IPEM Institute of Physics and Engineering in Medicine

Clinical and Scientific Computing Workforce Survey Summary Report 2024

IPEM Institute of Physics and Engineering in Medicine

Introduction

In December 2024 we invited any person working on Clinical and Scientific Computing (CSC) activities to respond to our 2024 Clinical and Scientific Computing Workforce Survey. We used the most prevalent communication methods available to us to disseminate the survey, including direct emails to members, through the IPEM newsletter and the Medical Physics mailbase. We received responses from 77 individuals performing CSC activities across 40 different locations. This results in this summary report reflect the views of those 77 respondents.

Aim

The aim of this summary is to give headline figures from the survey results with a full report to follow. This summary shows numbers of Clinical and Scientific Computing staff surveyed, their NHS Agenda for Change banding or Career Stage breakdown, number of locations with vacant positions and number of vacancies found along with a breakdown of activities performed.

Workforce Headlines

- 92% of respondents were from within the NHS
- The majority of NHS staff, 84% of respondents, performing CSC activities are on bands 7, 8a and 8b.
- 36% of respondents stated that CSC was their primary specialism
- 15% of the locations that responded have at least one vacant position
- 12% of posts are vacant
- On average staff are performing CSC activities for 0.6 Whole Time Equivalent (WTE) of their total duties, with a minimum of 0.1 WTE and a maximum of 1.0 WTE
- Of those with CSC as their primary specialism the most common activities performed are on problems that might be assisted by CSC solutions and software development: Object oriented, Functional or Procedural paradigms.
- Of those with CSC as their secondary specialism the most common activity performed is application support (e.g., commissioning, configuration, general administration and upgrades, First line support; including for critical real time clinical systems)
- Of those that did not state CSC as a specialism the most common activity is Software development: Macros for Excel, Scripts for Treatment planning etc.

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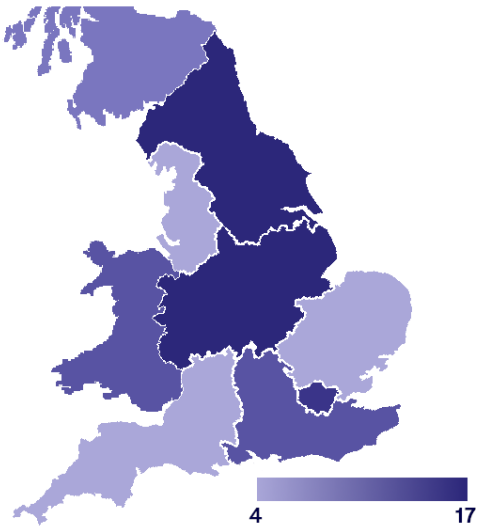
Responses

We received a response from 77 individuals, from 40 different locations, with 92% working within the NHS. 36% of respondents stated that Clinical and Scientific Computing was their primary specialism and 46% as a secondary specialism, most of those with CSC as a secondary specialism are in Radiotherapy.

Sector	Responses
NHS	71
Academia	2
Independent	1
Manufacturer	1
Regulatory Public Body	1
Consultancy	1

Locations



Region	Responses	Percent of Responses
East of England	4	5%
London	11	14%
Midlands	17	22%
North East and Yorkshire	15	19%
North West	4	5%
South East	8	10%
South West	4	5%
Scotland	6	8%
Wales	7	9%
Unknown	1	1%

Clinical and Scientific Specialism

Clinical and Scientific Computing Specialism	Percent of Respondents
Primary specialism	36%
Secondary specialism	46%
Not stated as a specialism	18%

NHS AfC Banding or Career Stage

The most common NHS bands for those working within Clinical and Scientific Computing are Band 7, Band 8a and Band 8b.

NHS Agenda for Change Banding	Responses	Percent of Responses
Band 6	2	3%
Band 7	21	29%
Band 8a	25	34%
Band 8b	15	21%
Band 8c	3	4%
Band 8d	6	8%
Band 9	1	1%

Career Stage	Responses	Percent of Responses
Early Career (Non-AfC; approx. 1-5 years in the profession)	0	0%
Mid-Career (Non-AfC; approx. 5-10 years in the profession)	2	50%
Senior Career (Non-AfC; 10+ years in the profession)	2	50%

