Response to NHS Chief Executive’s Open Call for Evidence and Ideas

Respondent ID: 143

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Summary of key points

The NHS needs innovation, but is consistently poor at delivering it – why? This submission provides evidence that:

- Whether introducing innovations from elsewhere (‘innovation in’) or exploiting NHS ideas (‘innovation out’), innovation is primarily a bottom-up process;
- Innovation is risky: for each success there are many failures, and even a successful innovation local rewards may be modest. In hard times it is difficult to justify local expenditure of effort and money on innovation;
- Innovation in the NHS is managed top-down, by imposition or exhortation from above, without sufficient awareness of how innovation is delivered on the ground.

The Government’s aim of localising decision-making could offer the potential to improve matters, but by itself localisation is not enough. We consider that local effort requires consistent, strategic national support, and suggest that:

- More of the responsibility for innovation (and of the resources that support it) should be devolved from the centre to Trusts;
- Clusters of Trusts should be encouraged to collaborate (at scales of their choosing) to provide dedicated IP management capability targeted on improving the strategic relationship of innovations (‘in’ and ‘out’) to healthcare delivery;
- MidTECH is commissioned by the national and local NHS to provide this service in its membership area.

1 Introduction

Introducing MidTECH

1.1 MidTECH Ltd is a partnership organisation of 10 major NHS Trusts in the West Midlands¹, providing them and others² with Intellectual Property (IP) management services. Along with similar organisations in other regions, MidTECH was established in 2004 to identify, protect and disseminate worthwhile healthcare innovations by frontline NHS staff (‘innovation out’). As part of a national system for managing innovation³ MidTECH’s objectives were (a) to improve healthcare, (b) to secure income to the NHS through commercialisation where possible, and (c) to generate products with commercial potential for the healthcare sector.

1.2 While healthcare innovation generally works ‘bottom-up’ (from people in the clinical front-line finding practical solutions to real-life problems), the benefits of innovations to the NHS as a whole are generally greater than those to the individual clinician or Trust. Reflecting this,

¹ The following NHS Trusts are full members: Birmingham Community Healthcare, Birmingham Children’s Hospital, Heart of England, Sandwell & W Birmingham, Sandwell PCT, Dudley Group of Hospitals, Royal Wolverhampton, University Hospitals Birmingham, University Hospitals Coventry & Warks and University Hospital North Staffs
² 14 other NHS Trusts in the West Midlands are limited members, and most of the rest clients on a fee for service basis
MidTECH has operated since 2004 with local ownership and control but central support\(^4\). However, it has always been MidTECH’s intention that, as the portfolio of commercial innovations grew, its operations could become increasingly self-supporting from locally-generated resources (eg through equity shares, royalties and consultancy).

1.3 Fiscal pressures and Department of Health (DH) policy to open up supply of IP management services to ‘any willing provider’\(^5\) have meant that central support for MidTECH’s operations has been withdrawn more quickly than previously anticipated. Both DH and Department of Business Innovation & Skills (BIS) ceased their support at the end of the financial year 2010/2, signalling the start of a process of radical change for MidTECH. The Board of MidTECH has responded by adopting a new business model and plan with two main components:

a) To maintain an attractive and value for money innovation management service to the NHS in the West Midlands, so as to be the provider of choice in this market;

b) To become financially self-sustaining by winning complementary business in the commercial environment, building on the established reputation and skills base.

This submission

1.4 We believe that our role and experience gives us a distinctive perspective on innovation issues, and practical evidence of what works. Our response to the call for evidence is made in this context. The issues on which we wish to comment are:

a) The relevance of the subnational innovation capability represented by MidTECH (and its equivalents elsewhere) to the delivery of improving healthcare in the context of the changing resources and structures of the NHS (‘the QIPP agenda’\(^6\));

b) The need for a subnational capability that can address service improvement and adoption of innovations (‘innovation in’) as well as ‘innovation out’;

c) The appropriate scale and framework for subnational innovation management for the NHS.

2 The need for subnational innovation management capability

Innovation vs centralism

2.1 The call for evidence offers a wide range of reasons for ‘localisation’ of innovation management capabilities (with which we concur), including (p6):

a) “The NHS is full of brilliant people with brilliant ideas. The Health and social care system needs to support them to take those ideas, test them, prototype them and then get them into everyday use and benefiting patients as quickly as we can.”

b) “An optimal level of innovation is bound to require some collaboration, with the centre seeking to focus attention on the innovations that have the greatest pay-off for the system as a whole – in exchange for which it commits to sharing risks and costs.”

