Digital Health & Skills in Scotland

The DHI was commissioned by Skills Development Scotland to investigate and analyse skills issues in Scotland's digital health sector. The analysis draws on desk research and one to one consultations with employers and partners. Key findings are summarised in this leaflet.

Digital Health as a Sector

The digital health sector has no single definition, which is reflective of the industry's dynamic and developing nature. It has been characterised as arising from the intersection of healthcare services, information technology and mobile technology, and encompassing digital products that can monitor, analyse, educate and improve health and care. The sector includes four large sub-sectors: Mobile Health, Telehealth and Telecare, Health Analytics and Digitised Health Systems. The digital health sector nests within the broader digital technology sector, which was creating jobs **2.8 times faster** than the wider UK economy in 2016, and still twice as fast in 2017.

Digital Health Sector

The global digital health sector is growing at an exponential rate year on year. The UK digital health sector is expected to reach a value of £2.9bn in 2018, an increase of almost £1bn from 2015. Digitised Health Systems (network infrastructure, data storage and exchange) represents 66% of this market.

£2.9bn

7,000

Just under 140 IT companies are active within the healthcare sector in Scotland. Most of these are in the central belt, where the strongest growth has taken place. While the majority of the digital health companies are small, **collectively the digital health sector employs 7,000 people in Scotland.**
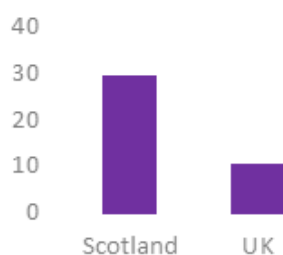
Skills Requirements

The top 10 skills that the Scottish digital health companies have identified for their workforce reflect the interdisciplinary nature of these jobs roles. These are:

1. **Software Development**
2. **Project Management**
3. **Bespoke Software Knowledge**
4. **App development experience**
5. **Mobile applications experience**
6. **Business analysis skills**
7. **Cloud solutions experience**
8. **Data management skills**
9. **Web design experience**
10. **Business intelligence skills**

Consultation with employers indicated also a demand for: business and entrepreneurial skills, commercialization skills, leadership and change management skills.

Skills Provision

As the digital health sector is poised to grow exponentially, the education and skills provision are in a position to support this growth by ensuring that employers' skills needs are met.

Currently ICT is taught in 15 Scottish universities, and in 2015 there were 4,381 computing graduates in Scotland. However, in 2017, **29% of all ICT graduates were unemployed 6 months after graduating.** This figure was 10% across the UK.

Consultees indicated that people with expertise in both IT and healthcare is the hardest skill combination to come by. There are currently three taught MSC courses in digital health across all universities in Scotland.

The landscape is rapidly changing with increase in demand for cloud computing, cyber security, big data analytics and mobile technology. The challenge for education and training partners is to be able to provide agile and relevant content, which meets the needs of industry, while also securing a common core of essential knowledge.

Recommendations

Based on the DHI's research, we have developed a set of recommendations that fall into the following three categories:

Review of the existing education and training provision for digital health	• **Increase the availability & variety of courses, whilst reviewing existing curriculum** • **Develop skills of current workforce** • **Improve the provision of digital skills across all levels of education**
Better alignment and more collaboration between the digital health industry and the education sector	• **Involve industry in curriculum design** • **Promote and increase uptake of work-based learning for the current workforce** • **Encourage integration of industrial placements in education for the future workforce**
Raising the profile of the digital health sector in Scotland	• **Raise awareness and promote digital health as a career opportunity to better define the job potential in the sector** • **Promote change management to enable digital transformation**