Wants & Challenges Of Health Technologists

By driving diversity and inclusion, everyone benefits from the best innovation

One HealthTech

Survey Summary 2019

Contents

Big Thanks

A large community thanks to those who completed the forms, interviewees and contributors who took part in the One HealthTech survey, especially:

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who provided comments on the survey draft and summary.

About One HealthTech

One HealthTech is a volunteer-led grassroots community that supports and promotes women and other under-represented groups to be future leaders in health innovation.

The community acts to inspire, celebrate, enable and champion diversity in healthtech and represents a broad range of different sectors, countries and backgrounds, including health and care providers, startups, corporates, academics and charities, as well as individual chaos-creating innovators. Having started as a small meetup in London in late 2015, OHT has grown to now have Hubs all over the UK, as well as internationally, in Ireland, Sweden and Australia.

Hubs are led by local community-builders, passionate about healthtech in their region, who host friendly, informal, informative events and showcase healthtech trailblazers and organisations. Hubs share and collaborate on amazing opportunities, and of course, stretch out a welcoming hand to whoever wants to join in on transforming health care and life sciences. The community's vision is for healthtech to be vibrant, open and accessible.

A preamble

by Sarah Wilkinson,

CEO @ NHS Digital

The NHS Long Term Plan states that "over the past decade, workforce growth has not kept up with need, and the way staff have been supported to work has not kept up with the changing requirements of patients". It is candid about the challenges of recruiting and training the workforce of the future NHS, and very clear about the importance of retaining staff by making the NHS a consistently great place to work. It promises that NHS leaders "will seek to shape a modern employment culture for the NHS – promoting flexibility, well-being and career development, and redoubling our efforts to address discrimination, violence, bullying and harassment."

Technologists are an important constituent of the health and care workforce across the NHS, academia, and the healthtech supplier and start-up communities. As this survey shows, they too want to work in an organisation with a "modern employment culture" in which inclusivity, strong leadership and a less hierarchical structure are valued. They also face career challenges specific to their specialisation.

The world of digital, data and technology is moving at a ferocious pace. This makes it one of the most exciting and challenging areas in which to work, but it also demands continuous learning and a willingness to adapt to the new.

More than ever, the delivery of technology is now a team sport, with designers, developers, testers and operational teams working very closely together throughout the product life cycle. Technologists know, from a functional and a cultural perspective, that it takes a diverse set of voices, opinions and experiences to create a great team.

Alongside the extraordinary advances in the world of biotech and genomics, some of the biggest recent advances in technology are directly relevant to the health and care agenda, including digital medicine, artificial intelligence, robotics and the proliferation of medical devices connected to the Internet of Things. The UK needs health technologists to an extent never previously the case, and it must understand the specific needs of this population in order to attract them and retain them into this critical profession.

As the NHS works this year on the development of the workforce strategy to accompany the Long Term Plan, it has many reports, surveys and other contributions to guide its thinking on the needs of the digital, data and technology workforce.

The recently published Topol Review focuses on the need to build a digitally-ready workforce that is fully engaged and has the skills and confidence to adopt and adapt new technologies in practice and in context.

This survey from the fantastic team at One HealthTech provides a grassroots perspective on the opportunities and challenges as seen through the eyes of their (predominantly female) membership. It offers a different, but no less valuable, viewpoint. And these findings are equally valuable to leaders in academia and industry seeking to build their HealthTech workforce.

It is no surprise that the skills most coveted in 2019 are in the management and analysis of data. The ability to analyse data at scale and the increasing commodification of sophisticated analytical models, will have a dramatic impact on our work. Artificial Intelligence is the transformative technology of our time. Bringing this technology to the health sector is going to enable radical new insights, and wholly new approaches to diagnosis and treatment.

Reading the survey findings on challenges is very disheartening. Almost a third of respondents report that they experience common microaggressions and feel disrespected by colleagues, that they believe their organisations lack an inclusive culture, that HR processes lack transparency and that pay does not appear to be fair to both sexes. No wonder these individuals report that their confidence has been impaired to the extent that they experience 'impostor syndrome'. In a world where these critical skills are so rare and confident contributions from a diverse set of employees is so critical, allowing these behaviours to proliferate is sheer madness.

The good news is, as this survey identifies, there is much that can be done to encourage more people, and particularly more women and more minorities, to join the HealthTech workforce. Opportunities to learn must be omnipresent. Mentors and guides must be readily available at all stages of the career journey. Communities, like OHT, should be fostered and promoted. And every member of the HealthTech community must know that they are valued and respected, and that the work they do can change lives.

Enjoy the read!

SARAH

Summary; for the I'll-add-it-to-my-reading-list read-ers

One HealthTech, a volunteer-led, grassroots healthtech community with a focus on diversity, ran a survey at the end of 2018 to understand the wants, needs and challenges of its community, and more broadly the women and individuals from underrepresented groups working across the healthtech sector.

This report summarises the survey responses and aims to expose the substantial, unmet needs a diverse community experiences at the intersection of health, care, life sciences and tech. More broadly however, the survey responses highlight the skills, culture and leadership needs the whole healthtech sector requires, in order to flourish.

