









Overview

In these times of political uncertainty, the College remains a stable body providing continuity to the specialties we serve and, by extension, their patients. Profile raising for clinical oncology and clinical radiology has been a key area of focus over the past year, to highlight their importance in patient care and to ensure that the needs of our specialties are not forgotten among the ongoing Brexit and NHS funding discussions.

Strategy in context

This has been a year of transition for the College not only with the Presidency changing but also with the publication of a new *Strategy* for the period 2017–20.¹ The *Strategy* is agreed on a rolling basis and supported by an *Annual Plan* for each Faculty.^{2,3} The *Strategy* has five themes.

- Increasing and supporting the workforce in clinical radiology and clinical oncology for the benefit of patients.
- Ensuring the continuing quality of training and practice in both specialties and improving service delivery.
- 3. Increasing public and patient awareness of the value of the specialties.
- 4. Improving the value of College membership through lifelong professional learning and engagement.
- 5. Developing research and technologies for our two specialties.

The political context for the *Strategy* is one of uncertainty as it is for many sectors. Just two such uncertainties are the as-yet unknown impacts of the decision to leave the European Union (EU) and the widely acknowledged funding problems for the NHS across the UK.

The College has commented publicly on both topics. 4-6 While these are factors the College cannot itself change, it is vital that the voice of the College, its specialties and the patients they serve are heard and recognised. These statements are examples of the growing media profile of the College, notably its social media presence.

While the impacts of these uncertainties are felt as regards the workforce in both specialties, they are especially pertinent given the dire shortages of clinical radiologists across the UK. The clinical radiology workforce is affected both by NHS funding constraints and by the decision to leave the EU, which has brought unpredictability to the status of EU nationals working in the UK and has a potential impact on international recruitment. The workforce position in each specialty is explored in the Faculty sections of this review.

Nevertheless, it is at times of change when bodies with continuity and stability such as the College come to the fore.

The *Strategy* and the priorities for the year and beyond were significantly influenced by the 2016 membership survey. With a participation rate of approximately 22% (typical of membership organisations generally), the headline feedback figures were rewarding for the College. Digging deeper, it is clear that there is work to be done in continuing to demonstrate value, how the College influences and engages with its stakeholders and continues to be of relevance.

The membership survey was dovetailed with a communications review which looked at the main channels of communication and how they could be improved. Together, these are feeding in to work on more targeted content for different sectors of the membership and external stakeholders and building the College's profile. One target group is Fellows and members based overseas – some 23% of the total membership.

It is also recognised that there is much to do in providing more comprehensive information for patients and the public which will be focused on linking to reliable and authoritative sources of information wherever possible, supplemented by original resources developed by the College.



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The 'cancer college'

The work of the College's Fellows and members contributes hugely to the diagnosis and treatment of cancer. In many ways the RCR is the 'cancer college', although that considerably understates the breadth of work done by clinical radiologists, for example in diagnosing acutely ill patients and treating patients using interventional radiology. Nevertheless, this focus helps ensure that the College has a strong voice in shaping and contributing to the implementation of the cancer strategies in England and Scotland.^{7,8} The College has strong links with Cancer Research UK and Macmillan Cancer Support as well as with some other leading cancer charities. The College has not been slow to point out the disappointing progress on the English Cancer Strategy and that it is extremely unlikely that the ambitions which were due to be delivered by 2020 will be achieved. Some 18 months on from the publication of the Cancer Strategy, there still remains no focus on and no plan for the diagnostic imaging workforce for cancer.

RCR Learning

Educationally, the big development in the last year has been the launch of *RCR Learning*. This brings together existing resources for technical and nontechnical education across a spectrum of training and practice enhanced significantly with digital learning in various formats, all accessible through an integrated platform. *RCR Learning*, while covering the gamut of learning channels and media, will have special value to those based outside the UK for whom face-to-face educational meetings have largely been inaccessible.

It has been hugely rewarding to see the College's Annual Scientific Meeting in 2016 once again beat all previous records in terms of attendance and receive extremely positive feedback on its educational content. This bodes well for the move of the meeting, as *RCR17*, to Liverpool in 2017 and 2018. From 2019, the College will be joining sister bodies in radiography and medical physics in a new multiprofessional, annual, educational meeting embracing both clinical radiology and clinical oncology.



The Royal College of Radiologists



Workforce censuses

Several areas of work are undertaken by both Faculties in parallel. The annual workforce census reports for clinical oncology and clinical radiology continue to provide robust national evidence for shortfalls in the workforce. ^{10,11} Direct evidence about vacancy rates, consultant demographics, including less-than-full-time working, and changing age of retirement provide unrivalled data which can be used to inform and educate stakeholders of the challenges facing both specialties.

Educator training

Training educators to improve training in both specialties remains a priority. Both Faculties have launched a specialty specific module leading to a Postgraduate Certificate of Medical Education, developed with the University of Dundee. Both Faculties' training curricula are undergoing a major review which will take account of the latest General Medical Council requirements. This work is expected to take about 18 months. A trainee from each specialty is providing first-hand input to the project.

International work

A small but valuable activity of the College is the work of the International Committee which is focused on philanthropic contribution to low- and middle-income countries by Fellows and members at all stages of their careers. A number of separate, internationally-focused awards have been combined into an International Fellowship which offers greater scope for delivering a positive impact overseas.

