Information technology, education and diabetes

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In *Future Shock,* Alvin Toffler said "change is the process by which the future invades our lives." In diabetes care, it would appear that technology is always tantalisingly near to facilitating this invasion in a positive way. In an editorial published in this Journal in 2010, I thought that the ability of emerging technology to change and improve the lives of people with diabetes was enticingly close (Kenny, 2010). At that time, we examined the role of technology and glucose self-monitoring, as well as how GP clinical systems might evolve and change how we record patient encounters. In this editorial and edition of *Diabetes and Primary Care*, we highlight information technology as a tool for diabetes care by reviewing the role of online learning resources for healthcare professionals and people with diabetes, as well as discovering how the Primary Care Diabetes Society (PCDS) might engage with social media, one of the developing trends in internet-based technology since that editorial in 2010.

Glucose self-monitoring

The current competition between providers of self-monitoring of blood glucose (SMBG) meters is intense. The cost of the strips alone for these meters can have significant impact on diabetes care budget holders. Meters are now small and smart, interact with personal computers and have clear readable screens. The technology has probably run ahead of objective examination of its utility.

In a recent well-conducted trial of SMBG, 300 individuals with type 2 diabetes using basic insulin therapy were followed over 6 months and were randomised to a once-weekly SMBG profile versus no blood glucose monitoring (Nauck et al, 2014). HbA_{1c} at 6-month follow-up was the primary outcome, and there was no significant difference between the groups, both groups achieving a modest fall in HbA_{1c} from 56 mmol/mol (7.3%) to 53 mmol/mol (7.0%). The authors concluded that the use of SMBG did not improve blood glucose control. An editorial on the study suggested that, as part of the emerging trend of attempting to tailor therapy to the individual, it is important to ensure that people are equipped with the knowledge to use self-monitoring more effectively to improve patient safety (Heller, 2014). This is especially important as individualised therapy is still supported by NICE (2009).

Online learning resources

This Journal seeks to champion people who are developing educational resources for diabetes teams and people with diabetes.

In the last edition, we featured an article on pre-conception counselling (Holmes, 2014). The author and her colleagues developed an innovative pre-conception counselling resource, originally as a DVD, which is now available in an online format (for more information see: http://bit.ly/1hcTNwM [accessed 28.05.14]). This educational resource has been adopted by diabetes care teams and many GP practices. It is unfortunate that the latest round of changes to the Quality and Outcome Framework (QOF) did not include pre-pregnancy counselling as a clinical indicator.

As reported in an article in the current edition (starting on page 129), a team in Kent has taken the dual approach of both face-to-face and online resources to develop a primary care-based initiative for the care of people with diabetes and depression. The authors developed a specialised primary care diabetes psychology service within the framework of the national Improving Access to Psychological Therapies programme as they recognised that depression in people with diabetes often remains undiagnosed, and access to psychological support and care is limited. Depression in people with diabetes is a common comorbidity, and cognitive behavioural therapy shows considerable promise in its treatment (Safren et al, 2014). In the article in this issue, the authors describe the development and evaluation of

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a diabetes psychology training workshop for mental health workers and an online training programme to increase awareness of the psychological implications of living with and managing diabetes.

Also in this edition, we feature an article (starting on page 123) that presents My Diabetes My Way (MDMW): NHS Scotland's diabetes patient information portal, which contains resources aimed at improving diabetes self-care. MDMW comprises validated educational materials, videos, interactive tools and social media. It also allows people with diabetes across Scotland access to their electronic diabetes record, presenting diagnostic information, demographics, clinical results, prescribed medication and correspondence. The website has generated a significant amount of user traffic from people with diabetes, spiking at different times, with longitudinal HbA_{1c} history being most frequently accessed. The authors conclude that MDMW resources are a useful aid to diabetes self-management in Scotland, suggesting it has the potential to connect to any health system and electronic medical record in the UK and beyond.

Social media

Interestingly, the developers of MDMW were prepared to embrace social media in the form of Facebook and Twitter. When the PCDS Committee met this February to reflect on whether social media should be actively embraced by the PCDS, it decided that a measured and considered approach is necessary for the Society. Nevertheless, it was apparent to the Committee members that across all ages the people with diabetes we see are embracing information technology in general, and social media in particular, as the work of the MDMW team has ably demonstrated.

It is also clear that there are large numbers of diabetes blogs available. A simple Internet search reveals the "top 18" (http://bit.ly/1irbQKe [accessed 28.05.14]). There are a few problems to be aware of with these blogs, however. There is a lack of quality control and many are based in America, where the healthcare system is different to the UK. Typically the authors are enthusiastic individuals, often with a particular agenda, but they are usually not healthcare professionals and have no indemnity for their observations. Nor do they have active control over responses on the website, which can be constructive but, equally, has the potential to be very misleading.

Reflecting carefully on whether to embrace social media, the PCDS Committee was very aware of General Medical Council (GMC) guidance. The GMC is clear that healthcare professionals' use of social media can benefit patient-engaging people in public health and policy (GMC, 2013). The Committee did decide to upgrade the PCDS Committee's website (http://www.pcdsociety.org/ [accessed 28.05.14]), in conjunction with Diabetesonthenet.com, but did not conclusively feel that a wider use of social media is appropriate at this stage, because of the risks of breaching patient confidentiality, the need to be careful about prescribing advice, and the large task of monitoring responses to a blog or Twitter account. Nonetheless, as one of the actions arising from the discussions, the Committee is currently developing its own policy on social media.

It is important to also bear in mind the ethical dilemma of equity with social media: it could be argued that not everyone can access computers or online resources and that these individuals should not be discriminated against. As part of our new series *Ethical dilemmas*, a practice nurse and GP reflect on other difficult situations that healthcare professional may face in the clinic. In the current instalment (on page 122), they explore driving and glucose monitoring.

Marshalling resources

Changes in technology within diabetes care will continue to alter our practice. We are committed to improving the value and utility of Diabetesonthenet.com. A considerable effort has seen the resources on the site archived and made accessible to registered users. *Diabetes Distilled*, a monthly e-newsletter summarising important breaking evidence (see sidebar), has been developed to reflect contemporary practice.

Many centuries ago, Heraclitus said "nothing is permanent but change." While it is important not to have change for change's sake, there are clearly advantages to the accessibility to resources that information technology offers. Careful thought is needed by healthcare professionals on how to marshal these resources for the benefit of themselves and people with diabetes. ■

General Medical Council (2013) *Doctors' use of social media*. GMC, London. Available at: http://bit.ly/1oJ6UoW (accessed 28.05.14)

Kenny C (2010) Is the future here already? Technology and diabetes. *Diabetes & Primary Care* **12**: 135

Heller SR (2014) Self-monitoring of blood glucose: a promise still unfulfilled? *Diabetologia* **57**: 847–9

Holmes VA (2014) Preconception counselling for women with diabetes: An online resource. *Diabetes & Primary Care* **16**: 70–5

Nauck MA, Haastert B, Trautner C et al (2014) A randomised, controlled trial of selfmonitoring of blood glucose in patients with type 2 diabetes receiving conventional insulin treatment. *Diabetologia* **57:** 868–77

NICE (2009) NICE clinical guideline 87. Type 2 diabetes: the management of type 2 diabetes. NICE, London.

Safren SA, Gonzalez JS, Wexler DJ et al (2014) A randomized controlled trial of cognitive behavioral therapy for adherence and depression (CBT-AD) in patients with uncontrolled type 2 diabetes *Diabetes Care* **37**: 625–33