Now, this is not some great piece of academic research, so do not interpret the findings as such, but a helpful barometer, it certainly is! Here are some of the main takeaways:

Skills

● The most sought-after skills were overwhelmingly, and consistently across health technology sectors, in technical and non-technical areas of data
● Skill acquisition was motivated by the desire to complement an existing job rather than change jobs

Challenges

● "Impostor Syndrome" was the most common challenge experienced
● Academia was the worst-performing of all sectors when it came to cultural and structural organisational issues
● Lack of an inclusive culture was mostly felt by CEOs and directors, particularly in government and those now working as independent consultants
● Leadership and hierarchy, lack of technical knowledge and poor networks and few mentors were identified as major barriers

Solutions

● Mentorship was the most highly ranked solution to common challenges felt by health technologists
● Support focusing on confidence, leadership and role models

This survey highlighted, validated and more precisely defined a range of skills requirements, challenges and solutions felt by a broad community of current or budding healthtechnologists.
Utilising the experiences and ideas of grassroots communities, alongside more formal investigations, recommendations and programmes such as the Building A Digital Ready Workforce programme[1], will ensure a representative and diverse voice for defining the future needs, skills and culture of the health, care and life sciences sector.

"So What are We Gonna Do About This?"

On the back of years of listening to the wants and challenges of the One HealthTech community, and harnessing the insights from Health Education England's Topol Review[2], as well the insights from wider public, corporate and academic spheres, we propose: Unleashing 20,000 HealthTechies. But more on this later.

Background: Diversity in HealthTech

Efforts have exploded in the public and private sectors to increase the number of women on Boards(3), support a more diverse pool of entrepreneurs(4), and recognise the risk that technology can play in codifying unjust, racist or misogynistic practices(5). Yet, despite the rich mix of campaigns, events, scholarships and training schemes, many sectors, and particularly the technology sector, still looks homogeneous(6). Nonetheless, the pipeline has has made positive progress.

Lack of diversity and inclusion affects each sector in different ways, and the healthtech sector is not immune from the negative effects of lack of diversity and inclusion either. From Boston Scientific being sued $50M for discriminating against female sales representatives(7), to a British Nobel prize-winning scientist allegedly lamenting the problems of having women in laboratories(8), the world of innovating in health, care and life sciences is no different when it comes to a hostile environment towards women and minority groups.

For us, "healthtech" is anything that combines health, care, life-sciences and well-being with technology and innovative approaches. But due to the nascence of the field, and its broad definition, we struggled to find specific data on what

people feel about the cultural environment in the healthtech sector, so we will leave that to our respondents. But a bit of scene-setting on those facts and figures below.

Women and minority groups have been consistently underrepresented in the world of technology and innovation. 47% of the general workforce are female, yet only 16% of IT specialists are women. Over the years, this ratio has not changed despite more women overall entering the profession. It is concerning that the number of women working in the technology sector in the UK is estimated to have fallen, with fewer women than before completing computer science A levels or applying for computer science degrees(9).

Whilst healthcare does not have the same challenges as technology when it comes to attracting women and minorities into the field, there is a notable absence amongst leadership. Only 42% of CEOs in the NHS are women, half of what is expected given the fact the NHS is 77% female overall. And despite good representation at more junior levels, only two of the Top 20 Big Pharma or MedTech companies has a female CEO. When other protected characteristics such as race or disability are included, the figures plummet, or more often than not, the data are missing(10).

Diversity in HealthTech

NHS: 77% are women

Women with an **informatics** role:

- 75% junior
- 40% senior
- 25% Board

Academia

45% junior academics are women

22% professors are women

BAME staff make up **15%**

Innovators

15% university spinouts are female-founded

8.3% patents are filed by women

10% healthtech companies are female founded (2% by BAME women)

Wants & challenges of healthtechnologists survey

Having grown organically over the last few years, and amassed a following and engagement of thousands of healthtechnologists, who one way or another, feel under-represented, One HealthTech went out to its community to find out its skills needs, challenges and solutions.

The timing could not be better due to a rich mix of top-down or centrally organised initiatives all looking to support, train and enable brilliant current or future healthtechnologists across the NHS, academia and private sector.

Grassroots communities emerge when the system fails those individuals in some way or another. One HealthTech looks to provide bottom-up solutions to some of the community's needs, including a support network, role models, training and skill-development opportunities and mentorship. Through this, we hope to be the access channel for many of these individuals into the brilliant offerings in healthtechnology out there, and hopefully address some of the imbalance present in the diversity and representativeness of healthtechnologists. However, this is not a survey about the facts and figures of how different health and technology organisations are performing

when it comes to the number of women or minorities they employ.
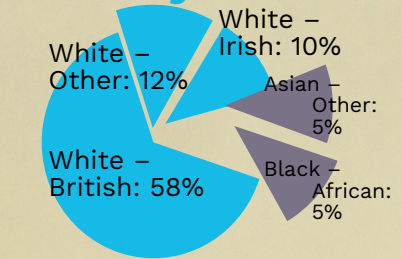
Esteemed colleagues all over the world have conducted these analyses. We would particularly recommend the team at Rock Health in their report "What 600+ women told us about working in healthcare in 2018"[17] or the British Computer Society's report on "Diversity in IT: Shaping our Future Together (2017)"[18].

