BAD Teledermatology Fellowship 2018
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I am are very grateful to the British Association of Dermatology Teledermatology subcomittee for their assistance in enabling me to attend The World Teldermatology Congress in the beautiful city of Houston, Texas in November 2018. The experience was very enjoyable and I learned a vast amount about the current and future of Teledermatology. It was a fantastic opportunity to network with Dermatologists, Histopathologists and software engineers from around the world.

There were many fascinating topics discussed over the two days. I found the lecture by Dr Liam Caffery, Queensland on artificial intelligence (AI) and image recognition very interesting in particular in relation to the detection of skin cancers. We have all heard the phrase "man against the machine" in melanoma detection, whereby the diagnostic accuracy of melanoma detection has been shown to be higher in AI than in physicians. Machine learning is a subset of AI that uses algorithms, however Dr Caffery outlined that machine learning is data starved which makes it difficult to make a diagnosis. Smart phone melanoma applications are improving in sensitivity and specificity however he acknowledged that they generally generate poorer outcomes. Dr Caffery spoke of the many practical challenges to AI development such as where to invest resources, accuracy of images used, the creation of links to medical records and the grey area of where the legal liability lies when using AI as a diagnostic tool. There is a greater need for human input into AI to seek a partnership whereby the machine predicts, human interprets and decides on the action to be taken. Dr Caffery concluded that at present AI is unlikely to replace humans as there is a need for more sophisticated metadata and clinical decision support tools.

Dr Pasquali from Pius Hospital de Valls, Spain gave a very useful lecture and provided advice on the standardisation of photographs for teledermatology, which is a problem we are all encountering in clinical practice. She purported that photographs should have a large focus and depth of field in that the closer we stand to our patient the depth of field decreases. She suggested the use of colour calibration and white balance, light illumination and resolution, decreasing distractions on a patient and how to position and scale of a lesion or rash. A similar lecture was provided by Dr Tejasavi from the University of Michigan on the use of teledermoscopy in practice. He felt that teledermsocopy reduced waiting times and that teledermoscopy was useful for the diagnosis of pigmented lesion over non-pigmented lesions. He described a very useful 3 step process for taking dermascopic images. The first step involves obtaining a forest view of the lesion, a close-up view followed by a macroscopic image of the lesion. The second step suggest wiping the lesion with an alcohol wipe prior to taking dermascopic images. Step three provides advice on the use of cameras with a polarised dermatoscope attached with two modes. The non-contact mode includes microscopic images taken less than 2 inches from the skin, the other touching the skin. He spoke about the limitations of teledermoscopy including lack of expertise in dermoscopy, the lack of current education regarding dermoscopic image capture, the availability of photo dermoscopy kits or units and few randomised controlled trials available. He also suggested that AI should be included as a triage tool.

The congress also had some very interesting speakers who shared their experiences on providing teledermatology in underesourced areas such as Africa, Botswana, rural Mexico and

MSF. The experiences of MSF were similar to other countries. MSF telemedicine is in existence from 2010, The store and forward method is the most commonly used format. The most common conditions that require telemedicine assistance are infectious diseases with dermatological conditions being the second most common. Telemedicine support for MSF reviews approximately 51% of paediatric cases, 25% inflammatory and 14% genetic diseases. Cost and consistent access to high speed internet are the most limiting factors. There is often a deficiency and non-uniformity in the information provided and a lack of nuance in case histories. Photographic quality can also be a challenge. The MSF doctors find telemedicine useful in helping to manage the patients, improving quality of care, avoiding unnecessary treatments, decreasing medical isolation, enhancing professional learning and general solidarity with the treating doctor. There is often no advanced imaging and pathology in these areas. Advice on telemedicine referrals must be timely as patients are often complex and very sick. Advice must consider be respectful of limited local resources.

Dr Karolyn Wanat from the medical college of Wisconsin discussed the enhanced curriculum of the AAD which now includes a training curriculum for teledermatology. The impetus came from the paucity of training that residents received and how they felt unprepared for future practice in the face of the increasing use of teledermatology in the US. The AAD subsequently set up a task force to address the issue and created a teledermatology curriculum for residents. This includes modules on teledermatology delivery, medicolegal and the legislative landscape, teledermatology utilisation and telederomatoethics. This enhanced curriculum enables residents to manage virtual cases while a preceptor oversees the management plan. There is a virtual grand round curriculum which provides valuable education on medical diagnosis, treatment and ethical issues involved. I felt that this is something UK based trainees would welcome as many consultants in the UK now have teledermatology in their job plans.

Other lectures included a discussion on the use of mobile apps, new software design and safety, costing and business reimbursement models from a European and American perspective and quality assurance methods. It is beyond the scope of this report to reflect on the myriad of learning opportunities that were available at the World Congress of Teledermatology. I would definitely recommend attending this congress and future teledermatology conferences as we as dermatologists need to embrace the future of technology in our practices.