

Survey of training and training needs of ophthalmic support staff

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Introduction

We recently conducted a survey of eye departments in the UK to ascertain the need and demand for a Foundation Degree in Ophthalmic and Vision Science, to be delivered by the Open University as distance learning, combined with work-based learning and competence assessment. The questionnaire was sent to lead consultants and heads of departments at 183 NHS and 48 non-NHS eye hospitals / units / departments (all subsequently referred to as “departments”). We received a response from 46 NHS and 3 non-NHS departments. This is a summary of the survey results. More detail can be found at www.ahpo.org.

Results

Who works in eye departments?

Eye departments employ support staff with a number of different job titles.(Table 1) All those listed below were recognised by respondents:

Table 1. Categories of support staff in ophthalmic departments, numbers and percentage of total

Support staff in department	No	%
nurse	45	94
health care assistant	39	83
ophthalmic photographer	30	63
visual field technician	25	52
ophthalmic technician	21	44
diabetic retinopathy screener	18	38
orthoptic support worker / assistant	14	30
senior orthoptic support worker	10	21
ophthalmic assistant	8	17
visual electrophysiologist	6	12
ophthalmic science practitioner	3	6

Most departments have nurses (94%) and health care assistants (83%). The majority have ophthalmic photographers (63%), visual field technicians (52%) and orthoptic support workers/assistants (50%), and a substantial minority have other technical support staff including ophthalmic technicians (44%) and ophthalmic assistants (17%).

Do staff have ophthalmic qualifications?

We asked which staff in the department did NOT have an ophthalmic qualification.(Table 2) In about half (51%) of departments nurses did not an ophthalmic qualification, but for most other categories of staff around three quarters or more had no ophthalmic qualification. This included health care assistants (97%), visual field technicians (88%), ophthalmic technicians (76%), ophthalmic assistants (75%), ophthalmic photographers (73%), orthoptic support workers/assistants (71%), and ophthalmic science practitioners (66%). The categories of staff where only a minority lacked an ophthalmic qualification were visual electrophysiologists (33%), diabetic retinopathy screeners (11%) and senior orthoptic support workers (10%).

Table 2. Departments with support staff without ophthalmic qualification, expressed as a percentage of total numbers of departments with each category of staff (i.e. numbers in Table 1)

Support staff without ophthalmic qualification	No	%
health care assistant	38	97
nurse	22	49
ophthalmic photographer	22	73
visual field technician	22	88
ophthalmic technician	16	76
orthoptic support worker / assistant	10	71
ophthalmic assistant	6	75
diabetic retinopathy screener	2	11
Visual electrophysiologist	2	33
ophthalmic science practitioner	2	66
senior orthoptic support worker	1	10

We did not ask what proportion of staff in any given category lacked an ophthalmic qualification, and thus where departments said a particular category of staff had a qualification, it cannot be assumed that all staff in that category had the qualification.

We endeavoured to get some information about the numbers of staff who did not have an ophthalmic qualification. A quarter of the departments (25%) had more than 13 support staff without an ophthalmic qualification, and another 29% had between 8 and 13 support staff without a qualification. To determine the approximate numbers of staff without a qualification we assumed a median number in each category (e.g. in an 8-10 category we took an average of 9; for >13 we assumed 15) and multiplied this by the number of departments reporting that category. On this basis there were 418 staff without a qualification, or around 9 per department.

In-house training

In-house training was provided in 85% of departments. Of these, two thirds (66%) had formal documented assessment of competence. We did not ask whether all categories of staff in the department had in-house training, and it is possible that some categories of staff are more likely to have in-house training and documented assessment of competence than others.

Attendance at externally provided courses

In the great majority of departments (94%) staff attended externally provided courses. Given the low proportion of staff that had an ophthalmic qualification, it is unlikely that many of these were training programmes for which students received academic credits towards a qualification. Most were paid for from department funds (52%) or the hospital Trust or Health Board (50%). Of the remainder, 11% were self-funded by staff members, 8% were paid by the Strategic Health Authority and 6% were paid from other sources.