This survey merely looks to act as a barometer of what a rich community of diverse healthtechnologists want.

Skills

1. The most sought-after skills were overwhelmingly, and consistently across health technology sectors, in technical and non-technical areas of data.

2. Skill acquisition was motivated by the desire to complement an existing job rather than change jobs.

The first part of the survey looked to understand what domains were most in-demand for healthtechnologists and why individuals were motivated to develop these skills. The domains were as follows:

- Data – AI, interoperability, analytics
- Software – AR/VR, apps, design
- Business – strategy, finance
- Clinical – -ologies, surgery, primary care
- Ethics
- Non-clinical – social care, wellbeing, fittech
- Bio-science – bio-informatics, nanotech
- Hardware – devices, wearables, robotics.

Skills Motivation (%)

Percentage of respondents selecting a skill motivation

Skills Motvation (%)

- Complement an existing job
- Pursue a different career
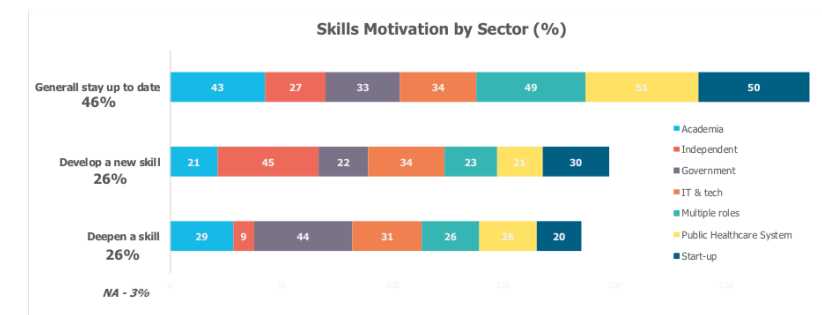- No skill development required

7%
12%
81%
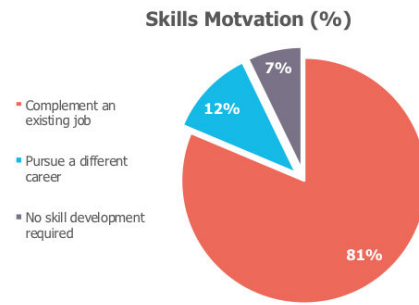
An appetite to develop skills was very high (93%) amongst respondents. 81% of respondents wanted to grow their skills to complement an existing job, and only 12% to pursue a different career. This may indicate that many individuals feel additional skills, both specific and general, would improve their ability to do their job, however employers are not catering to this need.

46% of respondents wanted to keep generally up to date on the latest in healthtech, whilst 26% were seeking to deepen an existing skill and 26% wanted to gain a new skill. When stratified by sector, those which deviated most from the average were freelancers or independent consultants who were mostly seeking to develop a new skill (45%). Those working in central or local government were mostly looking to deepen a skill (44%) and those working in IT and tech companies were evenly spread between whether they wanted to stay generally up to date (34%), develop a new skill (34%), or deepen an existing skill (31%).

Skills Motivation by Sector (%)

Percentage of respondents selecting any of the skills area, stratified by sector

Skills Motivation by Sector (%)

Generally stay up to date 46%: 43, 27, 33, 34, 49, 50

Develop a new skill 26%: 21, 45, 22, 34, 23, 30

Deepen a skill 26%: 29, 8, 44, 31, 26, 20

NA - 3%

Legend: Academia, Independent, Government, IT & tech, Multiple roles, Public Healthcare System, Start-up

When asked "In what area of healthtech are you looking to improve your skills/ network/ knowledge?", 60% of respondents selected skills in data, including AI, interoperability and analytics.

Data skills were the most popular skills by 30%, compared to the second most popular (software). When free text responses were examined, there was a balanced mix of technical skills sought, such as SQL, and non-technical, such as implementation science. Between 31% and 22% sought skills in software, such as apps, design, business and clinical context. Hardware was the least sought-after skill.

Most Sought-After Skills in Healthtech (%)

Percentage of respondents selecting any of the skills area

Data – AI, interoperability, analytics. **Software** – AR/VR, apps. **Design**. **Business** – Strategy, finance. **Clinical** - -ologies, surgery, primary care. **Ethics**. **Non-clinical** – Social care, wellbeing, fittech. **Law & Policy**. **Bioscience** – Bioinformatics, nanotech. **Hardware** – Devices, wearables, robotics.
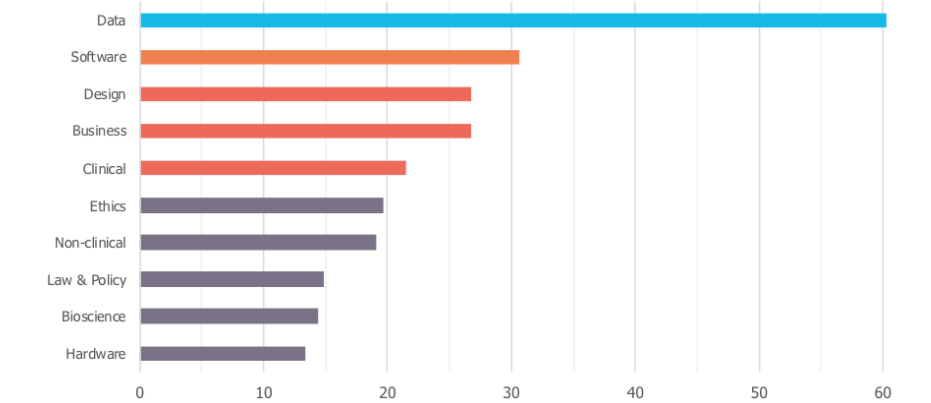
Most sought-After Skills in HealthTech by Sector (Ranking)

