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What is the future of Dermatology; hospital versus office based, NHS versus private?

The future of Dermatology is an exciting one. Advances have been made in digital technologies that aid dermatologists in the diagnosis and treatment of skin diseases. Telemedicine in particular is especially suited to dermatology, and teledermatological services are increasing exponentially worldwide[1]. These services may provide a solution to current issues of geographical inadequacy, if the correct infrastructure is put in place to support them[2]. Wearable health monitoring is becoming less expensive, more readably available, and more reliable; ultimately enabling people to take better control of their health. Skin is regarded as an important signal source that both generates and transmits biological signals - providing invaluable health metrics of individuals[3]. L'Oreal, for example, has already introduced 'My UV Patch'; a wearable, water resistant and very flexible sensor that measures sun exposure and warns against possible skin damage (hoping ultimately to prevent skin cancer)[4]. LEO Science & Tech Hub are currently developing a wearable sweat sensor to help optimize the treatment of eczema[5]. Zion Market Research predicts that the Global Dermatology Devices Market will surpass 7$ billion by the year 2025[6]. Unfortunately, many advancements in dermatology are not yet tangible. For us, the real question is; what is the immediate future of Dermatology? Will it be hospital or office based, publicly available or a privilege of the private sector? What will this mean for patients?

Inpatient dermatology

Inpatient dermatology has always been an important subspecialty; patients with known cutaneous disorders may present in both ambulatory and hospital settings, and cutaneous issues may arise within an individual secondary to an unrelated illness in an inpatient setting[7]. Dermatological consultations are often required following drug eruption, or to review unusual rashes and worsening skin infections[8]. More serious dermatological conditions require urgent treatment and multidisciplinary care[9]. Inpatient dermatology is gradually being recognised as a distinct and complex subspecialty caring for acutely unwell individuals with skin disease and often other serious comorbidities. Critical to the success of inpatient dermatology is quality and timely dermatologic care, combined with interprofessional collaboration, effective management plans and the education and training of medical students, nurses and non-dermatologists. Inpatient dermatology is a challenging field, with unique cases not often seen presenting traditional outpatient clinics, and therefore they require dermatologists with specific expertise[10].

Dermatologists with this expertise may be difficult to come by however, with studies indicating a worldwide shortage of all healthcare workers by 2030 and a current deficit of 17.4million healthcare workers globally[11]. The WHO's Global Strategy on Human Resources for Health: Workforce 2030 reports that shortages may exceed 9.9 million physicians, nurses and midwives by 2030[12]. The ABPI Dermatology Initiative supported report 'Optimising the treatment and care of people with long-term skin conditions in England' highlighted the burden of skin disease in England - with 54% of the population affected by skin disease- and the shortage of dermatology consultants currently[13]. It is evident that there are not enough trainees to fill the void left by retiring staff, and although this was an issue stressed in 2015 by David Eedy, it appears that

very little has been done to fix this crises[14]. Previously mentioned teledermatology may be an effective method of triage in hospital settings and increase access to dermatological consultation in areas with minimal hospital dermatology presence[15]. Other strategies to ensure the sustainability of inpatient dermatology include the optimisation of specimen handling and turnaround within dermatopathology[16]. Given the importance of inpatient dermatology, it will remain indispensable as part of holistic hospital patient care for the foreseeable future.

Office based dermatology

For the most part, worldwide, majority of professional care of skin diseases is provided in physicians' offices[17]. General Practitioners are expected to decide when to refer to secondary care, and when self-management is most appropriate. Between 2013/14 and 2017/18 in the UK there was an increase of 15% to 1.16 million per year of dermatological referral by GPs. Although there are many explanations for this rise- increasing aging population, improvement in treatments, growing number of patients with ulcers and skin cancer- these statistics are still alarming[18]. Unfortunately, this traditional service model of ‘gate keeping’ and referral is suboptimal for patients with long-term cutaneous disorders. This is partly due to the increasing workload for individual GPs who cannot provide substantial care to complex patients. More troubling, it is also secondary to inadequate dermatological exposure within the GP training scheme[19]. Variation in diagnosis and management of cutaneous disorders in primary care leads to inappropriate referrals and adds to the current strain on secondary care[20]. Is there truly any future for dermatology in GP offices?