2.2 In spite of this recognition of the need for a local component, the paper betrays the NHS’s besetting sin of centralism. In its review of eleven past and current Innovation Initiatives in the NHS\(^7\) (pp10-13), it does not even mention the existence of the regional NHS Innovations organisations. In the West Midlands MidTECH has been central to the delivery of four of these initiatives (Exhibit 1), and there is potential for support to most of the others. We do not believe that this is unusual.

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\(^4\) Initially from DH, but latterly mainly from BIS in the form of Public Sector Research Establishment grant
\(^5\) Letter from Earl Howe (PUS) to NHS innovations South East, 1 October 2010
\(^6\) Quality, Innovation, Performance and Prevention
\(^7\) Regional Innovation Funds; NHS Evidence Portal (NICE); SHA innovation duty and Annual Reports; DH Healthcare Expos (2009, 2011); Innovative Technology Adoption Procurement Programme (iTAPP); Design-led innovation; Innovation Challenge prizes; Health Innovation and Education Clusters (HIECs); Academic Health Science Centres (AHSCs); NHS Global; Commissioning for Quality and Innovation (CQIN)
2.3 This lack of awareness at the centre of how innovations are actually delivered on the ground is symptomatic of the ‘command and control’ culture of the NHS since its creation, and seriously compromises its capacity to adapt. The Government’s desire for the NHS to become more localised is a welcome recognition of this problem, as well as the first step to addressing it. Innovation is thus both a reason for decentralisation (because devolution fosters innovation), and a means to that end (because innovation enables better local decision-making).

3 The need to cover ‘innovation in’ as well as ‘innovation out’

3.1 As the call for evidence recognises, addressing the growing demand for healthcare in the context of static or diminishing real resources is extremely challenging. This was anticipated by the Quality, Innovation, Performance and Prevention (QIPP) agenda, which is the DH’s principal response to the challenge. ‘Quality’, ‘Performance’ and ‘Prevention’ are perennial components of good healthcare management, but ‘Innovation’ is the element with game-changing potential across the whole system.

The value of local innovation to the NHS as a whole

3.2 Innovation is primarily a ‘bottom up’ phenomenon, and this is a fundamental barrier to exploiting its potential to catalyse wider change, because while costs and risks fall mainly on the innovating Trust, most of the benefits of a successful innovation accrue to the NHS as a whole (Exhibit 2). The approach to innovation in the NHS needs to recognise and respond to this asymmetry.

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Exhibit 1: LOCAL ROLES IN THE NHS’s ‘CENTRAL INNOVATION INITIATIVES’

The centre is unaware of how innovation works on the ground

1. **Regional Innovation Fund (RIF):** MidTECH managed the RIF on behalf of the WM Strategic Health Authority, and since then has managed the evaluation process.

2. **SHA Duty to promote and encourage innovation:** MidTECH assisted the SHA in delivering this obligation, including representing the SHA at national meetings of ‘Innovation Leads’ and chairing the ‘Task & Finish’ Group set up by the Regional Minister under the last Government (Ian Austin MP) to improve the relationship between healthcare innovation and strengthening and modernising this sector of the regional economy.

3. **National Innovation Awards (2009 and 2010):** MidTECH (and the other innovation hubs) played a key role in establishing these events in previous years by promoting Innovation Awards events in each region, from which entrants to the national events were selected.

4. **Innovative Technology Adoption Procurement Programme (iTAPP):** MidTECH has pioneered a Device Evaluation Network (DEN) which addresses the problems of securing system-wide validation and appraisal of medical devices (parallel to those for pharmaceuticals).

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8 a characteristic shared with other super-sized organisations – eg the Indian Railways and the Red Army
The potential for significant income from local innovation

3.3 While the greater part of the benefits of innovation may well require application across the NHS, beyond the initiating Trust, Exhibit 3 demonstrates that there can also be substantial local income in the shorter term.

Exhibit 3:
GOOD IP MANAGEMENT CAN DELIVER INCOME IN THE SHORT-TERM

Significant income from software licensing

Timely and knowledgeable IP management has allowed University Hospital Birmingham (UHB) to convert an innovation into substantial income. UHB produced an in-house touch-screen computer system (‘Kiosk Software’) to check in and guide patients on arrival at the new Queen Elizabeth Hospital building. This local innovation was licensed to a third party company, and is being used in an increasing number of other Trusts, generating a projected licence income of some £5m to UHB.

While this advice could have been supplied by others under the ‘any willing provider’ policy, the overhead in UHB’s time to procure and brief a generalist would be a very significant disincentive. MidTECH could operate efficiently on behalf of the trust because:

- MidTECH knew the local department who designed the system well and understood their motivations and concerns with commercialisation;
- MidTECH knew the Trust management and what they wanted to see from a commercial roll out of the system;
- MidTECH had experience of such healthcare software licences and could very quickly draft a deal that it knew would be acceptable to both parties.

