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'Hello' – the humble telephone re-emerges among the COVID-19 pandemic

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Editor – I read with interest the paper by Hayes describing equipment needed to work from home in medicine.[1] I agree with the emphasis placed on the simple telephone over more hyped high-tech solutions which the NHS digital infrastructure was never pre-equipped with.

Recently, healthcare technology buzzed with artificial intelligence, big-data analytics, and increasingly advanced diagnostics. By March 2020, amid a global health crisis, most technological efforts were re-directed into countering COVID-19. Big-data-analytics were used to model viral activity and guide healthcare policy; deep-learning algorithms were developed to interpret diagnostic imaging; and apps for symptom surveillance and contact tracing deployed.[2] Most dramatically, there has been widespread adoption of telemedicine.[3]

In England, in February 2020 before COVID-19, the vast majority of primary care appointments (24 million) were conducted face-to-face (81%) with only a minority by telephone (14%) or online-video (<1%).[4] However, data for March 2020 showed a significant shift from face-to-face (67%) towards telephone consults (28%). Data from NHS Digital for England shows the importance of telephone calls during the COVID-19 pandemic for primary care and for NHS 111/999 triage; the proportion of primary care appointments handled via telephone has doubled from 14% to 28% between February and March 2020. Remarkably, the shift has been towards simple telephone use rather than much vaunted online-video tools which remained at <1%. One possible reason is use of app or computer-based video services requires a degree of preparedness with these services already evaluated, installed, explained and available to users indiscriminately. Additionally, contacting vulnerable patient groups such as the elderly can be challenging via online-video services due to the more technical interface; and it also assumes widespread high-speed internet. Enter then, an old friend – the humble telephone – an easy-to-use 150-year-old technology found in almost everyone's home or pocket, familiar to young and old.

While telecommunications providers prepared for increased internet traffic, they did not expect an even greater surge in plain-old voice calls (up 35% in the USA as per Federal Communications Commission). Its dependability and ubiquity are the same reasons the phone-call remains the primary mode of contacting emergency services internationally. Indeed, between 18 March 2020 and 01 May 2020, the NHS in England triaged 533,236 phone-calls related to COVID-19 via its urgent 111 or emergency 999 numbers – arguably the telephone is still in its prime and is one of the understated heroes of the pandemic.[4] ■

MANISH MOTWANI
Consultant cardiologist, Manchester Heart Centre, Manchester, UK

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Shooting from the hip into our own foot? A perspective on how artificial intelligence may disrupt medical training

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Editor – I have enjoyed reading articles in the *Future Healthcare Journal* and wider medical literature about the potential for artificial intelligence (AI) to positively transform healthcare and improve patient outcomes. Recent articles have highlighted prospects of AI reducing administrative burdens, improving diagnostic accuracy and working synergistically with robotic technologies.[1,2] However, risks and uncertainties surrounding AI warrant a cautious approach to its implementation. One commonly overlooked risk is disruption to medical training, which fundamentally relies on experiential learning to refine decision making and improve situational judgement. Medical school and early education focuses on knowledge acquisition, which is essential but not by itself sufficient to prepare a doctor for clinical practice. Following graduation from medical school, clinicians rely on practising their decision making, gaining experience and learning from it.

As AI begins to exert its effects on the medical field, junior and senior clinicians will be affected differently. The job of a junior doctor typically consists of some automatable routine work eg evaluating patient records, simple diagnoses and paperwork. On the surface, this repetitive work may appear undesirable, but it is crucial to the experiential learning model and is a key component of junior doctor training. Given a long enough timeframe, this routine work will become more efficiently delegated to AI, which can work faster, more efficiently and for longer hours. This may result in a reduced demand for those junior doctors, whose work has been substantially altered.

On the other hand, there will always remain a need for specialist consultants to maintain control over AI systems, to refine them and to work synergistically with them. In fact, we may even see an increased demand for these specialists when the capacity of healthcare systems grows, as a result of operational efficiencies provided by AI. This becomes problematic if the career progression of junior doctors has been hindered. Since the jobs of senior specialists are relatively resistant to automation compared to trainees, we may see staff shortages for these positions in the long term.

There is also a threat of overdependence on AI if doctors are ill-equipped with the programming skills required to handle the technologies in clinical practice. Doctors must be able to understand, communicate and correct the outputs of AI systems. Without an understanding of dataset validation, algorithmic biases and machine learning principles, this seems difficult to achieve. General Medical Council guidance for UK medical schools currently makes no reference to computer or programming skills despite the fact that,