	Academia	IT& Tech Co.	Public Healthcare System	Startup	Multiple Roles	Independent
1	Data	Data	Data	Data	Data	Data
2	Ethics	Software	Design	Business	Software	Non-clinical
3	Bio-science	Design	Software	Software	Clinical	Ethics

Technical skills, in data, software and hardware were most sought-after by those under 25. Those early in their careers (26-35) ranked most skills evenly. Mid-career respondents ranked skills in business, clinical knowledge, ethics, and non-clinical knowledge such as well-being higher than other age groups. **Those over the age of 55 sought data skills the most of any age group** and least in law and policy, hardware, design and business (Appendix II).

Challenges

The second part of the survey looked to understand the common challenges experienced, both in terms of known issues experienced by minority groups in the workplace and broader challenges of the sector.

1. **"Impostor Syndrome" was the most common challenge experienced.**
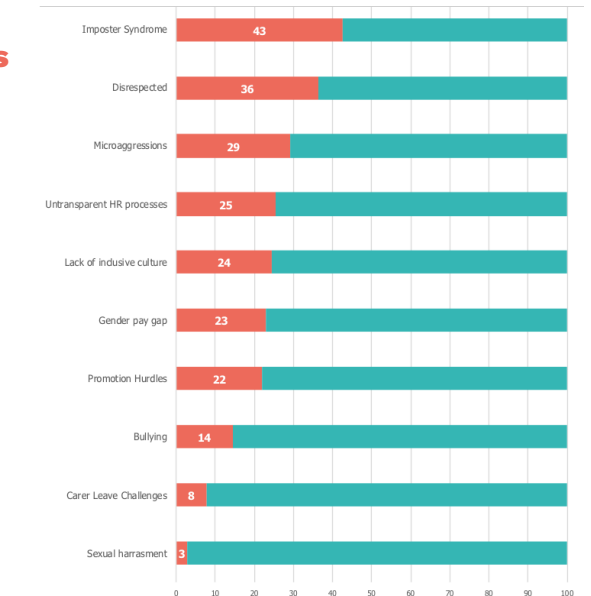
2. **Academia was the worst-performing of all sectors when it came to cultural and structural organisational issues.**

3. **Lack of an inclusive culture was mostly felt by CEOs and directors, particularly in government and those now working as independent consultants.**

4. **Leadership and hierarchy, lack of technical knowledge and poor networks and few mentors were identified as major barriers.**

% of Respondents Experiencing Workplace Challenges

Challenge	%
Imposter Syndrome	43
Disrespect	36
Microaggressions	29
Untransparent HR processes	25
Lack of inclusive culture	24
Gender pay gap	23
Promotion Hurdles	22
Bullying	14
Carer Leave Challenges	8
Sexual harrasment	3

The most common challenge (43%) experienced by respondents was "Impostor Syndrome". Impostor syndrome has been widely raised at many women-in-x events and reports and describes the feeling of "phoniness in people who believe that they are not intelligent, capable or creative despite evidence of high achievement". Whilst usually the individuals experiencing this "are highly motivated to achieve" they also "live in fear of being 'found out' if exposed as frauds"[19].

Factors touching on organisational cultures exposed common challenges: **36% of respondents felt disrespected by colleagues, or "not taken seriously"**, 29% experienced common microaggressions, such as being interrupted in meetings, misattribution or being mistaken for the administrator or secretary and 24% felt their organisation did not have an inclusive culture.

Structurally, **~23 % believed their organisation had a gender pay gap**, felt important human resources decisions were not made transparently, and that there were disproportionate challenges in promotions. 8% had experienced difficulties in their organisation around carer or parental leave. More severely, 3% of respondents experienced sexual harassment at work. This is however significantly lower than what is estimated in non-sector specific surveys[20].

When these figures on common workplace challenges were stratified by sector and seniority, some challenges become more prominent. **Academia was felt to have the most negative workplace environment, with an average of 31% of academics experiencing at least on workplace challenge. Sexual harassment was also the highest in academia, with 15% of respondents having experienced it.**

Lack of an inclusive culture was overwhelmingly (50%) felt by CEOs, validating an often articulated feeling in the One

HealthTech community of it being lonely and hostile at the top of organisations, particularly within the public sector. Government and independent consultants were most affected by a lack of inclusive culture and bullying. Disrespect and microaggressions were most felt in academia and start-ups, and by seniority, amongst students, or those beyond the standard employment structures.

