

# Response to the DH Consultation "NHS Chief Executive Innovation Review"

## Our details

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Organisation type	UK private sector healthcare improvement company which produces a range of intelligent clinical IT systems. The main product, VitalPAC, enables nurses to capture clinical data on handheld devices in real-time, allowing earlier identification of high risk and deteriorating patients and prompt escalation of their care to doctors and other specialists when needed.
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We would like to be kept in touch with the next steps in this process.

We would like to be included in a wider community of interest.

## Introduction

1. We welcome the opportunity to respond to the consultation on how the NHS could promote and accelerate the adoption and diffusion of innovative technologies. Over the last seven years, our company has designed, developed and deployed an innovative, award-winning system called VitalPAC in more than twenty NHS hospitals. VitalPAC uses handheld personal devices such as iPod Touches to record patient observations at the bedside, analyse the data and make the information instantly available to other authorised staff using the hospital's wireless network.
2. VitalPAC ensures that patients have risk assessments such as screening for MRSA, blood clots and malnutrition undertaken on admission and that they are properly monitored throughout their stay in hospital. It links the data to lab results, identifies if they are at high

risk of complications or deterioration and, if so, automatically and immediately sends a message to medical and other specialist staff on their iPod Touches, requiring them to respond and record any actions that they take.

3. VitalPAC is very popular with clinicians, fits well into their usual workflow and allows them to view patient information in real time, anywhere. It is easy to roll-out and integrates with other IT systems. Complications are reduced because high risk patients are identified earlier leading to substantial reductions in length of stay, intensive care admissions, infection rates and mortality. VitalPAC also drives huge improvements in productivity: At Portsmouth Hospitals NHS Trust, the use of VitalPAC's infection control case management system has led to an almost complete eradication of gastroenteritis outbreaks and a 53% increase in productivity of the Infection Control Team.
4. In addition, VitalPAC generates a rich source of performance (and research) data that allows continuous and real-time measurement of all clinical activity without the need to engage in cumbersome and retrospective audits of small samples of patients. VitalPAC enables care to be re-engineered without compromising clinical autonomy and decision making because the "production line" of routine tasks is measured and monitored on an ongoing basis.
5. Despite our considerable success, we continue to encounter long delays in Trusts procuring our system and we need to make the case repeatedly for why the issues we tackle are important, how our system addresses them and the benefits and value that it offers. We therefore hope that, given our background and experience, we can usefully contribute to this consultation exercise.

## **General comments**

6. We fully support the aspirations of this initiative and the sentiments expressed, particularly that successful organisations in every industry need to continually evolve to accommodate changes in their environment. The NHS should be no different.
7. We also applaud many of the efforts that have been made in recent years to stimulate innovation, particularly the work of the Regional Innovation Funds and the iTAPP programme. These have provided targeted support for specific programmes, albeit not always reciprocated by NHS providers. We also believe that the CQUIN scheme offers a huge opportunity to systematise the exploitation of new technologies across the NHS.
8. VitalPAC can be perceived as a disruptive technology because it changes the way people work. This is a frequently observed and important feature of true innovation and should not

be overlooked. The corollary is that innovation is challenging and uncomfortable for staff who are affected, at least in the short term, so implementation is never without consequences. Clear leadership and a well communicated vision of the expected benefits, as well as honesty about any associated challenges or downsides, are critical if rapid adoption is required.

9. The consultation document differentiates between innovative technologies and care pathways. We would expand this definition to distinguish between single interventions such as new drug therapies or investigative tools which improve outcomes on a case by case basis, and innovations that change systems and improve care for whole populations of patients in a systematic way. Both need to be recognised as innovations. The former are well suited to classic trials of efficacy such as Randomised Control Trials. The latter are almost impossible to run against control cohorts and so alternative means of assessing their effectiveness and value need to be used. Such approaches need to be validated and methodologies should be developed to provide a credible body of evidence.
10. System innovations will not be readily diffused unless they are demonstrably scalable (ie: reliable) as well as effective. There are too many examples of technologies being implemented as small scale trials that fail as soon they are deployed system-wide, ie: evaluation of the trial has been inadequate. Reliability needs to be included as part of every trial and this requires suitable measures being developed to continually review performance of the new system after diffusion.
11. Similarly, system innovations should not be deployed unless their impact and performance can be readily measured on an ongoing basis. Other industries (eg: retail, banking, airlines, manufacturing) have been transformed by the use of real-time data to measure and control activity and it is almost impossible to imagine such sectors returning to an era of spot checks to estimate quality, safety and productivity. However, clinical audit is based on exactly that premise. New technologies provide an opportunity to consign such outdated approaches to history and embrace a model of continuous measurement of all activity in real time, identifying problems as they occur and fixing them before harm occurs. Continuous measurement is the key to sustaining process improvements.
12. Decisions to adopt/diffuse new technologies need to be based on value rather than cost. Arguments that technologies are unaffordable are simplistic and naïve. Change requires realignment of business processes and therefore of the value chain. Benefits need to be assessed in these terms – how they add value to the business. Funds need to be shifted from less efficient areas of the organisation to realise the benefits. The risks of doing

nothing should be quantified financially as well as clinically and Trusts should have to explicitly state the continuing costs of this “option” in their business cases.