The remaining questions attempted to assess the demand and sources of funding for the Open University Foundation Degree in Ophthalmic and Vision Science.

Demand for the proposed Foundation Degree in Ophthalmic and Vision Science

We asked what categories of staff would benefit from the Foundation Degree (Table 3) and, unsurprisingly, the numbers correlated closely with categories of staff that lacked an ophthalmic qualification (ophthalmic assistants 100%, healthcare assistants 92%, visual field technicians 80%, ophthalmic technicians 71%, orthoptic support worker / assistants 64%).

There were some exceptions. Nurses lacked an ophthalmic qualification in 51% of departments, but 76% of departments said they would benefit from the Foundation Degree. It is possible that, even in departments where nurses have a qualification, a proportion do not, or that the existing qualification is not seen as sufficient for some of the roles nurses are undertaking. Ophthalmic photographers lacked an ophthalmic qualification in 73% of departments, but only 53% thought they would benefit. As with all the responses, this is the view of the respondent and not necessarily that of the relevant staff category.

Table 3. Departments with support staff who would benefit from Foundation Degree, expressed as a percentage of total numbers of departments with each category of staff (i.e. numbers in table 1)

Support staff who would benefit from Foundation Degree	No	%
health care assistant	36	92
nurse	32	76
visual field technician	20	80
ophthalmic photographer	16	53
ophthalmic technician	15	71
orthoptic support worker / assistant	9	64
ophthalmic assistant	8	100
diabetic retinopathy screener	3	16
visual electrophysiologist	3	50
ophthalmic science practitioner	2	67
senior orthoptic support worker	2	20

Similar results were found when attempting to assess the numbers of staff who would benefit from the Foundation Degree. As mentioned above there were approximately 9 support staff per department without a qualification, and it was considered around 8 per department would benefit from the Foundation Degree.

A majority of respondents (54%) said the Foundation Degree or similar qualification should be an education requirement for ophthalmic support staff, 29% disagreed and 17% did not know.

Funding for the proposed Foundation Degree in Ophthalmic and Vision Science

Part time students are now eligible for student loans if that have not previously received a loan for a higher education qualification. We asked if there were staff in the department who might be eligible for student loans. These are not available in Scotland, and of the remaining departments, more than half (56%) did not know, about one third (30%) said there were eligible staff and 14% said there were none.

We endeavoured to assess whether staff would be willing to fund their own training (assuming this excludes staff with student loans). Again, this was not relevant to Scottish departments, but of the remaining about two thirds (67%) did not know, 19% said they had staff that would self fund, and 14% said their staff would not.

We asked whether the hospital Trust would be willing to contribute to the Foundation Degree course fees (we did not specify in part or in full). Nearly half (46%) did not know, about one third said the Trust would contribute for one or two students per year (21% and 15% respectively) and a few (6%) would contribute for three or more students.

Summary

This purpose of this survey was to assess the need, demand and potential sources of funding for a Foundation Degree in Ophthalmic and Vision Science. The response was, we feel, sufficient to generalise the findings to the UK as a whole.

The survey demonstrated that at least two thirds of ophthalmic support staff currently undertaking ophthalmic diagnostic tests have no externally validated qualification attesting to their ophthalmic knowledge or competence in performing diagnostic tests.

The survey was, of necessity, limited in scope and could not provide a detailed picture of the roles and training of ophthalmic support staff, nor the views of particular professional or occupational groups. It is likely that the survey underestimated the lack of ophthalmic qualifications, as we asked only which staff categories had a qualification, and not how many within that category had that qualification.

A large majority of departments provide in-house training, and two thirds of these have documented assessment of competence. Determination of the coverage and quality of this in-house training and competence assessment was outside the scope of this questionnaire, and there are no other studies or sources of information regarding this.

The great majority of departments sent staff to external courses, paid for by the department or hospital Trust. The nature and quality of these courses and the proportion of staff attending is unknown.