More structural challenges also had some trends by seniority or sector. Gender pay gap was mostly raised by CEOs (30%) and senior-managers (32%), however all other structural challenges to do with promotions, human resources etc were felt in the non-managerial and middle-management positions. **Carer and parental leave issues were predominantly felt in academia (23%) and by those who are self-employed (17%).** Figures showing workplace challenges stratified by sector and age can be found in Appendix III and IV respectively.

Based on the free-text areas of the survey, three themes emerged when respondents were asked about their biggest challenges:

1. Leadership & Hierarchy

A common theme which has emerged through the years of One HealthTech's existence and was raised again in the survey was the negative effects of hierarchy, and an "alpha male" or "macho" culture amongst the upper echelons of organisations.

This was specifically raised by the NHS Chief Clinical Information Officer, Dr. Simon Eccles, in September 2018 where he said "We can't have a conversation with a clinical workforce which is majority women and expect to do that using only the usual IT crowd...We've had a habit, in some areas of this agenda, of having a rather macho culture"[21].

"Hubris & Boys' Club Mentality"

"Overly hierarchical structures value years in service more than technical expertise, which makes it difficult for other voices to be heard"

"Confidence to approach senior people with my ideas"

"Getting buy in from male senior colleagues"

2. Lack of Technical Skills and Knowledge of Technical Domains

Though the number of postgraduate programmes, online courses and training days in technical skills, around programming, software and data have grown enormously in the last few years, many undergraduate courses, medical training or further development offered by employers are not supporting those already in the workforce to grow their technical skills and knowledge of technical domains.

Some respondents felt that there were limited opportunities to enter the health IT workforce at a junior level, but up-skill.

A number of respondents also particularly referred to challenges in acquiring knowledge of interoperability standards and the programming or computer science underpinning these.

"SQL skills… Interoperability and FHIR standards, SNOMED-CT and in particular RefSets and mapping from other terminologies"

"Technical knowledge: FHIR APIs/ the legalities of data sharing agreements.

Career progression: knowing what opportunities lie ahead without traditional computer science training"

"Yes. It's very difficult to enter the world of health IT in an entry level position. Many jobs want years of experience in tech fields and unwilling to take chances on those with passion, drive and energy!"

3. Lack of Network and Mentors

There was a strong theme of being rudderless amongst respondents, not knowing where to go, what networks to tap into, how to find mentors with their background and the nascence of health IT as a sector, and therefore the fact it is not currently recognised as an established profession. Navigating the sector is frequently described as a major problem.

Word cloud of free-text responses to the question "Are you struggling professionally with anything in particular? If so, would you mind sharing this with us below?"

Solutions

1. Mentorship was the most highly ranked solution to common challenges felt by healthtechnologists.

2. Support focusing on confidence, leadership and role models was identified.

Respondents were invited to rank common solutions to skills and diversity challenges that communities and networks are in a position to provide. **Mentorship was the overwhelmingly highest ranking solution (34%).** Mentorship was felt to be most important in Law & Policy, Bio-science and Business, and least important for those working in Hardware. Curated resources (20%) were 2nd highest-ranking, Education Tools (18%) were 3rd.

"Role models, keeping on message that this is a huge sector and there is lots of space in it. especially non-traditional role models"

"Training in techniques around confidence and how to challenge authority as well as providing events where people can network to meet champions and gain more knowledge so they feel empowered in their beliefs."

Mentorship frequently emerges as one of the main reasons why minorities interact with minority-focused communities, as many meetups will describe. As many readers will know, mentorship, either by informal or formal arrangement, provides an opportunity for discussion of mutual interests, shared passions and aspirations, development of trusting relationships as well as the chance to obtain support and access to opportunities.

Communities provide some of the best opportunities and settings to organically meet the ideal mentor. In order to address some of the skills imbalances across generations in the technology sector, and to tackle the challenge of macho leadership, alternative mentorship structures exist. For example, "reverse mentorship" involves pairing a younger person as the mentor with someone more experienced and older, who is the mentee.

By 2020, millennials are projected to be half of the workforce, and as a generation that has grown up surrounded by technology, they bring a new attitude, skill set and way of thinking to the table. Certainly our findings expose that different age groups required different areas from support, across data, business or clinical skills.

"Engaging men (particularly senior men) better in the Conversation so that the people best placed to facilitate change better understand why change (and what change is needed"
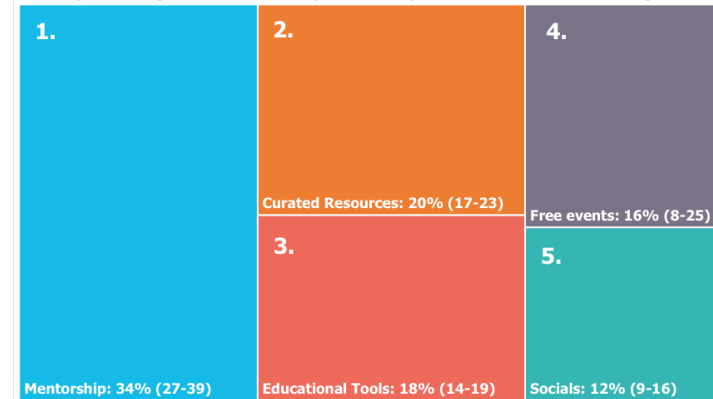
"A lot of it is my physical characteristics. Just being female is a lot to get over sometimes. Bring female and looking young is an insurmountable barrier."

