

**Characterising the health and social care segment of the BCS (The Chartered Institute for IT) membership and their continuing professional development needs**

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## **Abstract**

### Objective

The aim of this study was to identify and characterise the health and social care membership of the BCS, an international informatics professional organisation, and to determine their ongoing development needs.

### Method

A pre-piloted online survey included items on professional regulatory body, job role, work sector, qualifications, career stage, BCS membership (type, specialist group/branch activity (committees, event attendance), use of BCS.org career planning/CPD tools, self-reported digital literacy, and other professional registrations. The quantitative data were analysed using descriptive statistics in JASP 0.9.2 to report frequencies and correlations.

### Results

Responses were received from 152 participants. Most were male (n=103; 68%), aged 50-59 (n=41; 28%), working in England (n=107; 71%) with Masters or Honours degrees (n=80; 53%). Most were either new (5 years or less; n=61; 40%) or long term members (21 years or more; n=43; 28%). Most were not interested in health specialist groups (n=57; 38%) preferring non-health specialist groups such as Information Management (n=54; 37%) and Project Management (n=52; 34%).

### Discussion

This is the first paper to characterise the health and social care membership of an IT focused professional body and to start to determine their CPD needs. There are further challenges ahead in curating the content and delivery.

### Conclusion

This study is the starting point from which members' CPD needs, and ongoing interest, in being recognised as health and social care professional members, can be acknowledged and explored. Further research is planned with the participants who volunteered to be part of designing future CPD content and delivery.

## **Summary**

### **What is already known?**

- BCS, the Chartered Institute for IT, does not interrogate membership data to determine which of its members identify as health and social care professionals
- Therefore, BCS cannot fulfil its' responsibility to identify members' relevant CPD needs and offer the right opportunities to support their career aspirations

### **What does this paper add?**

- This study has identified and characterised the BCS membership segment who self-identified as health and social care professionals and articulated their CPD needs, and ongoing interest, in being recognised as specialists
- Further research is planned with the participants who volunteered to be part of ongoing research designing future CPD content and modes of delivery

## Introduction

The British Computer Society (BCS), The Chartered Institute for IT, has a long and distinguished history since it was established in 1957 with a membership over 60 000 across 150 countries [1]. The royal charter made the BCS a charity 'responsible for raising the standards of IT education, professionalism, ethics and practice' while 'making IT good for society'. Built on five pillars of: (i) sharing expertise, (ii) improving education, (iii) influencing practice, (iv) driving standards and, (v) supporting careers, its' membership is now drawn from professions as diverse as the technologies which underpin society including health and social care [2].

During the Covid-19 pandemic, BCS ran a campaign to celebrate IT professionals as 'vital workers' keeping society connected and informed [3]. Efforts to manage Covid-19 outbreaks relied on advanced coordinated technologies; the health data scientists and bioinformaticians utilised digital analytics tools; ordinary citizens relied on digital tools and connectivity for work and education; and, the health and social care professionals transformed their practice whilst honing their digital literacy to continue and offer optimal (digital) healthcare services [4].

The Topol Review, published in 2019, focused on 'preparing the healthcare workforce to deliver the digital future' [5]. Building a digitally ready workforce (BDRW) has been an ongoing strategy for the National Health Services (NHS) across the devolved home nations of the United Kingdom (England, Northern Ireland, Scotland and Wales) and increasingly considered for social and care workers too. The review proposed three principles: (i) that patients should be partners in decisions about their health aided by health technologies; (ii) that the healthcare workforce needs expertise and guidance to evaluate new technologies; and, (iii) that adoption of new technologies should give health and care professionals 'the gift of time to care' [5]. Three technologies were specifically mentioned: (i) artificial intelligence (AI); (ii) genomics; and, (iii) digital medicine [sic]. The review emphasised the importance of a digitally competent health and social care workforce, which understands data driven technologies and is 'digitally confident, digitally aware and digitally literate'. It described new disciplines likely to emerge like higher specialist scientists, knowledge management, AI and robotics engineering, digital health technicians, bioinformaticians and digital technologists [5].