It is unrealistic to expect a GP to have the same level of knowledge as a certified Dermatologist. That being said, the diagnostic profile of primary-care dermatology is

markedly different to that of hospital practice. Although GPs evidently require better training, it should be specifically tailored to common primary-care dermatological conditions[21]. The suggestion of public intermediary services, where patients with skin conditions can self-refer, may be a potential solution to this issue. Skin lesion clinics could offer a one-stop service from diagnosis to surgery, with expertise that surpasses that of a usual GP practise. Many argue that a change such as this would result in the de-skilling of GPs with regards skin conditions and others acknowledge that the necessary expansion in the workforce is simply not feasible[19]. The current options then remain as such:

1. Dermatology shall remain central to every GP practice, but they should have access to timely specialist advice and support as an effective alternative to referral.
2. Dermatology in GP offices may be limited to GPs with special interests (GPwSIs) only.
3. Numerous NHS Skin lesion clinics are built, and dermatology is phased out of general practise.

The first option, combined with better GP training, is likely to be the most achievable goal in the next couple of years. However, it may not be the best option for patients in the long term, and serious consideration must be given to the sustainability of dermatology in general practice. Clear multidisciplinary pathways and effective care models that holistically address psychological, physical and long-term needs of patients may help GPs cope with the future demands of dermatology and the day-to-day impact it will have in their practice[22].

NHS vs Private dermatology

The NHS suffered under intense pressure in 2019, with waiting lists for treatment above 4.3 million, 96% of trusts exceeding recommended occupancy levels, 24% of cancer patients waiting over 2 months for treatment and 4 in 10 NHS staff feeling unwell due to work stress[23]. Could the NHS cope with the entire scope of dermatology down the line?

The NHS long term plan 2019 believes technology will redesign clinical pathways, dermatology in particular. Virtual clinics are to take precedence and replace follow up appointments in many cases, further reducing the workload and preventing unnecessary specialist referrals. Some patients may be managed entirely digitally - although this may bring with it a myriad of other issues[24]. Investment in the British public health sector has been assured by the NHS's multi-year funding settlement which will codify in law a £33.9bn increase in cash terms for the NHS[25]. This investment will hopefully assure that public health services remain readily available for many years to come. This does not diminish the benefits of the private sector, however. Many private dermatology clinics operating in the UK lessen significantly the demand for NHS services. The private sector of healthcare is growing rapidly in the UK, with the market for private services projected to reach 13.8$ billion by 2023, partly due to extreme NHS waiting times[26]. Perhaps the growing private sector is a blessing - it will most definitely take the pressure off the NHS. The 'Doctors in Chambers' model is one utilised successfully by The Medical Chambers Kensington and offers flexibility to clinicians while maintaining quality service for patients[27]. Although the investment into the NHS ensures that dermatology, and numerous other services, will remain accessible by the general public, the digital pathway chosen for the NHS may drive people to access clinicians privately in search of face-to-face interaction.

Conclusion

The future of dermatology in the UK is somewhat uncertain. In my opinion it is unlikely to follow any one single pathway - be it hospital or office dominated, public or private. It is most likely to become revolutionised within the spheres that it currently exists - most notably with increasing teledermatology and digitalisation. Perhaps dermatology will be primarily addressed via virtual consultations, as hoped by the NHS 2019 long term plan. I personally think the huge psychological impact cutaneous disorders have on individuals will drive them to the private sector, with this having a significant consequences on members of society who cannot afford private health care[28,29]. Technology is most certainly driving dermatological advancements; if wearable devices prove to be as invaluable to people as companies predict, much of long-term skin conditions will be self-managed with little clinician input. In this era of personalised medicine, the future of dermatology is bright, even if the future is decidedly undecided.

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