13. The NHS is famed for its level of risk aversion and this predates against the adoption of new technologies, particularly where the potential benefits may not be defined until after deployment and their value remains to be quantified. The NHS needs to accept that evidence of effectiveness sometimes needs to be balanced, at least in part, against potential gains. If not, it will be difficult to encourage collaboration around risk sharing as described in the consultation document.

## **Actions at national level**

14. At a national level, Ministers, parliamentarians and NHS leaders need to visibly promote innovation. This should be through initiatives such as personal visits to publicise examples of good practice as well as through policy statements and speeches.
15. The role of the Commissioning Board (and Commissioning Groups in general) should be clarified in this respect – as described in the consultation document, commissioners should define outcomes but not how these should be delivered. However, this should not prevent them articulating specific requirements about the standards of care that patients can expect to receive.
16. Similarly, regulators have an important role to play in defining the way in which care should be provided, although not how this should be achieved. For example, it would be legitimate for the Care Quality Commission to demand that all licensed healthcare providers properly and fully monitor their patients, escalate care if they deteriorate and can demonstrate in real time that this is taking place. How providers achieve this is a decision for their management team.
17. Evaluation of technologies and innovations requires robust, independent evaluation. It is illogical to expect staff whose working environments will be disrupted by change to be dispassionate about it. NICE has done a fantastic job at developing methodologies to evaluate and recommend specific interventions, but not innovations that promote system change. An alternative body should be given an equivalent role for these innovations.
18. Diffusion would be helped if the centre shared the financial risk by contracting centrally with vendors to cover initial core costs. Trusts should fund recurrent costs with freedom to withdraw if the technology does not deliver the expected benefits. This model works well in other sectors and countries – the US Meaningful Use model providing rebates on IT

expenditure has been very successful in driving adoption of EPRs, albeit more slowly than originally intended.

19. The centre should define specific measures that must be used to demonstrate and measure results. These should reflect improvements in the value chain – ie: reliability of care delivery, quality and lack of defects, safety, patient/carer satisfaction, and productivity. Conversely, the centre should eliminate the perverse incentives that actively discourage Trusts to innovate. For example, our VitalPAC system reduces patient complications and therefore admissions to and length of stay on intensive care units (ICU). However, the current Payment by Results tariff reimburses Trusts for each day's admission to ICU. Reducing admissions leads to reduced income, despite it being better for patients.

## **Actions at local level**

20. NHS organisations should avoid endlessly duplicating evaluations. There should be clear timescales set for evaluating the cost-effectiveness, reliability and scalability of an innovation. If these cannot be met, then it should be presumed that the technology is not suitable. If they can, then Trusts should use clear models to enable them to calculate the scale and nature of any internal funding shifts needed to enable adoption.
21. NHS organisations should be structured and managed in a way that encourages innovation. At present, the focus of most NHS organisations and their CEOs is to achieve financial balance and to manage their cost base. CEOs should be incentivised, at least in part, on the basis of the value added to the organisation by improving the processes of care. This requires a focus on the true value chain within the organisation (the delivery of clinical care) and would reflect the aim of Government reforms to develop a more clinically-led NHS.
22. Ultimately, as recognised in the consultation document, clinicians must be fully engaged in, if not actively driving, any changes to care delivery. They therefore also need to be appropriately incentivised and their efforts to innovate should be properly recognised in medical Clinical Excellence Awards and similar schemes.
23. Equally, innovative technologies are rarely adopted unless respected leaders and peers set an example and help to create the right environment for successful deployment. Royal Colleges, clinical networks, research institutes and other professional networks should be asked to accept a responsibility for assisting with the evaluation, recommendation and rapid deployment of new technologies across the NHS and the wider health system.

24. Lastly, the culture of the NHS needs to change to recognise that innovation is not something that can be done behind closed doors by NHS organisations alone. There is still a general aversion amongst many staff to working openly with private companies which are perceived to be motivated purely by financial gain at the expense of their partners. This is both incorrect and short-sighted and prevents all parties from fully exploiting the huge opportunities that lie ahead to improve the quality and efficiency of care.

## **Conclusions**

25. Our four key messages are as follows:

- a. Innovations must be demonstrably scalable before they are promoted.
- b. Professional bodies and networks should be actively involved in evaluating, promoting and championing the adoption of new system technologies.
- c. The impact of any change must reflect the true value chain of hospitals and other care providers, and it must be measurable and measured.
- d. Organisations and individuals should be incentivised accordingly.

26. We would be delighted to demonstrate the VitalPAC system as a potential case study and to have further discussions about our experiences and our ideas for how adoption and diffusion of innovative technologies could be improved.