The scope of innovations and styles of IP management

3.4 While MidTECH and its equivalents were set up to foster innovations coming from the NHS front-line (‘innovation out’), it is clear that introduction into the front-line of innovations from elsewhere (‘innovation in’) from other parts of the NHS, fundamental research, or other sectors is likely to be more significant in volume and impact. However, there is good evidence for
believing that the two are linked, and that the rationale for a strong ‘bottom-up’ component is valid for both:

a) **Care pathways:** whether originating from within or from outside, innovations generally must be embedded in redesigned care pathways to deliver their full potential. Innovation is thus an integral part of the total QIPP agenda;

b) **Culture:** picking up and developing the innovative ideas of frontline staff is an intensely direct, practical and effective way of driving cultural change. Without such a culture, changing care pathways will meet resistance – but with it, change has champions;

3.5 Change management in the NHS has in the past been driven too much from the centre, with generally disappointing results. There is a danger that the increasing involvement of nationally-based consultancies will change the source of central direction without changing its debilitating nature and effect on the quality of local decision-making. Different parts of the NHS have different demands, needs and capabilities, and their IP management processes must reflect these (Exhibit 4).

**Exhibit 4:**

**EACH TRUST NEEDS ITS OWN STYLE OF IP MANAGEMENT**

**How good IP management works at Trust level**

**Trust A:** This MidTECH member is a large teaching hospital with research links with both Universities and pharmaceutical companies. IP is a significant income stream and innovation a recognised factor in service management. There is a dedicated Commercial Director with responsibility for IP (amongst other income opportunities), and an investment committee to consider new IP opportunities. MidTECH adds value for the Trust in two main ways:

- MidTECH’s ‘innovation managers’ on the ground ensure swift follow-up of innovations from front-line staff, preventing ‘leakage’ of income-generating IP from the Trust;
- Most research in the NHS is done in collaboration with outside groups, and MidTECH’s regional networks enable the Trust to identify the appropriate partner(s) for a particular innovation, as well as helping them to negotiate relationships and maximise income.

**Trust B** is a local specialist Trust. For them, while good IP management (as part of a broader approach to innovation) could help reduce costs and improve services, it is unlikely to be a major money-spinner. Typical innovations arising from its work include community-based advice and educational resources sympathetic to the needs of the local area. In the area they serve the most pressing needs are for ethnically-specific innovations in the fields of diabetes care and child development. Such innovations include:

- Advice tools for supporting bereaved families of the major local religions, focusing on the psychological effect for young children.
- Communication systems for the wide range of local community languages.
- Education resources on diet relevant and appealing to local ethnic communities.

While the Trust is focused on its specific local needs, there is potential read-across with other localities, so the perspective across Trusts offered by MidTECH is seen as vital.

3.6 While individual Trusts will need to develop their own arrangements for IP management, it would not be realistic to expect them to devote attention and resources to developing a specialism that could cope with the full range of needs and opportunities. It is crucial to intelligent commissioning of innovation management that Trusts can draw on the locally-responsive resource represented by organisations like MidTECH. This underpins the whole localisation philosophy. The final section therefore discusses the question of scale.
4 The appropriate scale for subnational innovation management

4.1 The call for evidence (p7) recognises (and we concur with) the importance of the bottom-up component as an integral part of an innovative culture:

“Systems as large and complex as the NHS become innovative through the interaction of three sets of forces:

- **bottom up cultures (patient pressure and professional enthusiasm);**
- **horizontal pressures and support (peer influence, cooperation, competition and support);**
- **top down pressures and support (incentives, regulation, targets, training).**

“Bottom up forces are ‘pulling’ innovations into use whereas top down are usually ‘pushing’ teams and organisations. Horizontal forces can be both push and pull. Many public innovations fail to be spread because all three pressures are not mobilised together”

4.2 Innovation may start bottom-up, but if it stays there, the impact will be limited. The present model has a very weak bottom up component, together with a wide range of (often very large scale) national initiatives. We suggest that this is unbalanced and ineffective, and that there is a real need for a stronger subnational level in the NHS’s IP management portfolio.

4.3 There is no particular magic about the regions used as the geographical basis in the past (with their origins in WW2 Civil Defence). In reality, the healthcare issues faced by major cities, small towns and rural areas within each standard region are often very different. There is a need to reflect this diversity of needs, and the model for handling ‘larger than local’ collaboration by means of voluntary associations has merit (this is currently being pioneered by Local Economic Partnerships following the abolition of Regional Development Agencies). In the NHS, such collaborations can build directly on the knowledge and experience of bodies like MidTECH, utilising the accumulated intellectual, organisational and social capital they represent.