It was clear from this survey that current in-house training and attendance at external courses is not considered adequate for most categories of staff. More than half of all departments thought the Foundation Degree in Ophthalmic and Vision Science would benefit almost all categories of staff, particularly those in assistant and technician roles, and nurses. Exceptions were diabetic retinopathy screeners, for whom there is a City and Guilds Diploma, and the small numbers of senior orthoptic support workers.

When asked about sources of funding for the Foundation Degree, unsurprisingly the majority of departments did not know whether hospital Trusts or staff members would be willing to fund the course. For those departments where Trust funding might be provided, most considered that this would be for not more than one or two students per year. It is probable that a majority of ophthalmic departments have staff who would be eligible for a student loan to pay for course fees.

Discussion

For more than a decade the Royal College of Ophthalmologists and the Association of Health Professions in Ophthalmology have recognised a need for accredited education, training and assessment of competence of ophthalmic support staff. National Occupational Standards were written and a Foundation Degree in Ophthalmic Science and Technology (FD OS&T) commenced in Further Education colleges in Nottingham in 2005 and London in 2006. At that time we were unable to find a university (including the Open University) that was willing to offer the course. The Foundation Degree was valued by students and their sponsoring departments but student numbers were small for a number of reasons, including geographical access, problems with leave from work for a fixed day in the week, and difficulties obtaining funding for course fees. With the withdrawal of Government support for Higher and Further Education institutions and the introduction of student fees, many smaller courses including the FD OS&T and ophthalmic nursing courses, have been discontinued as they are not economically viable.

We have always been of the opinion that a distance learning programme would best meet the needs of a workforce that exists in relatively small numbers in eye departments throughout the UK. In the new healthcare and education landscapes there are new opportunities, and in our discussions with the Open University we have been considering the prospects but also the obstacles to implementing an effective and sustainable educational programme for ophthalmic support staff. These have been the topics under discussion:

Is investment in education and training clinically and cost effective?

The NHS Career Framework (CF), reinforced through the NHS pay system, Agenda for Change, introduced a nine-tier framework for career progression within the NHS. This set out a formal progression route that would allow people to enter at any point within the framework (depending on their level of qualification and/or experience) and then to progress and expand their role with further experience and training. The purpose of the career framework was to enable skills escalation and aid the development of new roles to meet patient need. Its other aims were to assist with the development of competence based workforce planning, give opportunities for individual career planning, enable easier recruitment and retention, and improve transferability of roles and skills across healthcare organisations regardless of location.¹ Table 4 shows the progression framework.

Table 4: Nine level career progression framework

Level	Grade
1	Entry level
2	Support workers
3	Senior healthcare workers, technicians
4	Assistant/Associate Practitioners
5	Practitioners
6	Senior/Specialist Practitioners
7	Advanced Practitioners
8	Consultant Practitioners
9	Senior Staff

Source: Department of Health

At the lower end of the career framework there has been a raft of activity to develop new posts at Levels 3 and 4 (mostly 4). Associate Practitioners occupy an intermediate position just below the level of professionally qualified staff, and thus provide opportunities for task delegation downwards from professionally qualified staff (who normally enter the Career

Framework at Level 5 and above). This in turn can enable professionally qualified staff to extend their scope of practice and move into more advanced roles. This upward and downwards movement of tasks and responsibilities is seen as a key strategy in making the working arrangements within the health sector increasingly cost-effective.²

It is important to understand the difference between Career Framework Levels and the Agenda for Change Pay Bands. A career framework is constructed around evaluations of levels of skill and responsibility and facilitates coherent workforce planning. Although it does not need to be linked to pay scales, linkage ensures compliance with equal pay principles that individuals (irrespective of job role) undertaking work assessed as being of equivalent job weight should be in the same pay bands. There has been recent public debate about calls for the abolition of national pay scales for the NHS and other public sector workers, but a recent study by NHS Employers found limited appetite for local pay bargaining and moving away from Agenda for Change. This could involve the development of a bespoke job evaluation system that could increase administration costs and risk pay inflation, were employers to compete directly for staff on pay. Generally, NHS employers are still supportive of the national frameworks, subject to them being made more affordable and having greater local flexibility.²

