advocates will be primed to advance the 'solution' when the policy-seeking window arises. In the case of telecare, the evidence base for presuming the efficacy of the solution was very limited when the 'idea whose time has come' was mooted

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by the Audit Commission in 2004. The Audit Commission held up the prospect of telecare as simultaneously a solution to the costs of rising care demands but also one that, potentially, offered enhanced quality of life for its recipients. Thereafter a policy was rapidly developed which made claims based not only on an idea 'whose time had come' – bolstered by a discourse about the modernity and reliability of care technologies (Greenhalgh *et al*., 2012) – but on assumptions of efficacy and based on unreflective linearity between policy and implementation. On both counts – efficacy and ease of implementation – the actual experience of its use was much less clear cut, while other comparable countries – faced with similar demographic change and care needs – explored alternative themes. These included more rigorous trials of telecare technologies involving sustained qualitative research on user experiences and approaches which largely bypassed telecare solutions to demographic change, such as inter-generational contracts of support for older people (Eccles, 2015; Berge, 2017).

The politics stream: evidence of policy convenience

The key actors in the politics stream had sound reasons to coalesce around the telecare solution. Albeit central government had devolved responsibility of social care increasingly to local government over the previous decades, long-term social care policy, both in the community and in residential settings, remained identified with the government at the centre – Westminster, in UK parlance – in terms of public perception over which level of government had responsibility for taking the policy lead in this area (Means *et al*., 2008). This was also the case because local government in the UK (the component parts of the UK have different arrangements but the issue remains universal) is, comparatively in European terms, unusually reliant on central government, rather than local taxpayers, for its funding. But a further – and major – actor was active in the policy stream in the shape of manufacturers of telecare equipment. As noted before, the 3millionlives concordat was essentially industry-led and the UK itself was the location of world-leading telecare corporations (Dobrev *et al*., 2013). Thus, the nexus between central government and manufacturers began to develop a mutually reinforcing discourse around how telecare was essential as a policy solution to demographic change and was able to address both cost and quality-of-life criteria in such a crucial policy area (Poole, 2006; Clark and Goodwin, 2010). Using an MSA analysis, the 'coupling' here between policy solutions advanced by industry interests and the political urgency of addressing the problematic issue of long-term social care appears to have been unhesitating. The misleading 'headline results' reported by the Department of Health in 2012, after the WSD trials, were taken up uncritically in the politics stream; as the Minister of State for Care in the UK Government at the time stated, based on the selective use of data from the trials: 'The widespread adoption of telehealth and telecare as part of an integrated care plan will mean better quality of care and greater independence for people with long-term conditions' (Department of Health, 2012*b*).

A further example of this coalescing of problem, policy and politics in a given 'window of opportunity' emerges from the situation in Scotland, where the Scottish Government rapidly developed a formal 'partnership' with the leading

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UK telecare technologies company, Tunstall, such that this company's logo appeared on official Scottish Government publications involving telecare and telecare evaluation. Tunstall's literature noted that the UK faced a 'demographic time-bomb' (Tunstall, 2009: 3) where the social and health-care needs of increasing numbers of older people would outstrip the available resources unless technological solutions were adopted (for a counter-narrative on demographic change, *see* Office for National Statistics, 2019). Similarly, local authorities and central government have consistently pitched telecare policy in terms which highlight how 'current health and social care models are unsustainable' (Deloitte, 2017: 34). Taken together, a discourse based on the *necessity* of ICT-based technological solutions for future social care delivery has emerged, following on, in the Scottish context, from the Scottish Government's (2008: 6) explicit argument that 'Telecare services [should] grow as quickly as possible', despite the lack of any significant research evidence about telecare use at that point. In the wake of a great deal more research evidence over the next few years – which was inconclusive, beyond individual case studies, around cost-effectiveness at scale or quality of life of telecare in practice – the Scottish Government position on the efficacy of telecare has remained largely the same in its revised projections of remote care technology implementation to 2022 (Healthcare Improvement Scotland, 2017).