"Mentorship & peer-to-peer support"

Top-ranking solutions to help healthtechnologists

Question: "Select the TWO most effective solutions to address these [challenges]".

% is the average overall percentage, the number in the brackets indicates the percentage range by sector

1. Mentorship: 34% (27-39)
2. Curated Resources: 20% (17-23)
3. Educational Tools: 18% (14-19)
4. Free events: 16% (8-25)
5. Socials: 12% (9-16)

Respondents were able to offer additional solutions through free-text responses. These were dominated by solutions focused on **confidence**, **leadership** and **role models**.

Topics of confidence, authenticity and leadership take numerous routes. It is widely known that individuals from underrepresented backgrounds are less likely to put themselves forward for leadership positions than men, and the prevalence of the Impostor Syndrome amongst respondents indicates this too. But understanding challenge of confidence must also be considered within the idiosyncrasies of the sector; for

example extroversion versus introversion is frequently raised a challenge amongst technology organisations, which impacts workplaces more than gender diversity, as argued by a director in health at Microsoft.

Anecdotally, what has been noted frequently in the past by the One HealthTech community is that in an attempt to encourage better diversity, some top-down efforts can dictate what women, or individuals from diverse backgrounds should be like. A one-size-fits-all solution however, does exist. Supporting healthtechnology leaders to be themselves, and not "emulating the existing behavioural leadership mould created by a predominantly white, male, able-bodied demographic, to obtain leadership roles is a change that would be widely welcomed.

"Advice specific to women on networking, etc. More female-run events to Reduce impostor syndrome"

A benefit of grassroots communities is that they bring together a melting-pot of approaches, personality-types and levels of seniority, and therefore create an enabling environment to drive authenticity from all its community, made up of some lean in-ers, some recliners, and some in the middle.

This creates a non-hierarchical, welcoming and dynamic network, where all those involved feel they can provide value. Value is not solely determined by a qualification, years of experience or depth of expertise. It can also be from a different disciplinary perspective, due to a different age, or just a new and unusual opinion.

"Finding my crew!"

Word cloud of free-text responses to the question "What support would be relevant to address these challenges?"

Unleashing 20,000 HealthTechies

The Challenge

Based on our survey findings, interviews, focus groups and exposure to a vibrant, diverse and inclusive community since 2016, individuals' main pain points were:
· Lack of skills in leadership for healthtech, as well as technical and non-technical knowledge of data, software, hardware and technology, as applied to health, care and life sciences
· Lack of positive, inclusive and enabling cultures in the healthtech sector
· Lack of personal support and mentors
· Lack of networks and ability to navigate the sector

What We Aim to Achieve

By 2022, we want to have gathered together the largest community of healhtechnologists, that is grassroots and inclusive-by-design! But more than that, we want this community to ensure that the future of the health sector vibrant, open and accessible.

We want to unleash 20,000 women and amazing individuals who are underrepresented in the technology sector to retrain, upskill, lead, conquer and trailblaze in the healthtech sector. Whilst always thinking global, and acting local, OHT wants to build up the pipeline of the weirdest, whackiest, kindest and most brilliant technologists changing up health, for the better.

How We Aim to Achieve This

We've made good headway here already mind you (pat ourselves on the back). Top-down initiatives play an important role, but the organic groundswell of a grassroots community can be transformational.

1. Build skills & development initiatives... with a twist! (Pilot in Autumn 2019)

We will curate free, part-time, virtual and local in-person skills and development initiatives based on the community's needs and led by the community themselves, starting with Leadership in HealthTech, followed by Data.

2. Make it easier to find people to help you... we call them Heroes! (Beta in Spring 2019)

We will launch a "mentorship platform" which is just a fancy way of say "You can search the OHT community easily for people looking to help other people". It makes the LinkedIn stalking a little easier. We want to help you find your Heroes.

3. Supercharge the community
We want to grow in the right way by supporting international Hubs to launch, ensuring the community remains federated and locally led, at a global scale

4. Pay close attention to particular accessibility needs...money works!

We are looking to raise an Accessibility Fund for people to access amazing events, resources and opportunities.
We are testing the model with a small fund in Spring 2019. It is widely known that diversity and inclusion efforts can exacerbate issues, by supporting those already able to support themselves. We want this to not be the case here.