Many ophthalmic staff undertaking diagnostic tests and investigations, including ophthalmic technicians and assistants, visual field technicians, ophthalmic science practitioners, diabetic retinopathy screeners, ophthalmic photographers and vision scientists are part of the Healthcare Science workforce. A programme for modernising the Healthcare Science workforce – Modernising Scientific Careers (MSC) – was introduced in 2010.^{3,4,5} A key purpose is to simplify career structures and education and training for the Healthcare Science workforce to a common framework so that career pathways are more aligned with other healthcare professionals and more transparent for those already in the workforce or thinking of entering it. Training and education frameworks have been redesigned to provide greater flexibility in skills and knowledge development, with less emphasis in initial training on uni-disciplinary experience. Workforce planning for healthcare science is to become more strongly driven by and integrated with service needs, informing commissioning of education and training, and supporting re-profiling of the workforce. It is believed these changes can achieve significant improvements in value for money as well as quality of care.

The grades, training programmes and awards and qualifications for Modernising Scientific Careers are presented in Table 2. Ophthalmic and Vision Science has a shared undergraduate and postgraduate education and training programme with Audiology and Neurophysiology, the BSc (Hons) in Neurosensory Sciences and Masters in Neurosensory Sciences respectively. The first year of both programmes is common for the three disciplines, but the majority of the content for the subsequent two years is discipline specific.^{6,7}

The Modernising Scientific Careers model requires that any programme of education and training for Career Frameworks 1-4 must carry academic credit to ensure individuals are, based on service need, able to progress to the practitioner training programme / BSc (Hons) and beyond. Programme delivery should be accessible and flexible and models should include part-time taught courses, distance learning and blended learning options. All education and training programmes for career frameworks 1-4 must be aligned with apprenticeships.⁵ Both the academic and work-based training modules of the proposed Foundation Degree in Ophthalmic and Vision Science have learning outcomes comparable to the first two years of the BSc (Hons) in Neurosensory Sciences. Students employed at the Assistant grade can be awarded a Certificate in Healthcare Science after completing Level 1 of the Foundation Degree, and staff at the Associate grade who attain the Foundation Degree in Ophthalmic and Vision Science have the option, if supported by the employer, of entering the final year of the BSc (Hons) in Neurosensory Sciences.

Table 5: Modernising Scientific Careers Framework

CF*	Grade	Training Programme	Awards and Qualifications
1			
2	Healthcare Science Assistant	Assistant Training Programme	e.g. NVQ2 / SVQ
3	Healthcare Science Assistant	Assistant Training Programme	e.g. Advanced Apprenticeships / NVQ3 / SVQ
4	Healthcare Science Associate	Associate Training Programme	Foundation Degree / Higher Apprenticeship Award / Higher National Diploma
5	Healthcare Science Practitioner	Practitioner Training Programme (PTP)	BSc (Hons) in Healthcare Science
6-7	Healthcare Scientist	3 Year Scientist Training Programme (STP)	Masters Degree and Certificate of Attainment in Healthcare Science
7-8	Senior Healthcare Scientist	CPD, may include Accredited Specialist Expertise	
9	Consultant Healthcare Scientist		

*Career Framework

In the Modernising Career Framework the roles of Healthcare Science assistants and associates have been described as follows.⁸

Healthcare Science Assistant

Working at CF2/3, Healthcare Science Assistants undertake a range of clearly defined tasks and protocol based roles, supervised by Healthcare Science Associates at CF4; or by Healthcare Science Practitioners at CF5, depending on the needs of the service. Experienced assistants will be able to progress to associate posts. They will have the opportunity to obtain both educational and work-based training qualifications.

Healthcare Science Associate

Healthcare Science Associates at CF4 will undertake protocol driven investigative tasks and treatment procedures with appropriate supervision, either by a Healthcare Science Practitioner at CF levels 5 or 6, or a Healthcare Scientist at Career Framework level 6 or above. This will depend on the needs of the service and on the scope of technology to automate or standardise certain tasks and procedures and the ability to define protocols and activities.