Coupling the multiple streams

The MSA being drawn on here emphasises the need for successful policy formation to involve a 'coupling' of the three policy streams, such that the problem, policy and politics streams are congruent and aligned within a given 'window of opportunity' (Exworthy, 2008). Evidence of this 'coupling' has been discussed in the article, *inter alia*. This coupling has resulted in a limiting of spaces for discussion around a variety of issues – *e.g.* impact on quality of life (Cartwright *et al.*, 2013), the ethics of using surveillance technologies (Eccles, 2010; Mort *et al.*, 2013) or the efficacy of remote care use in terms of its operability with service users, especially those with multiple morbidities (Greenhalgh *et al.*, 2016) – by the dominance of 'expert' knowledge in policy decision making (Mort *et al.*, 2013). Here, then, emerges a relatively closed circle of expert opinion: government, technology companies and local care commissioners reinforcing each other's largely uncontested discourse to allow rapid development of a policy consensus. This relatively unchallenged discourse extended beyond effectively excluding some wider conceptual issues – such as care relations where technology substituted for human care, or ethical questions about privacy in the use of surveillance-based equipment – to evaluations of telecare in its early policy phase. Outlining one major evaluation of telecare use in the UK, Beale (2012) notes that, of three possible methods that could have been used to gauge the cost-effectiveness of the policy, the least robust was employed, given the complexities of telecare in use and the uncertain variables inherent in the data being collected by local authorities. Nonetheless, policy advocates, drawing on the same data, continued to proclaim the largely unalloyed merits of telecare provision on the basis that the data, methodological limitations notwithstanding, had demonstrated efficacy. As one senior policy advocate noted, in arguing for the telecare programme to be advanced further on the basis of these data, 'We

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just have to move ahead and start to generate the evidence if that's what others need' (The King's Fund, 2011: 19:57). By such an approach is the 'silver bullet' to policy problems forged.

Academic research was also part of this dominant discourse which advanced the problem and policy coupling. In *Investing to Save*: *Assessing the Cost-effectiveness of Telecare* (Clifford *et al*., 2012: 10), the authors conclude that 'Councils should actively promote the provision of telecare as a "mainstream" activity' in local authority care services' and that 'Councils should include standard methods of assessment and training in the applicability of telecare within their reablement and personalisation processes'. These conclusions were based on research in which 'Tunstall assessors suggested appropriate telecare solutions' and 'costs of telecare were calculated for each client using economic calculations provided by Tunstall' (Clifford *et al*., 2012: 5–6) in a project financially supported by Tunstall, the market leader in telecare technologies. The limitations of this data gathering – based on methods suggested by a key technology company – are made explicit in the findings of the research. To this end they are entirely transparent. The point is that they are, accordingly, limited by a discourse set within the context of the expert opinion of advocates within the policy stream with public space for debate about the desirability of these technologies, their implications for care relationships and aspects of privacy largely under-explored. Thus, in the telecare policy stream phase, policy advisers and technologists tended to inhabit a world in which the impending complexities of implementation with users were afforded less space for discussion. Similarly, research methodologies classically deemed lower in the hierarchy of evidence (for a discussion on why and how this issue persists in policy circles, *see* Fischer, 2003), but which were crucial to an understanding of user experiences, were not adequately employed at the policy-making stage; the requirements of a clinical, rather than experiential, understanding of efficacy took priority, and the DALLAS project, which did indeed involve widespread qualitative enquiry, was not rolled out until after the coupling of the multiple streams had effectively taken place and driven telecare policy from the top down.

In reviewing the research on the propensity of health and social care technologies not to deliver on their stated ambitions, Greenhalgh *et al*. (2018) and Greenhalgh *et al*. (2017) summarise several key issues. These include a lack of appreciation of long-term sustainability, a failure to scale up effectively, poor interoperability of technologies and unwarranted assumptions about putative take-up (*e.g.* by sceptical clinicians or service users left to fathom out how the technologies fit with their lives). Above all, it is the socio-technical complexities (people's changing lives, their multiple morbidities, the challenge to their identities of interacting with technologies) inherent in the use of telecare that present the greatest challenge, and for which standardised solutions driven by top-down policy agendas are insufficient. These problems continue to be viewed through a technological, rather than socio-technical, lens, with the progression from policy making to implementation still essentially assumed to be linear rather than likely to be complex. This widely documented experience of the limitations of technological solutions to social care needs – and of the complexities inherent in its implementation – make the current political turn noted at the outset, namely 'From today, let this be clear: tech transformation is coming' disquieting.