5. Keepin' it kind
We want to continue to spread our message of kindness, support, positivity and competence, so the community feels welcoming, happy and full of amazing people at the forefront of the field.
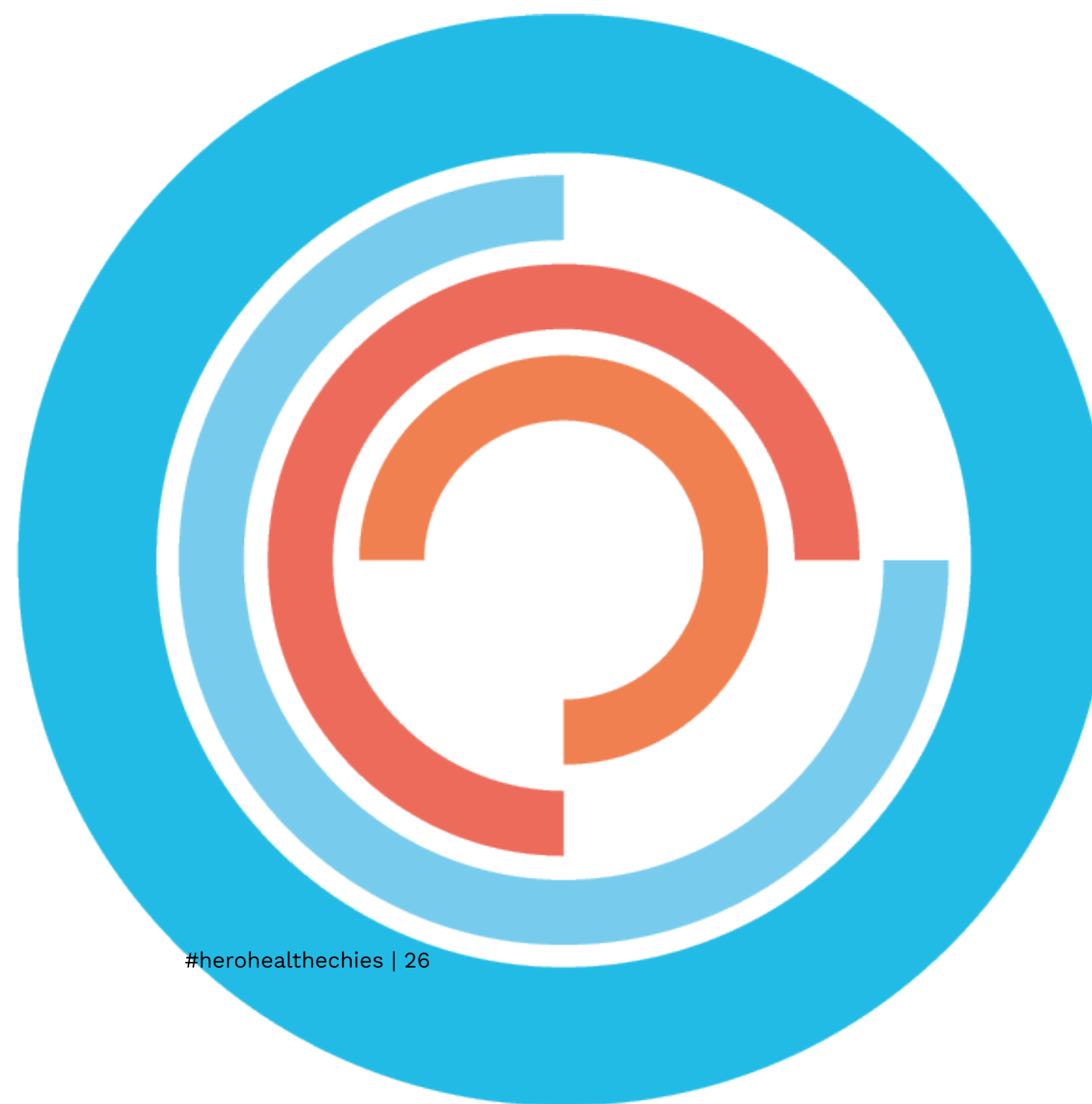
#herohealthtechies

What does success look like

In three years time we want to have:
· Helped 5,000 people reach their potential with half a dozen fully scal-able skills and development initiatives
· Match-made up 5,000 mentors and mentees
· Help establish mature Hubs in all six continents
· Raised a £50k Accessibility Fund to support better access to the sector
· Gathered together a community of over 20,000 healthtechnologists known for their kindness, warmth and compassion, to then unleash onto the world to spread their positivity and competence
· Built the financial sustainability of the community based on a mixed model of sponsorship, grants, and paid-for services

How to Support

Want to support us on this mission? We are looking for wonderful sponsors and partners who want to contribute and support making the sector richer, more diverse and all-round better. Will you join us on this adventure? Contact info@onehealthtech.com.

Conclusion

The 2019 One HealthTech survey raised a range of opportunities and problems worth solving, as well as importantly validating and defining a range of skills requirements, felt by a diverse community of current or early-stage health technologists.

These responses will act as a guide to inform the One HealthTech community's future activities, starting with an accessible and easy way to access a range of mentors, skills development in leadership and data, and working with employers to support development opportunities, whilst underpinning all activities with an inclusive and confidence-building environment.

We encourage other groups, communities, networks and organisations to understand the needs of their health technology communities. By ensuring the health technology sector is open to all, the right problems, best solutions, and most effective collaborations will thrive.

To learn more and maybe even support One HealthTech's activities, please visit onehealthtech.com.