In anticipation of, and catering for, the learning needs of an emerging workforce, the BCS planned an internal audit to articulate the provision and needs of current members who work in the health and social care arena. The main objective was to identify appropriate learning scaffolding frameworks and provision of 'in house' Continuing Professional Development (CPD) content, which fit the lifelong learning ethos. However, it became clear at an early stage that the organisation does not have, nor is it set to retrospectively collect, data on professional roles or sectors of its membership. It is thus unaware which of their members identify as health and social care professionals. This data is critical in understanding professional learning needs and how to address them.

A 2020 scoping review of 1.5 million registrants identified 32 healthcare professional job titles in the UK [13]. Each associated with one of nine regulatory bodies each of which has a different length of CPD cycle (General Optical Council refers to Continuing Education and Training (CET) rather than CPD) ranging from one year to five years [13].

An earlier 2019 report, prepared by 'The Interprofessional CPD and Lifelong Learning UK Working Group', identified 5 principles for CPD and lifelong learning for the Health and social care sector [14]. Principle 1 stated that it would be each person's responsibility and be made possible and supported by your employer; then Principle 2 that it would benefit service users; Principle 3 would improve the quality of service delivery; Principle 4 that it would be balanced and relevant; and finally, Principle 5 that it would be recorded and show the effect on each person's area of practice. However, little is included regarding digital (n=0) or informatics (n=0) or technology (n=2) but it calls on professional bodies and trade unions, employers and 'the wider system' to promote CPD to improve the quality of service delivery [14].

In contrast, a most recent commissioned report published in The Lancet considered the future of health and care service post-covid, albeit 64 pages in length, featured many of these key terms numerous times: digital (n=74), informatics (n=0), technology (n=86) and health (n=1539), social (n=251) and care (n=954) [15]. The report names: Health Education England (HEE) and the Department of Health and Care; National Health Service Education for Scotland (NES); Health Education and Improvement Wales; and, Northern Ireland Department of Health, as responsible for health workforce planning [15].

There are Keys Skills and Competencies Frameworks for health and care [6-12] which have started to include variations on technical efficiency, informatics competence or similar. It may still take a leap of faith to compare, combine or critically appraise such frameworks against the BCS SFIA plus V7; a task which is outwith the scope of this study [16,17]. The Skills Framework for the Information Age (SFIA) which, being generic, may lack alignment given health (n=0), social (n=0) and care (n=0) do not feature in SFIAplus [16,17].

Given reports that the health and social care professions account for almost one in 10 jobs in the UK [18], and in the aftermath of Covid-19 the rapid digitisation of the sector, the BCS, Chartered Institute for IT, needs to act now. BCS has a responsibility to identify and engage those working with digital health or ehealth or technology enable care or with health informatics interests, and recognise the potential for hybrid career paths which may have specialised CPD needs.

### **Aim of study**

Therefore, the aim of this study was to characterise the health and social care membership of BCS and to determine their CPD needs.

### **Ethical Approval**

Ethical approval was not explicitly sought as it is included in the Legal and Privacy notices for BCS members (<https://www.bcs.org/legal-and-privacy-notices/>). The BCS Data Privacy Notice on 'how we use your personal data' includes provision of 'surveys, information about our awards and events, offers and promotions, related to the products and/or services.' The survey was reviewed by BCS Community team and BCS Health & Care Executive. Voluntary completion of the survey was taken as participant informed consent.

### **Methods**

#### **Design & Methods**

A quantitative cross-sectional online survey was designed based on a literature review and interviews with key stakeholders (36 representatives of health and social care professions, BCS members, BCS staff).

#### **Setting**

The BCS, the Chartered Institute for IT, is the UK's professional body for computing including health and care informatics. The membership represents a broad spectrum of IT professionals but does not currently collect data on employment sector so cannot target relevant communications.

#### Inclusion and exclusion criteria

The survey was open to all BCS members who self-identified as health or social care professionals.

#### Data collection tools

The survey was reviewed for face and content validity within the research team before piloting with five key stakeholders who had previously taken part in a related interview. The survey was hosted online by BCS and shared with the whole membership by email inviting participation by anyone self-identifying as a health or social care professional. Two reminders were sent. The link to the survey was also promoted in newsletters, on social media and with BCS Specialist Groups.

