



Johanna and her dog.

*"GPs know that patients come to them seeking more than a lab report or a blood test result. They want variously: understanding, an explanation, to tell their story."*

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## The future is now

Nearing the end of my GP training and applying for jobs for the future is both exciting and terrifying. At the beginning of this journey I take a moment to consider how my job will change in the next 40 years that I may be working. In 2040, what will we be doing when patients come to consult with us?

The tools and rituals of the GP's trade have not altered greatly in the past 50 years although the substance of the job has. Notes are now kept on a computer but the stethoscope, ophthalmoscope, and BP cuff would be entirely familiar to a previous generation. Although we might refer patients for advanced tests and scans in day-to-day practice in my general practice training rotations, the most advanced piece of kit I've used has been the sats monitor. Will this change significantly? With the advent of smartphones, we all carry an incredibly advanced and continually updated piece of technology in our pockets. Electronic stethoscopes that bluetooth to an app, portable ultrasound probes that connect and display the images on your smartphone screen,<sup>1</sup> and even point-of-care laboratory testing from dongles<sup>2</sup> that attach to your smartphone are available now. Tests and investigations are going to get quicker and cheaper, and not necessarily requiring hospital surroundings and technically trained staff to perform them.

At present, an ultrasound that attaches to a phone is not much use to a GP, unless trained to interpret the images. However, what about when a computer program can interpret the scan faster and as accurately as a radiologist? GPs could do a different kind of medicine. What if, when considering if to refer a patient for a suspected appendicitis in the consulting room, one could quickly perform a scan that would give an indication of any inflammation or not and get a CRP and FBC reading with no more trouble than doing a blood glucose test. This could greatly reduce referrals to hospital and make medicine safer and more evidence based. In a publicly funded health service there isn't much money to pay for advanced technology in GPs' surgeries, but prices will come down as technology becomes more mainstream – and, eventually, technology will change the

job of the family doctor.

Although BP cuffs and stethoscopes have been resolutely resistant to change, something that has changed significantly is the advent of preventive medicine, with vast quantities of statins, BP agents, and osteoporosis prophylaxis prescribed on the basis of population risk. The next 50 years is likely to bring the advent of predictive medicine, with drug regimes tailored specifically to a patient's genetic risk profile. The cost of sequencing the human genome has fallen exponentially and already it is possible to pay a modest amount privately to get a genetic analysis covering the risk of developing a number of different conditions. These include Parkinson's or lactose intolerance as well as genetic sensitivity to a number of drugs, some of which, like clopidogrel and simvastatin, are commonly used in UK medical practice.<sup>3</sup>

How will UK general practice handle the advent of personalised medicine? Can we really be performing genetic testing on every person over 50 years old with high BP or at risk of a stroke to decide which medicines to give them? Only time will tell what the government is willing to pay for but, as these services become more easily available privately, the pressure will increase for some to be publicly funded. And as GPs do the bulk of preventive medicine in the UK it seems likely that at least some of the responsibility will fall to them.

Although technology may transform some of the ways we diagnose and treat patients, I believe the fundamental role of the GP will not change in 50 or 150 years. Even if a patient's illness can be diagnosed with the press of a smart-enabled bluetooth MRI dongle, GPs know that patients come to them seeking more than a lab report or a blood test result. They want variously: understanding, an explanation, to tell their story. And in this, the role of the generalist medical practitioner will never change.

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