Vacancies

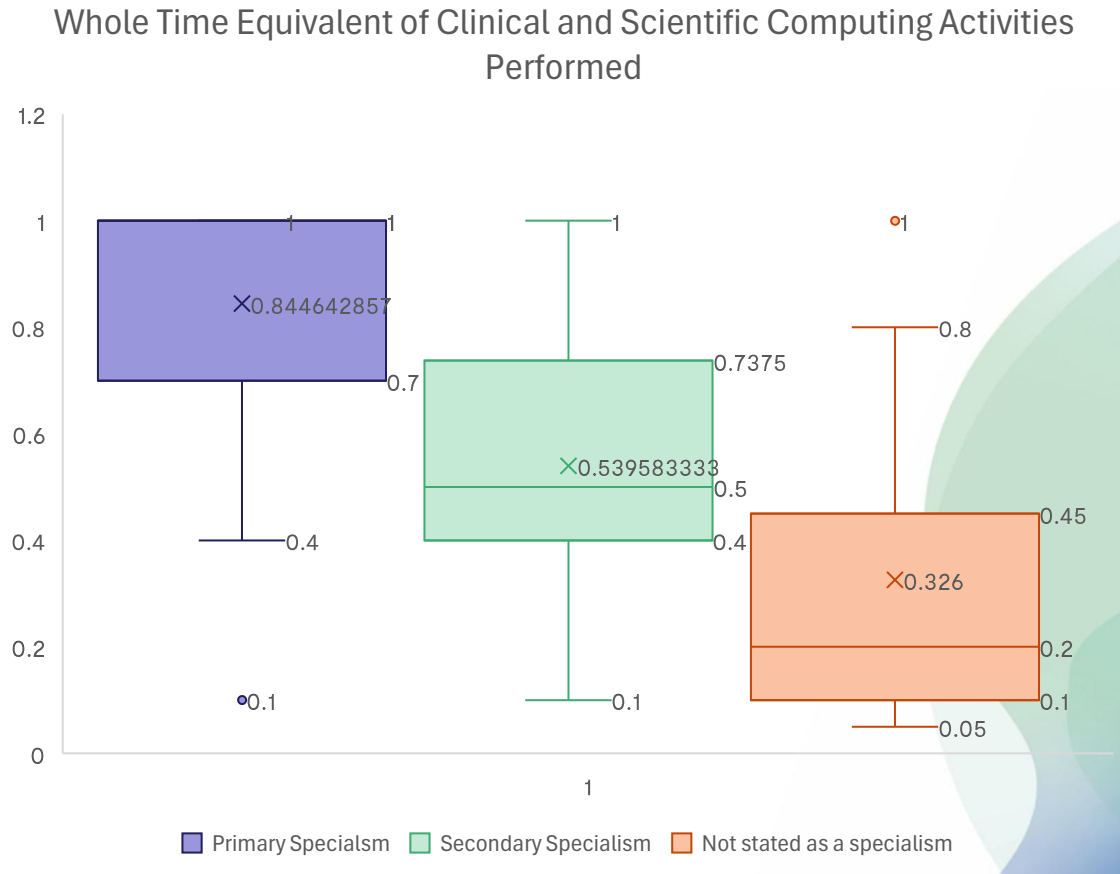
15% of the locations that responded to the survey had at least one vacant position within Clinical and Scientific Computing, and when the number of vacancies are compared to the number of respondents this gives us a 12% vacancy rate.

	Count
Number of locations with vacancies	6
Number of vacancies	9

Activities

Respondents were asked to state how much of their time is spent on computing activities, with the average response being 0.58 WTE, with a minimum of 0.05 WTE and a maximum of 1.0 WTE.

Time spent on CSC activities	**Average WTE**	**Min WTE**	**Max WTE**
All Responses	0.58	0.05	1.00
Primarily Specialism as CSC	0.84	0.10	1.00
Secondary Specialism as CSC	0.43	0.05	1.00



The respondents were also asked to indicate which of the following activities they perform, and the below table show the percent of respondents that perform each activity, split between whether Clinical and Scientific Computing is their specialism. Software development and CSC solutions to problems were the main activities performed by respondents that stated CSC as their primary specialism and application support and planning project work for those that stated CSC as their secondary specialism.

Computing Activities	Respondents with CSC as a Primary Specialism	Percent of Respondents with CSC as a Primary Specialism	Respondents with CSC as a Secondary Specialism	Percent of Respondents with CSC as a Secondary Specialism	Respondents where CSC is NOT a specialism	Percent of Respondents where CSC is NOT a specialism
On problems that might be assisted by CSC solutions	26	93%	17	71%	15	60%
Software development: Object oriented, Functional or Procedural paradigms	24	86%	15	63%	11	44%
Ensuring that CSC activities are included in Quality Systems and well documented	23	82%	19	79%	16	64%
With colleagues in clinical specialisms: on implementation of CSC solutions for clinical use	23	82%	17	71%	15	60%
Teaching on computing topics through by lecturing and/or supervision of trainees	23	82%	14	58%	9	36%
Planning project work (e.g., installation, upgrade, commissioning)	22	79%	20	83%	17	68%
With IT: on networking/security, storage, non-standard desktop configurations, backup, disaster recovery	22	79%	19	79%	16	64%
On the selection of software tools	21	75%	18	75%	15	60%
Involvement in regional, national and international networking activities	21	75%	8	33%	5	20%

Database support (e.g., extracting data, checking database integrity, producing reports)	21	75%	15	63%	14	56%
Participation in research that involves CSC use or development	21	75%	8	33%	8	32%
Application support (e.g., commissioning, configuration, general administration and upgrades, First line support; including for critical real time clinical systems)	20	71%	20	83%	21	84%
Software development: Macros for Excel, Scripts for Treatment planning etc.	19	68%	16	67%	24	96%
With suppliers: on procurement, service contracts, software upgrades and service problems	18	64%	18	75%	13	52%
On regulatory developments from relevant government bodies concerning CSC	19	68%	13	54%	5	20%
With Clinical Governance on Clinical Risk Management	17	61%	15	63%	8	32%
Software development: Databases	18	64%	8	33%	7	28%
Virtual machine management	16	57%	15	63%	4	16%
With Informatics departments, clinical trials teams, and national bodies: on secure data transfer requirements	15	54%	12	50%	5	20%
Server support (e.g., hardware, operating systems, networking)	15	54%	17	71%	9	36%
Maintaining CSC equipment inventories and contributing to replacement planning	14	50%	17	71%	9	36%
On the use of Cloud applications	12	43%	16	67%	3	12%
Preparing business cases	12	43%	12	50%	5	20%
Construction of bespoke hardware	4	14%	6	25%	1	4%
Only involved with CSC support activities	2	7%	3	13%	0	0%