Questions asked were related to: professional regulatory body, job role or title, work sector, highest qualification, career stage, BCS membership (type, years since enrolled, specialist group interests and branch activity (committees, event attendance), and use of BCS.org career planning and CPD tools, self-reported digital literacy, and other professional registrations. An open text question, which is reported elsewhere, asked what CPD content the sector wanted BCS to provide. The survey was anonymous but participants had the opportunity to opt in to further involvement including: to be recognised by BCS as a health and social care professional, take part in a follow up interview, join a consensus panel to design/decide on BCS CPD provision for the health and social care membership.

#### Data collection

The survey was open from 13 January to 16 March 2021. Completion of the survey was taken as informed consent.

#### Data analysis

Only the quantitative data from the survey are reported in this article. These were analysed using descriptive statistics in JASP 0.9.2, the open source statistical program, to report frequencies and correlations.

## Results

Responses were received from 152 participants which is a tiny proportion of the 60 000 international membership. As per Table 1, most were male (n=103; 68%) with the highest proportion in the 50 to 59 years age bracket (n=41; 28%) and working in England (n=107; 71%). This educated workforce reported their highest qualification gained as foundation degree level (n=37; 24%), Masters or Honours degree level (n=80; 53%) or doctoral level (n=19; 13%). Many were also members, or registered with, one or more professionally recognised organisation including BCS Federation of Informatics Professionals (FED-IP; n=23; 16%) or the Institute of Engineering/Chartered Engineer (IEng/CEng; n=18; 12%) or Registered IT Technician (RITTECH; n=16; 11%). However, more than half (n=81; 55%) were not. The majority considered themselves to be mid-career (n=64; 42%) with few early in their career (n=20; 14%). The survey attracted participation from a sizeable group of retired IT professionals (n=32; 21%) and those looking towards retirement (n=36; 24%). Most were professional members of the BCS (MBCS; n=67; 44%) or Chartered IT Professionals (MBCS CITP; n=23; 15%); very few were student members of BCS (n=9; 6%). A quarter of the respondents' BCS membership was through their employment organisation (n=37; 25%) with the majority holding individual membership (n=113; 75%). The number of years of membership was dominated by new (5 years or less; n=61; 40%) or long term membership (21 years or more; n=43; 28%).

**Table 1.** Demographics and BCS membership (N =152)

| <b>Do you identify as?</b>         | n (%)    |
|------------------------------------|----------|
| Male                               | 103 (68) |
| Female                             | 45 (30)  |
| Prefer not to say                  | 3 (2)    |
| <b>Which age group are you in?</b> |          |
| Under 20                           | 0 (0)    |
| 20-29                              | 8 (5)    |



|            |         |
|------------|---------|
| 30-39      | 22 (15) |
| 40-49      | 28 (19) |
| 50-59      | 41 (28) |
| 60-69      | 29 (20) |
| 70 or over | 20 (14) |

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**Which country do you mainly work in?**

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|  |          |
|--|----------|
| England  | 107 (71) |
| Wales  | 23 (15)  |
| Scotland   | 9 (6)    |
| Northern Ireland   | 3 (2)    |
| Other: UK (n=3), Hong Kong (n=2), Luxembourg, Sri Lanka, Singapore, International bodies | 9 (6)    |

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**Which level is your highest qualification?**

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|--|---------|
| Doctorate  | 19 (13) |
| Masters or Honours Degree / Postgraduate Certificate / Diploma / NVQ5 / SVQ5 | 80 (53) |
| HNC/D or Foundation / Ordinary / Bachelor's Degree / NVQ4 / SVQ4             | 37 (24) |
| Scottish Highers / Advanced Highers / A levels / National 5 / NVQ3 / SVQ3    | 7 (5)   |
| GCSE / Standard Grade / National 4 / NVQ2 / SVQ2 or equivalent               | 6 (4)   |
| Other: BA (Hons) plus FCCA, M.B.B.S, CISSP                                   | 3 (2)   |

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**Are you a member or registered with any of the following?**

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|  |         |
|--|---------|
| FED-IP   | 23 (16) |
| IEng/CEng  | 18 (12) |
| RITTech  | 16 (11) |
| FCI  | 12 (8)  |
| CHIME  | 11 (8)  |
| HIMSS  | 7 (5)   |
| Other: Inst RE, FCyBS, European Resuscitation Council, IAHSI, Chartered Management Institute, IEEE, FED-IP, BCS Elite IT Leaders Forum, IHM, IMIA, IAHSI, Institute Leadership and Management, Institution of Civil Engineers, IAP | 15 (10) |
| None of the above  | 81 (55) |