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The argument in this article is that the policy alignment illuminated through the MSA – that is, the coupling across problem, policy and politics streams – has been so congruent as to facilitate 'silver bullet' thinking in policy circles, such that there has been no evident secondary planning to address the crisis in social care. Instead there has been a network of industry and civil service alignment, in tandem with politicians eager to alight on assumed solutions being at hand, reinforcing each other's arguments on the efficacy of technological solutions to the care needs of older people. This is not an argument to say that these technologies do not have an important role to play in sustaining good care and support for older people; the evidence that they do is clear and documented. Nor is it an argument against technology-based care *per se.* As Pols and Moser (2009) note, a vision of 'warm care and cold technologies' is a false dichotomy; technologies clearly have a role to play in an overall care and support framework. But the UK experience is exceptional in its untested ambition; other polities have proceeded with greater caution, while UK governments have advanced, drawing selectively on the evidence of their funded RCT-based trial, and blithely sidelining evidence from social research around user experiences until the advent of the DALLAS project, by which time the policy die was already cast. It is this dominant discourse around the presumed efficacy of technologies, coupled with the echo chamber in which the discourse has been maintained, that has led to 'silver bullet' thinking around the role to be played by ICT- based technologies in addressing the care needs of older people.

Conclusion

The research on telecare technologies clearly indicates that assessment for, planning, delivery and operation of telecare with end users is significantly more complex than is held to be the case in the discourse of politicians and policy makers. It is also clear that evidence of these complexities has not been part of the mainstream policy discussion, or, where it has come more to the fore, has been an adjunct to a policy programme already under way rather than as an integral part of the policy conversation. There is, thus, a significant incongruence between policy and practice which has, so far, been illustrated in the literature, not least in terms of take-up of remote care technologies, but not explored in policy terms. Employing an MSA offers an explanation of this incongruence. There was a clear 'coupling' of approaches across the problem, policy and politics streams, an alignment which held fast within the 'window of opportunity' that afforded policy change, despite mounting evidence of complexities with implementation, and concerns (Pols and Willems, 2011) that this strategy was a 'hazardous' venture. The essential problem here lies with the determination of the policy stream actors, in particular 'expert' opinion and industry interests, to press ahead with implementation before thorough trials were conducted. Politicians – faced with the problems posed by a persistent absence of strategy to deal with long-term care for older people – readily accepted technological solutions as a suitable fix. These solutions are, and may increasingly be, a crucial part of social care delivery. But they are not a panacea. In the face of evidence, which ought to have been problematic for policy expansion and was often politically inconvenient, efforts to pursue telecare solutions to problems of social care were redoubled. The reliance on a narrow methodological

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focus to the research around telecare sidelined wider areas of concern around telecare use, namely ethical considerations, the complexities of user experience and the wider costs that might attend community-based technological care. Albeit there was a turn towards a broader set of research enquiries – *e.g.* the DALLAS and AKTIVE projects – these did not begin reporting until after the decision, via a UK Government and industry concordat, to push ahead with telecare on a singularly ambitious, and globally improbable, scale. While the selective use of data to bolster this policy push has been marked, what is perhaps of greater concern is the bypassed opportunity to address the pressing issue of a crisis in the provision of social care for older people in the UK. 'Silver bullet' thinking over the past decade around the potential for telecare has meant that fundamental structural problems of the financing and organisation of such social care provision have not been tackled; indeed, proposals for government policy on long-term social care policy have been repeatedly delayed (Jarrett, 2019).

The application of a MSA in this article has afforded the opportunity to begin to theorise on why this has been the case; in essence, the issue in the problem stream remains, but the circular and reinforcing discourses of the policy and politics streams have failed to engage with the inconvenient complexities of the research evidence, especially around efficacy, delivery at scale and impact on quality of life. It may be that ICT-based technologies are indeed key to future social care delivery, but discussion in the politics stream has both pre-empted the evidence, and when evidence has emerged, been selective in its use. This bias needs to be noted as the technological push enters its current, renewed, phase.

This is not to argue that telecare does not confer significant benefits in the lives of some older people; it can and does. It is instead to argue that these benefits have to be part of coherent social care policy and are not viewed as a 'silver bullet' that can address the complexities of a long-term care system in crisis. As noted at the outset to this discussion, the recently renewed policy push is in the direction of technological solutions in health and social care under the rubric 'tech transformation is coming'. This renewed agenda has seen the creation of a 13-strong HealthTech advisory board. The singular lack of social care representation on the board need not, in itself, signal that the critical social research around telecare will be marginalised in its decision making. It does, however, rather have the feel of policy *déjà vu*.

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