Ophthalmic support staff at Career Frameworks 1-4 include visual field technicians, ophthalmic technicians and assistants, orthoptic support workers and senior orthoptic support workers. Ophthalmic science practitioners with the Foundation Degree are CF4 and above, Diabetic retinopathy screeners have a City and Guilds further education qualification and are mostly at CF4, and ophthalmic photographers are at CF5 and above. At present there is no national agreement or guidelines regarding range of tests and investigations and level of supervision of ophthalmic staff at CF3-4, and for the most part Trusts have developed their own roles, job descriptions and job titles. Adoption of the Modernising Scientific Careers Framework and an education and training programme with externally validated assessment of knowledge and competence would provide clarity for employers and employees, and also a degree of protection for the staff undertaking training, supervision and assessment of competence and for the clinicians making clinical decisions

based on test results. In this context we propose the following job titles with a brief description and discussion of the work role:

Career Framework 3

Job title: Ophthalmic Science Assistant

Proposed Qualification: Certificate in Healthcare Science

Work role: Staff at this level have limited understanding of the eye, optics and ocular disease. They can undertake visual acuity and visual field assessments with protocols under indirect supervision, and should be able to identify unusual and unexpected results and report to a more senior member of staff. They would not be expected to change test strategies according to a patient's eye condition or difficulties with compliance.

Career Framework 4

Job title: Ophthalmic Science Associate

Proposed Qualification: Foundation Degree in Ophthalmic and Vision Science

Work role: Staff at this level have knowledge and understanding of anatomy, physiology and pathology of the visual system, common ophthalmic diseases, optics and the principles and methods for undertaking a range of common ophthalmic investigations, assessments and imaging under indirect supervision. Within agreed protocols they could change test strategies, undertake additional tests if indicated, and assess and report the quality of the test result. They would understand the limitations and contraindications of the tests they were undertaking and seek advice, and if unexpected results were found, would alert a more senior member of staff with appropriate priority. They would take a clinical history, and instil eye medications with a patient specific direction but would not make diagnostic or treatment decisions.

Career Framework 5

Job title: Ophthalmic Science Practitioner

Proposed Qualification: BSc (Hons) in Healthcare Sciences / Neurosensory Sciences

Work role: Students who complete the practitioner training programme and graduate with a BSc (Hons) in Healthcare Sciences / Neurosensory Sciences would enter the workforce at Career Framework 5 as an Ophthalmic Science Practitioner. It would also be possible for Ophthalmic Science Associates who complete either the final year of the BSc (Hons) in Neurosensory Sciences or an equivalent Level 3 programme to progress to Level 5 as an Ophthalmic Science Practitioner. At this level staff would have options to develop specialist skills in areas such as fluorescein angiography, ultrasonography, AMD, electrophysiology and low vision, and would have completed a research project. They would also have more responsibility for management, supervision and mentoring. They would work mostly under indirect supervision but would not be responsible for making independent diagnostic or treatment decisions.

Whilst departments faced with pressures to cut costs may seek to employ support staff at the lowest possible level, this can be a false economy. Close supervision takes the time of more senior staff, and without that supervision there is little defence if errors or mistakes arise.¹ In a study of causes of cataract surgery malpractice claims in England 1995–2008, claims relating to biometry errors/wrong intraocular lens power were the second most frequent cause and resulted in payment of damages in 62% of closed cases.⁹

Staff with a range of skills can work more flexibly, and if the job is more interesting and rewarding the quality of work will be higher and staff turnover will be less. A north American study of the impact of certified and noncertified Ophthalmic Medical Personnel on practice quality and productivity found that significantly more ophthalmologists said that the three levels of certified personnel (assistant, technician and technologist) contributed more to 5 of

the 10 practice productivity measures (i.e., doctor productivity, trouble-shooting rapport, triage screening, effective patient flow, and number of patients per hour). A statistically significant number of ophthalmologists also believed that certified personnel showed more of all 14 of the personal attributes considered desirable compared to noncertified ophthalmic medical personnel.¹⁰

An Ophthalmic Science and Technology Foundation Degree student who was employed as a Visual Field Technician described the impact on her working life in the following way:

“This is was the best thing happened to me. After three years of training in City of Westminster College, my career has taken a very good turn around. This course has given me so much knowledge in my field and has widened my theoretical as well practical skills. I would be interested to do further training to progress even further if I could find a right training pathway that combined clinical as well as managerial aspects of the job.”