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**In terms of your career, do you consider yourself to be?**

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|  |         |
|--|---------|
| Early career / newly qualified / new entrant / | 20 (14) |
| Mid-career                                     | 64 (42) |
| Looking towards retirement                     | 36 (24) |
| Retired  | 32 (21) |

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**Which level of BCS membership do you have?**

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|---------------------------------------|---------|
| Professional (MBCS)                   | 67 (44) |
| Chartered IT Professional (MBCS CITP) | 23 (15) |
| Associate (AMBCS)                     | 22 (15) |
| Chartered Fellow (FBCS CITP)          | 13 (9)  |
| Fellow (FBCS)                         | 10 (7)  |

|   |          |
|---|----------|
| Student                                     | 9 (6)    |
| Affiliate                                   | 8 (5)    |
| <b>Is that through?</b>                     |          |
| Individual membership                       | 113 (75) |
| Organisational membership                   | 37 (25)  |
| <b>How long have you been a BCS member?</b> |          |
| 5 years or less                             | 61 (40)  |
| 6 to 10 years                               | 17 (11)  |
| 11 to 15 years                              | 17 (11)  |
| 16 to 20 years                              | 14 (9)   |
| 21 years or more                            | 43 (28)  |

From Table 2, there was representation from the Nursing and Midwifery Council (n=13; 9%), Health and Care Professions Council (n=8; 5%), the General Medical Council (n=6; 4%) with few responses from the General Dental Council, General Pharmaceutical Council or Social Work England (each n=2; 1%) and Social Care Wales (n=1; 1%). There was no participation from the General Chiropractic Council, General Optical Council, General Osteopathic Council, Northern Ireland Social Care Council, Pharmaceutical Society of Northern Ireland, Scottish Social Services Council or Scottish Care. A large proportion were not associated with any health and social care regulatory body (n=91; 61%).

Respondents worked in multiple sectors which, for most, was NHS based (n=110; 73%) or Corporate IT (n=33; 22%). Although low in numbers, the breadth of sectors was demonstrated with residential and day care for older people (n=5; 3%) adults (n=3; 2%) and children (n=3; 2%) as well as housing support (n=2; 1%) and care at home (n=6; 4%).

**Table 2.** Regulatory bodies and employment sectors (N=152)

| <b>Regulatory body</b>            | <b>n (%)</b> |
|-----------------------------------|--------------|
| Nursing & Midwifery Council       | 13 (9)       |
| Health & Care Professions Council | 8 (5)        |
| General Medical Council           | 6 (4)        |
| General Dental Council            | 2 (1)        |
| General Pharmaceutical Council    | 2 (1)        |
| Social Work England               | 2 (1)        |

|   |         |
|---|---------|
| Social Care Wales   | 1 (1)   |
| General Chiropractic Council  | 0 (0)   |
| General Optical Council   | 0 (0)   |
| General Osteopathic Council   | 0 (0)   |
| Northern Ireland Social Care Council  | 0 (0)   |
| Pharmaceutical Society of Northern Ireland  | 0 (0)   |
| Scottish Social Services Council  | 0 (0)   |
| Scottish Care   | 0 (0)   |
| None of the above   | 91 (60) |
| Other: FEDIP/UKCHIP (n=4), UK Council for Psychotherapy (n=2), IAHSI (n=2), BACP (n=2), ISC (n=2), NWIS (n=2), Society and College of Radiographers, NCS, Public Health, CPCAB, Care Quality Commission, Association of Clinical Biochemists, Institute of Biomedical Science, IHM, European Resuscitation Council, EFMI, IMIA, BCS, NHS Trust, ACCA, ISACA, IAPP, SABSA institute. | 28 (18) |