4.4 The standard practice of DH and the NHS in times of fiscal retrenchment is to seek to reduce overheads by amalgamating existing bodies. However, there is no rationale for seeking to amalgamate the existing regional innovation hubs into fewer, larger units:

a) This would negate their crucial characteristic of localism (if anything, the standard regions may well be too large, for the reasons given above, but represent a compromise between accessibility and cost);

b) Given that there is no longer any central funding for MidTECH and its equivalents, it is far from clear how any savings would in any case be achieved by amalgamation.

4.5 A subnational, but ‘larger than local’, level of organisation is critical to realising the potential benefits of innovation in the NHS, but requires a broader brief than that enjoyed by the present regional bodies. The Exhibit 5 provides an example of how major change can be driven by an appropriately configured local initiative.

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Exhibit 5:

**LARGE-SCALE CHANGE THROUGH BOTTOM-UP INNOVATION**

**IT supporting patient choice in the Bologna health system since 1990**

CUP 2000 ([www.cup2000.it](http://www.cup2000.it)) operates the health IT network centred on Bologna in the Emilia-Romagna region of Italy. CUP (Centri Unificati di Prenotazione – Unified Booking Centre) was set up (~1990) by the local authorities and Health Authority as a wholly owned private venture. The Board consisted of the City of Bologna (chair), 3 neighbouring Local Authorities and the Health Authority.

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9 Before RDAs were established in 1998, cross-boundary collaboration on economic development, transport and spatial planning was carried out entirely by voluntary associations of local authorities. In the West Midlands these voluntary arrangements were responsible for important innovations that were later adopted as national standard practice – eg integrated Local Transport Plans.
The CUP system was established by making available at least part of the diaries of participating consultants and clinics. It started small, with only 5% of capacity in Bologna’s main hospital initially being booked this way, but its subsequent expansion has been driven by demand from both clinicians and public. By June 2011 there were 136 access points (including GPs and hospitals), 236 participating pharmacies and 28 call centres, offering computerised booking of diagnostic tests and professional consultations in both public and private healthcare throughout the Bologna Metropolitan region (www.cup2000.it/servizi-al-cittadino/servizi-sanitari/il-cup-metropolitano-di-bologna/). Advantages include:

- GPs, specialists and healthcare professionals can share data in real-time;
- patients can access their health data, anytime, anywhere (and it cannot be lost);
- users can book from a wide range of access points and from all relevant slots to suit their own diaries, reducing DNAs and increasing real choice;
- software ensures GPs follow protocols and patients directed to the appropriate facility;
- cancellations are immediately available for re-booking;
- the network also facilitates telecare and telemedicine networks (e-Care).

4.6 Notable contrasts with the NHS’s CfH (Connecting for Health) initiative, include:

a) low development cost by using generic software and generally available devices;
b) growth through the enthusiastic engagement of both users and providers of healthcare;
c) the integration achieved between public and private providers, and between health and social care organisations; and

d) worthwhile results from the earliest stages.

5 Conclusions

5.1 To realise the benefits of bottom-up innovation needs a local culture of innovation, creative co-operation between localities and the centre, and a centre that is aware of (and supportive of) the role of localities in innovation. All this implies localities that are genuinely local, but which also can deal on more equal terms with the centre than has been the case for most of the NHS’s history.

5.2 In the recent past innovation has been seen as the responsibility of a centralised machine. The National Innovation Centre (NIC) was set up in 2005: “as well as aiming to secure strategic support funding for the Hubs, also acts as a coordinating organisation that maximises the potential for sharing best practice amongst the Hubs and minimises opportunities for duplication of activities. The National Innovation Centre also identifies matters of shared interest and need amongst the Hubs ...” (NIC Annual Report 2007/8). However, it failed to add any noticeable value to the activities of the regional hubs, and had itself effectively ceased to exist by 2009.

5.3 This points clearly to the need for a more radical decentralisation of resources and responsibility for innovation from the centre to localities. Most of this should go to the Trusts with whom the responsibility for managing innovation (‘innovation in’ as well as ‘innovation out’) should remain. Trusts will need to draw on specialised IP management advice both to fulfill this duty, and to support innovation as a way of reducing costs and improving patient care throughout the NHS. At MidTECH we are content to compete in the market-place to provide such IP management services to individual Trusts (wherever located and whether or not members of MidTECH).

5.4 However, we do not believe that the wider benefits of local innovation will flow to the NHS as a whole without an NHS-funded capability to relate innovations to service delivery patterns across care pathways, and to identify clusters of related innovations across Trusts. Providing the local capability to do this job is compatible with (indeed, is mutually supportive of) providing more specific, targeted IP services in competition with others. We suggest that MidTECH, as a membership organisation of NHS Trusts in a locality (however demarcated), is ideally placed to provide this service and that it is commissioned by the national and local NHS to do so.