Challenges in developing innovative technologies

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The current level of both clinical burden and spend should create an environment in which innovation can flourish... but, it does not. We have seen many changes in wound care practice over the last ten years, but have these changes been incremental or radical? Reavis (2009) describes four criteria for innovation:

» Novelty, or newness
» Better than what exists
» Economically viable, makes money and/or saves money
» Widespread appeal — it has to happen, not merely be spoken about.

Is it too simplistic to state that as commercial organisations focus on bringing innovative products to fruition, healthcare practitioners should simultaneously be redesigning their processes to incorporate these products and realise better ways of achieving patient care? Surely, if the above criteria are met, not only does industry benefit (by making more money), but the NHS benefits (by saving money), and patients benefit (better outcomes than from existing treatments).

The Healthcare Industries Task Force reviewed the relationship between the NHS and its medical device suppliers (Department of Health [DH], 2004). It found that there were significant barriers within the NHS which prevented the adoption of new technology, and outlined a series of initiatives designed to give better access to innovative products.

But, what are the barriers? Do they exist because one or more of the criteria for innovation is not being met? In an environment where evidence is

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a prerequisite for changing practice, is it because there is too little reliance on proving that an innovation is better, saves money and is easy to implement?

If a new product meets the criteria for innovation (*Table 1*), including the evidence base that quantifies improvements, reduced costs, etc why is the NHS still slow to adopt it (Robert, 2009)?

I have worked in the wound care industry for most of my career. I now offer an open question to the wound care clinical community: if a manufacturer brings an innovative product to market, one that meets a genuine clinical need, has the evidence that it satisfies the four criteria, can improve outcomes, save money for the

NHS and make your life as a clinician easier, surely it is worth changing 'the way we have always done things' to incorporate this innovation into routine practice?

References

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Reavis D (2010) Innovation definition — the four requirements for innovation [Online] Available online at: http://ezinearticles.com/?Innovation-Definition---The-Four-Requirements-For-Innovation&id=2687046 [accessed 13 May 2010]

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Table 1
Checklist for innovations in wound care

Criterion	Innovative	Not innovative
Novelty	Is this genuinely new? Is it setting new standards of care, of outcomes or of performance?	Is this simply a re-working of an existing formula? These 'solutions' are often called 'me-too', for obvious reasons
Better	'Better' starts with a poorly met clinical need. Does this innovation solve a well-recognised problem or clinical need? Can these improvements in standards of care, outcomes or performance be quantified? Are the data credible?	Sometimes things do not have to be better — achieving the same results at a markedly lower cost qualifies as improvement, but is this innovation, should we be satisfied with stasis?
Economically viable	Industry needs profit to survive, the NHS needs to reduce cost-per-patient to meet demand. Should not a health economic rationale showing a 'win-win' be an essential pre-requisite for any innovative product?	The difficulty comes when significantly better outcomes can be achieved, at a significantly greater cost. But, purchase cost is not the same as lifetime cost. Has this been taken into account?
Widespread appeal	Is it easier to use, to clean, to understand, to explain? If so, and it gives better results, why is it not being used?	Complexity is not always a bad thing, but give me a choice between simple and complex, and it is simple every time