And another said:

“Since graduating, I finally have a career in which I love and enjoy. It has given me the ability to get a much better job in terms of better pay and exposure to a larger variety of patient care. My qualification has given me more responsibility within our eye unit, which in turn has created a much more fulfilling career for me. I would like to go on and become more qualified in my field, to be the best that I can be. I would recommend a qualification like this to anyone as it allows to study and work at the same time, which has enabled me to get where I am today.”

Probably the most significant cost efficiencies of developing staff roles at CF4 will arise from the impact on staff costs at higher pay grades. The salaries of registered professionals start at Band 5 (£21,176 to £27,625 pa) and if they extend their roles, even into areas that could be undertaken by someone at a lower band, they can expect to move to a higher band (£25,528 to £34,189 at Band 6). Developing roles at CF4 can free these professionals to develop roles for which professional registration is a requirement, such as roles that include clinical decision-making or investigations or treatments that pose a significant risk to patients. Using a career framework in this way to analyse a workforce and allocate roles and responsibilities at appropriate levels can reduce staff costs whilst improving the quality of work performance.

Are there sufficient student numbers to sustain the programme?

The Open University would want assurance that a minimum of 100 new students would enrol each year. There are more than 150 eye departments in the UK, with, according to the survey, an approximate 8 staff per department who would benefit from training, or 1,200 in total. Thus if 100 per year entered the programme it would take 15 years to train them all. A new programme is likely to attract more students in the early years and a ‘steady state’ might be reached well before this. If considered from the perspective of staff turnover, and we assume a modest figure of 10%, more than 100 students per year would be needed to maintain training levels once a steady state has been reached. On this basis there are sufficient student numbers to sustain a distance learning programme, with the caveats that there should be only one education provider, and the programme was supported by the majority of eye departments. These assumptions are based on current activity and working practices. With an ageing population, cost restraints that make it likely that more work will be devolved to support staff, and higher levels of skill that will be required with the emergence of new technologies, it is probable that numbers of support staff and demand for the programme will increase.

Are the course fees affordable?

The Open University fees are £5,000 per level (120 credits), compared with £9,000 per year/level for a full time degree. As part time students take 60 credits per year, the

Foundation Degree will cost £2,500 per year, for between 2.5 and 4 years (as some students may be exempt from up to 90 credits).

Part time students are now eligible for student loans, which they must start to repay if their income is over £21,000 per year, at a rate of 9 per cent of the income over the threshold of £21,000 a year. For example, someone earning £25,000 would pay back 9% of £4,000 per year, or £360 each year. Foundation Degree-level staff would usually be employed at Band 4, currently £18,652 to £21,798 pa.

Course fees for staff who are not eligible for loans could be paid for by the Local Education and Training Boards or the equivalent in the four countries, the employer, the staff member, or a combination of these. Nurses and other staff with a non-ophthalmic healthcare qualification (most of whom would be employed at Band 5 at £21,176 to £27,625 pa, or above) may be exempt from up to 1.5 years of the course, reducing the total course fees to £6,750. Our survey showed that some staff would be willing to self fund, and from discussions with potential students we believe they would be willing to contribute between £1,000 and £1,500 per year, i.e. around half the cost of the fees, but would not feel able to afford the full cost of fees.

What about Apprenticeships?

As mentioned in page 6, all education and training programmes for career frameworks 1-4 must be aligned with apprenticeships, and the Healthcare Science Apprenticeship Framework will be available from May 2013. Further information about this can be found in the Appendix. We do not envisage that an apprenticeship programme for ophthalmic and vision science will be offered, at this stage, in addition to an HE-provided work-based programme, but the HE programme would need to meet all the requirements of the apprenticeship framework.