| <b>Which sectors do you or did you work in?</b> | <b>n (%)</b> |
|---|--------------|
| NHS   | 110 (72)     |
| Corporate IT                                    | 33 (22)      |
| Academia / Education                            | 24 (16)      |
| Research / Consultancy                          | 23 (15)      |
| Primary Care                                    | 23 (15)      |
| Secondary Care                                  | 22 (15)      |
| Local Government                                | 20 (13)      |
| Voluntary sector                                | 20 (13)      |
| Freelance / Independent                         | 18 (12)      |
| Industry  | 15 (10)      |
| Third sector                                    | 14 (9)       |
| National Government                             | 12 (8)       |
| Intermediate care                               | 10 (7)       |
| Emergency care                                  | 9 (6)        |
| Social work                                     | 9 (6)        |
| Performance                                     | 8 (5)        |
| Other community-based support services          | 8 (5)        |
| Residential Care (Adults)                       | 6 (4)        |
| Care at home                                    | 6 (4)        |
| Residential Care (Older People)                 | 5 (3)        |
| Residential Care (Children)                     | 3 (2)        |
| Day Care Services (Adults)                      | 3 (2)        |
| Housing Support                                 | 2 (1)        |
| Day Care Services (Children)                    | 2 (1)        |
| Day Care Services (Older People)                | 1 (1)        |

Other: ExE for CQC - adult social care, Civil service - Defence Primary Healthcare, social care system software supplier, project management and business analysis, mental health care, social care membership body, Consultancy, Government Departments, NIHR and HDRUK 13 (9)

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Survey respondents were associated with a range of BCS Specialist Groups and Branch Committees (Table 3). While Primary Care was the most frequently indicated (n=44; 29%), a larger proportion were not interested in any of these Specialist Groups (n=57; 38%). A similar proportion were interested in non-health Specialist Groups such as Information Management (n=54; 37%) and Project Management (n=52; 34%). Overall, although participants self-identified as health and social care professionals, many indicated more interest in non-health Specialist Groups.

**Table 3.** Interest in Health and other BCS Specialist Groups & Branch Committees (N=152)

| <b>Which of these existing health and other BCS Specialist Groups are you interested in or signed up to follow?</b>  | <b>n (%)</b> |
|--|--------------|
| Primary Care   | 44 (29)      |
| National Mental Health   | 25 (16)      |
| Health Nursing   | 22 (14)      |
| Health & Care Wales  | 17 (11)      |
| Health & Care Northern   | 15 (10)      |
| Health & Care Scotland   | 10 (7)       |
| None of the above  | 57 (38)      |
| Other: BCS Women (n=2), AI (n=2), Health Informatics, Primary Care, Health Nursing, Health London & South East, Health London, GP Specialist Group, Health Informatics, , Social Care, Allied Health Professions, Acute, Genomics, Clinical Best Practise, Telemedicine, SGAI, District Nursing and community care, London Medical | 12 (8)       |
| <b>Are there any other existing BCS Specialist Group areas you are interested in or signed up to follow?</b>   |              |
| Information Management   | 54 (36)      |
| Project Management   | 52 (34)      |
| Learning & Development   | 39 (26)      |
| Ethics, Law & Diversity in IT  | 35 (23)      |
| Business & Consultancy   | 33 (22)      |
| Strategy & Architecture  | 32 (21)      |
| Future of Computing  | 30 (20)      |

|  |         |
|--|---------|
| Security   | 29 (19) |
| Software Development   | 28 (18) |
| History of Computing   | 17 (11) |
| None of the above  | 14 (9)  |
| Other: BCS Women, AI, Software Testing, Data Scientist, IRMA, Elite IT, Digital Informatics and Data Analytics (BI, AI and Machine Learning), North London, Data Management, Central London, SGAI, Artificial Intelligence | 14 (9)  |
| <b>Are you or have you ever been a member of your local Branch Committee?</b>  |         |
| No – not interested  | 67 (44) |
| No – wasn't aware of opportunity   | 52 (34) |
| Yes – currently  | 21 (14) |
| Yes – in the past  | 11 (7)  |

In relation to Branch Committee membership, more than a third were unaware of the opportunity (n=52; 34%) with just over a fifth either a current (n=21; 14%) or past (n=11; 7%) Branch Committee member.

Table 4 gauges the digital literacy of the participants which in most topic areas is 'confident and capable' with the exception of 'creation, innovation and research' which dips to 'can use' (n=52; 36%) and awareness 'know' (n=26; 18%). There is still a sizeable proportion who describe themselves as an 'expert user' particularly noticeable for the topic area 'information, data and content' (n=35; 23%) and 'technical proficiency' (n=29;19%).