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Appendix

I. Survey demographics

● Gender
- 80% female or non-binary (77% female, 3% non-binary)
- Men were included in the analysis if they also had characteristics from a protected group

● Ethnicity
- White – British: 58%
- White – Other: 12%
- White – Irish: 10%
- Asian – Other: 5%
- Black – African: 5%

● Disability
- 19% in total identified as disabled
- 10% as suffering from a physical or medical condition such as diabetes, epilepsy, arthritis, asthma, or cancer
- 7% with mental health challenges (e.g. schizophrenia, depression, severe phobias)

● Education (highest degree)
- Post-graduate: 78%
- Under-graduate: 18 %
- High school or apprenticeship: 4%

● Age
  - Under 25: 7%
  - 26-35: 29%
  - 36-45: 28%
  - 46-55: 22%
  - Over 55: 14%

● Seniority
We received an approximately balanced sample of responses across students, non-managers, manager/senior managers and directors, as well as independent freelancers or consultants.

● Professional area (or multiple sectors)
- Public healthcare system (mostly NHS): 49%
- IT & Tech companies:
- Academia: 14%
- Start-ups: 9%
- Freelancers and independent consultants: 9%
- Local and central government: 7%
- With the remaining responses from Big Pharma, the legal sector and the Third Sector

- Geography
  - 93% from UK and Ireland
  - Good representation across England, Wales, Scotland, Ireland and Northern Ireland, with a majority of responses from individuals living in London
  - Other respondents from: Kenya, Brazil, Canada, Israel, USA.

Whilst these respondents were included in the analysis, their responses were also separately investigated to identify any deviations from UK and Irish respondents. However, no differences were identified.
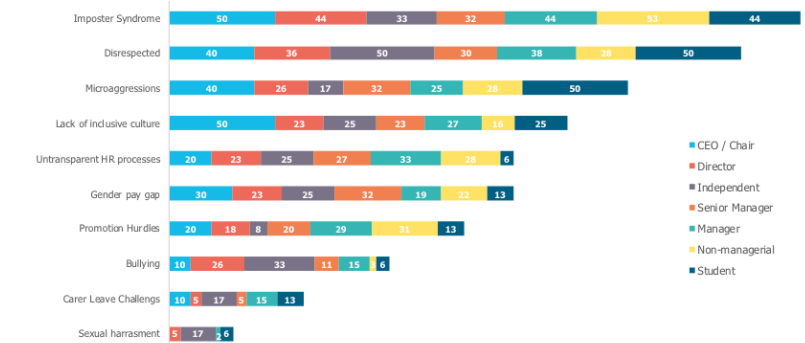
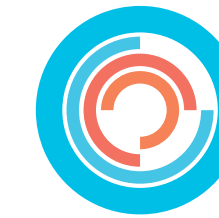**II. Most Sought-After Skills in HealthTech by Age-Group (%)**

Most Sought-After Skills by Age Group (%)
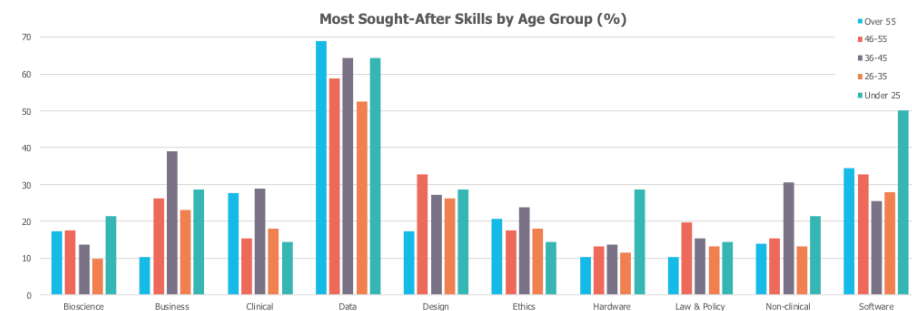
III. % of Respondents Experiencing Workplace Challenges by Sector
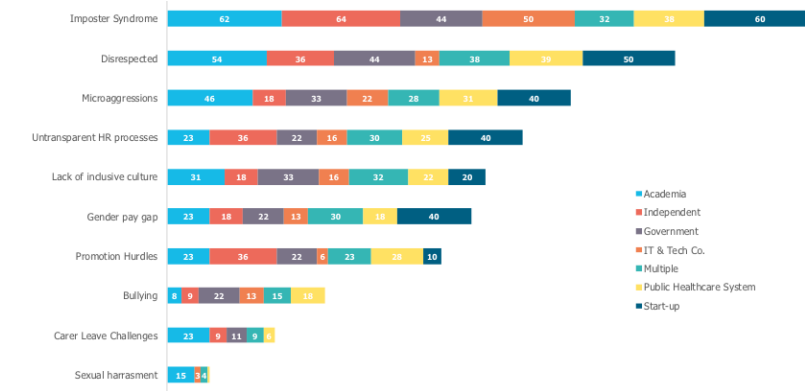
IV. % of Respondents Experiencing Workplace Challenges by Seniority

Thank you for reading,

have a beautiful day!

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P.S. If you have any questions, you can always drop us a line at info@onehealthtech.com.