Given the current low level of training in ophthalmic departments we would argue for prioritisation of the Foundation Degree, as this would produce a cadre of staff who could train and supervise staff on the apprenticeship programme.

Conclusion and Recommendations

When we began to develop education programmes for ophthalmic staff there was little support from the Department of Health or Strategic Health Authorities. This has now changed. Ophthalmic and Vision Science is now an integral part of Healthcare Science, and with the Modernising Scientific Careers Programme there is an opportunity to embed an education and training programme with career progression from assistant to clinical scientist levels. This will not happen, though, without the active participation and support of ophthalmologists and other ophthalmic staff. Medical Education England and equivalent bodies in the four countries, the NHS Commissioning Board, Clinical Commissioning Groups and Local Education and Training Boards and Trust management need to be informed and kept informed that there is now an agreed national career structure and education and training programme for ophthalmic support staff, and this will improve the clinical and cost effectiveness and safety of the ophthalmic service.

In each department job titles, roles and job descriptions need to be standardised, and staff need to be enrolled on and supported through the appropriate levels of Apprenticeship, Foundation Degree and BSc training programmes. As a minimum we propose each average sized DGH enrolls 2 members of staff on the Foundation Degree programme each year, with larger centres sending proportionally more, until all the ophthalmic support staff are trained, and a steady state is reached.

In 2010/11 in England there were 1,705,335 new ophthalmic attendances and 4,437,597 follow up attendances. All these patients have diagnostic tests, in the most part undertaken by staff without an ophthalmic qualification, and many of whom have had no assessment of their competence. There are more than sufficient grounds for arguing that this is not safe for

patients nor the professionals making clinical decisions based on these tests, and is no longer acceptable.

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APPENDIX

NATIONAL OCCUPATIONAL STANDARDS

This is the list of National Occupational Standards that have been developed for Ophthalmic and Vision Science. Further details of these can be found at www.ahpo.org/documents/OVS_NOS.pdf

- OVS1** Obtain ophthalmic patient history to assist with diagnosis and treatment planning
- OVS2** Instil eye medication for the purpose of investigation or treatment
- OVS3** Determine the optical prescription of visual aids
- OVS4** Determine refractive error of the eye
- OVS5** Measure visual acuity
- OVS6** Assess visual field
- OVS7** Undertake measures of visual function (other than visual acuity and visual field)
- OVS8** Examine the eye and supporting structures
- OVS9** Obtain measurements of intraocular pressure
- OVS10** Obtain structural measurements of the eye
- OVS11** Obtain images of the eye and supporting structures using light or lasers
- OVS12** Obtain angiographic images of the eye using contrast media
- OVS13** Assess electrophysiological function of the visual system
- OVS14** Obtain images of the eye, orbit and adjacent structures using ultrasound

The table below indicates which National Occupational Standards are applicable to the different categories of staff:

Job title	Career framework Level	Relevant OVS NOS
Ophthalmic Healthcare Science Assistant	3	OVS3, OVS5, OVS6
Ophthalmic Healthcare Science Associate	4	OVS1 to OVS11
Ophthalmic Healthcare Science Practitioner*	5	OVS1 to OVS14
Ophthalmic Healthcare Scientist**	6 and above	OVS1 to OVS14

* An Ophthalmic Healthcare Science Practitioner would be responsible for more complex investigations e.g. difficult biometries, fluorescein angiography

** An Ophthalmic Healthcare Scientist would be responsible for making diagnostic decisions and producing diagnostic reports based on investigation results

HEALTHCARE SCIENCE APPRENTICESHIP FRAMEWORK

Qualifications and Credit Framework (QCF)

The Healthcare Science Apprenticeship Framework is being developed as part of the Qualifications And Credit Framework (QCF). The QCF is the new way of recognising achievement - through the award of credit for units and qualifications - across England, Wales and Northern Ireland. It provides more flexible routes to gaining full qualifications and enables progression to be achieved in smaller steps through the accumulation of credit.