**Table 4.** What is your level of digital literacy in relation to the topic areas listed below?

| <b>Digital literacy</b>                                | <b>I know</b> there are many related digital tools and technologies | <b>I can use</b> related digital tools and technologies | <b>I am confident and capable</b> in the use of a wide range of related digital tools and technologies | <b>I am an expert user</b> and take a lead in modelling and promoting the use of a wide range of related specialist digital tools and technologies |
|--|---|---|--|--|
| <b>Topic area</b>                                      |   |   |  |  |
| Information, data and content (n=151)                  | 11 (7)  | 29 (19)   | <b>76 (50)</b>   | 35 (23)  |
| Teaching, learning and self-development (n=149)        | 13 (9)  | 42 (28)   | <b>74 (50)</b>   | 20 (13)  |
| Communication, collaboration and participation (n=150) | 11 (7)  | 40 (27)   | <b>78 (52)</b>   | 21 (14)  |
| Creation, innovation and research (n=144)              | 26 (18)   | <b>52 (36)</b>  | 47 (33)  | 19 (13)  |

|   |         |         |                |         |
|---|---------|---------|----------------|---------|
| Technical proficiency (n=149)                             | 19 (13) | 42 (28) | <b>59 (40)</b> | 29 (19) |
| Digital identity, well-being, safety and security (n=149) | 20 (13) | 42 (28) | <b>65 (44)</b> | 22 (15) |

When asked which recent BCS Health and Care webinar titles most appealed (Table 5), participants found ‘data enabled technologies and services in health and social care’ most appealing (n=57; 38%). This was the case for both retired and looking towards retirement (n=24/68; 35.3%) and other earlier career stages (n=33/84; 39.3%). Second most popular was ‘building a digitally ready workforce in health and social care’ (n=46; 34%). While the appeal of ‘ethics and AI’ and ‘co-creating digital medicine technologies’ were unclear, participants found ‘a framework for genomic leadership’ least appealing (n=74; 63%). Again, this ‘least appealing’ topic was the case for retired and looking towards retirement (31/68; 45.6%) and earlier career stages (43/84; 51.2%).

**Table 5.** Which of these example webinar event titles most appeals to you?

| Webinar titles   | Mean | 1 – Most appealing | 2       | 3       | 4       | 5 – Least Appealing |
|--|------|--------------------|---------|---------|---------|---------------------|
| Data Enabled Technologies and Services in Health and Social Care (n=138)                   | 1.96 | <b>57 (38)</b>     | 41 (27) | 31 (20) | 7 (5)   | 2 (1)               |
| Building a Digitally Ready Workforce in Health and Social Care (n=134)                     | 2.25 | <b>46 (34)</b>     | 37 (28) | 29 (22) | 16 (12) | 5 (4)               |
| Ethics of Artificial Intelligence and Autonomous systems in Health and Social Care (n=135) | 2.88 | 29 (21)            | 28 (13) | 28 (13) | 30 (22) | 20 (15)             |
| Co-creating Digital Medicine Technologies with Health and Social Care Staff (n=127)        | 2.96 | 20 (16)            | 25 (20) | 34 (27) | 36 (28) | 12 (9)              |
| A Framework for Genomic Leadership across Care Sectors (n=118)                             | 4.37 | 4 (3)              | 6 (5)   | 6 (5)   | 28 (24) | <b>74 (63)</b>      |

## Discussion

This is the first paper to characterise the health and social care membership of BCS and to start to determine the CPD needs of this diverse population. From the results, participants form a ‘digitally confident, digitally aware and digitally literate’ [5] group

meeting the target competencies identified in the 2019 Topol Review [5], the 2020 Karas et al. review [13], the 2019 Broughton et al. report [14] and the competencies frameworks from across the health and social care professions and the home nations [6-12]. It is clear that the trajectory is towards building a digitally ready workforce (BDRW) which may have gained momentum during the Covid-19 pandemic [15, 22-25]. Whether that momentum of improving digital competency can be continued post-Covid-19, with a workforce which has been overwhelmed during the pandemic, remains to be seen. It should be also be noted that the three technologies highlighted in the Topol Review as important for the future of health and social care, namely AI, genomics and digital medicine, were the least popular webinar topics for this group of respondents [5].

BCS do not collect data on professional roles or sectors. They do not know which of their members identify as health and social care professionals so consideration needs to be given to inviting the membership to share details which can be the foundation for targeting relevant CPD opportunities. Not only would that provide insight into the 37 listed professions [13,14] but also the relevant regulatory and professional bodies so BCS can complement rather than replicate their CPD offering. The recent Lancet paper [15] names: Health Education England (HEE) and Department of Health and Care; National Health Service Education for Scotland (NES); Health Education and Improvement Wales; and, Northern Ireland Department of Health, as responsible for health workforce planning. This highlights further opportunities for meaningful collaboration to grow the range of CPD on offer. Globally, the challenge has been highlighted by the Organisation for Economic Co-operation and Development (OECD) in their 2021 report into 'Empowering the Health Workforce' [16]. The OECD states that, 'To meet the current demand for digital upskilling, the CPD and other professional training schemes should become a shared responsibility between employers, professional organisations, and ministries of health' [16].

It may still take a leap of faith to compare, combine or critically appraise the many frameworks [6-12] against the BCS SFIAplus V7 [17,18] but this task is outwith the scope of this study. With many other players in the CPD arena, such as the NHS Digital Academy [20,21] and, for this mainly highly educated group of professionals, the increasing options provided by over 80 MSc courses in health data sciences,

analytics and informatics [22]. Certainly, OECD note that 'the pace of changes has been particularly slow with regard to whether and how the CPD and other on the job training include digital health content' [16].

But, the obstacle is that BCS currently do not know how to meaningfully identify and support their health and social care professional membership with their CPD, CET or lifelong learning needs. It was interesting to note, and useful for people organising events and content, that participants from all career stages showed commonality in the webinar topics which most and least appealed to them. It is also unclear from the results whether the health and social care professional really understands who and what the BCS is, the purpose of BCS, how BCS can support the breadth of health and social care professionals and what it can offer. If BCS is to support the hybrid careers of health and social care professionals by providing relevant CPD it must first identify the segment of the membership.

With the BCS Federation of Informatics Professionals (FED-IP) reporting six themes in their 'Becoming the Profession' [27] as: (i) Recognition; (ii) CPD; (iii) Accreditation, Education and Training, (iv) Career Guidance and Support, (v) Networking; and, (vi) Simplifying the Landscape – there is clear alignment with the results of this report plus interest and willingness to explore this complexity. However, there is a lot more to be done in engaging meaningfully with the health and social care professionals, and their communities of practice, to optimise across the relevant organisations the CPD offering each is best situated to provide.

### Limitations

The participants self-identified as health and social care professionals but many were not registered with a regulatory body. Moreover, the characteristics of the sample is very different to the population of mainly female staff working in health and social care settings. This raises questions around shared understanding of whom amongst the membership fit the BCS target group. This lack of a denominator also makes it impossible to calculate a response rate but clearly higher participation would be helpful in achieving generalisability. If BCS were to give the applicant the opportunity to share their professional and role details on registration or during an annual review, the role BCS could fulfil with regard to CPD would be much simpler to



follow up and action. A strength of the study is the adoption of the Consensus-Based Checklist for Reporting of Survey Studies (CROSS) [28].

## **Conclusion**

In conclusion, BCS has a responsibility to its' membership to provide CPD content that is relevant to their career path and aspirations. To date, BCS has not been able to target the health and social care segment of the membership. This study has identified and characterised that segment who self-identified, have indicated their CPD needs, and ongoing interest, in being recognised by BCS as health and social care professionals with BCS membership. Further research is planned with the participants who volunteered to be part of ongoing research designing future CPD content and delivery.

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## Conflicts of Interest

Three of the authors KM, SL, WD are members of the BCS Health & Care Executive. Otherwise they have no conflicts of interest to declare.

## Contributorship statement

The study was conceived and funding gained by SL and WD who also kept oversight of the project, commented on design of data collection and analysis and critically revised versions of the paper. The data collection and analysis was designed and conducted by KM and AM. KM and AM wrote the initial draft of the paper which KM led on revisions. All authors approved the final version.

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