The QCF has modules/units at different levels that indicate the complexity (challenge) of a qualification. The levels range from Entry to level 8. GCSEs grades A - C are equivalent to level 2; GCE A-levels are level 3; Higher Education (HE) level 1/Certificate is level 4; HE level 2/DiplomaHE/Foundation Degree is level 5 and so on to PhD at level 8. In simple terms:

Higher Education level = QCF level minus 3

Modules/units can be combined to form a qualification (Award, Certificate or Diploma). Depending on the rules of combination, QCF qualifications can be made up of units from different levels, and the level of the majority then determines the level of the qualification.

See <https://www.nsal.org.uk/fact-sheets/qualifications-and-credit-framework-qcf> for more information.

Healthcare science apprenticeship framework

There is modular framework for three levels of Apprenticeship: Apprenticeship, Advanced Apprenticeship and Higher Apprenticeship for Healthcare Science. These relate to job titles as follows:

Assistant Practitioners = Apprenticeship, Advanced Apprenticeship (majority units at level 3)
Associate Practitioners = Higher Apprenticeship & Foundation Degree (majority units at levels 4&5)

The framework has modules/units at levels 2 to 5 grouped as follows:

- Core
- Themed
- Functional Category
- Personal, Cognitive and Professional

Modules/units are developed from National Occupational Standards. For information about National Occupational Standards for Ophthalmic and Vision Science please see Appendix.

Each module/unit has a unique MSC reference number, with details of credit rating and guided learning hours.

CORE UNITS

There are 10 core units; 5 for Assistant and 5 for Associate. The 5 core units for Assistants appear in Apprenticeship and Advanced apprenticeship frameworks and are level 2 units. The 5 core units for Associates are in the Higher apprenticeship framework and are level 4 units. Core units are mandatory within each Apprenticeship.

THEMED UNITS

There are four themes within the framework, applicable to the different areas of Healthcare Science. The theme relevant to Ophthalmic and Vision Science is T2 CLINICAL INVESTIGATION OF HUMAN FUNCTIONS AND SYSTEMS. Each theme contains units at different levels. Themed units are knowledge based and provide the underpinning knowledge required for the relevant award. For each apprenticeship, individuals must select themed units at the correct level for the defined number of credits.

FUNCTIONAL CATEGORY UNITS

There are 14 functional categories each containing units at different levels. These units provide the competence components for the relevant apprenticeship and will be assessed in the workplace. Individuals must select FC units across categories at the correct level for the defined number of credits. The functional categories relevant to Ophthalmic and Vision Science are:

- FC1 ADMINISTRATION, RECORDS AND DATA
- FC2 PREPARING THE HEALTHCARE SCIENCE ENVIRONMENT
- FC3 SUPPORTING THE SAFE WORKING ENVIRONMENT
- FC4 RECORDING AND REPORTING CLINICAL DATA
- FC5 PATIENT CONTACT, SUPPORT AND ENGAGEMENT
- FC6 ASSESSING PATIENT STATUS
- FC9 PATIENT INVESTIGATIONS IN HEALTHCARE SCIENCE
- FC11 MAINTAINING AND PREPARING EQUIPMENT FOR CLINICAL USE
- FC12 QUALITY CONTROL IN HEALTHCARE SCIENCE
- FC13 PERSONAL MANAGEMENT AND DEVELOPMENT

PERSONAL COGNITIVE AND PROFESSIONAL FRAMEWORK

This framework has two levels of descriptors, one for Assistants and one for Associates. This framework underpins learning and practice in Healthcare Science roles and is assessed as an integral component of the relevant Apprenticeship award.

Awards

A *minimum* award for an Assistant or Associate will consist of 37 credits, with 280 guided learning hours (GLH) within 12 months of which at least 100 GLH or 30% (whichever is the greater) must be delivered off-the-job and clearly evidenced. The remaining GLH must be delivered on-the-job and clearly evidenced.