Equality and diversity

Another important thread of activity has been ensuring that the College operates fully in accordance with the principles of equality and diversity. The first stages have been completed with a programme of activity to improve processes, collect appropriate data for monitoring and ensure policies and practices are applied consistently. There is more to be done and this will continue to be an important focus for the College.



At any one time at least 300 Fellows and members are contributing to the future of their specialty.

Thank you to our volunteers

Clinical workload pressures can inhibit voluntary involvement by Fellows and members in the work of the College. At any one time, at least 300 Fellows and members are contributing to the future of their specialty. The RCR is profoundly grateful for this voluntary work, without which, the College would be unable to operate as it does now. A working party of Council has been exploring the obstacles to such involvement from many angles such as holding College committee meetings at different times of the day to more fundamental changes to the way the College works. The review process concludes this summer with changes designed to lead to more sustainable ways of working.

Looking to the future

Looking ahead, it seems unlikely that there will be any immediate relief in the pressures on NHS practice and the workforce challenges faced by the College's two specialties. How Brexit plays out and other possible political developments in the UK are unknowns. Despite these challenges, the College continues to be a stable and growing body with over 10,000 members now in its community.

The College remains immensely grateful to all those who contribute to its work in any way and particularly those who are prepared to take on leadership roles. This includes the invaluable resource of the lay people who contribute to the work of many committees and boards and on a broader front.







Clinical Radiology

Workforce remains at the top of the agenda for the Faculty of Clinical Radiology. Alongside continuing efforts to increase investment in training numbers, the College is supporting short-term solutions such as improved networking, recruitment of radiologists from overseas and optimising the use of teleradiology services.

The workforce crisis - long- and short-term solutions

The Faculty agreed priorities in its *Annual Plan* to support the College's *Strategy 2017–20*.^{1,2} A number of those priorities are reflected in the work in train over the past year.

The dominating theme for the specialty over the last year has been the workforce crisis. Informed by the College's workforce census 2015, the headline figures are as follows:¹⁰

- 99% of UK NHS radiology departments were unable to deliver their reporting requirements
- There has been a 51% increase in annual spend on outsourcing.

Short-term and longer term solutions have been proposed by the College. The longer term aim is to build a sustainable workforce. Central to achieving this is investment in an increased number of clinical radiology trainees – an additional 260 per year are needed to 'catch up' with the number of radiologists per head of population of many mainland European countries.¹²

The College acknowledges that compared to many other medical specialties there have been increases in trainee numbers although, in some instances, this is not being reflected on the ground: existing trainees are taking longer to train and not freeing up training 'slots'. However, the few extra trainees allocated each year will not address the growing problems caused by increasing workload, likely increasing rates of retirement at an earlier age and radiology services which are under huge pressure.

The Faculty has promoted the successful model of radiology training academies, first developed over a decade ago, as a solution for increasing the number of trainees. ¹³ The academy model enables throughput in existing training schemes to be increased significantly. This has caught the imagination of some parts the country and the Faculty is supporting their efforts to develop new academies.

In the short term, the Faculty has made strenuous efforts to attract overseas radiologists to come to work in the UK. Officers have worked tirelessly with Government and NHS leaders across the UK, Health Education England, NHS Employers, the NHS Confederation, NHS Providers, the General Medical Council and others this year.

An initiative by a radiology trainee, supported by the Faculty, to create a free-to-use website to advertise jobs – *RadJobs* – has been an additional tool in the armoury. A series of videos has been produced emphasising the importance of mentoring and support for radiologists new to the UK and advice for them on how to adapt. The Faculty's presence at the European Congress of Radiology attracted a large number of enquiries about working in the UK. Workforce issues remain at the forefront of the Faculty's efforts for the specialty and in the interests of patient care.

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A major project is a fundamental review of the training curriculum which will take account of the latest General Medical Council requirements. This will take the next 18 months to complete.

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Exams automation

During the year, good progress has been made on automating certain aspects of the Clinical Radiology Fellowship examinations which will be rolled out during 2018 along with improved standardisation (allowing more local delivery around the UK) and reducing examiner time needed. One of the results of this will be to increase the numbers of candidates who can be examined. For some time, there has been growing demand, particularly from overseas, which the Faculty has been unable to fulfil.

Training and recruitment to the specialty

A major project is a fundamental review of the training curriculum which will take account of the latest General Medical Council requirements. This will take the next 18 months to complete.

The continued updating of the e-learning content of the Radiology Integrated Training Initiative (R-ITI) progresses – this is a key component of the academy training model mentioned above. It has also been rewarding to see the first cohort of nine graduates complete the Postgraduate Certificate of Medical Education in clinical radiology which was launched in 2015 with the University of Dundee; there are fourteen students in the second cohort.

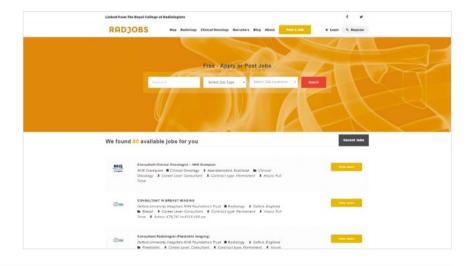
The Faculty has renewed its efforts to engage with undergraduates having launched the Undergraduate Radiology Societies Association last year which now has 16 member medical schools.

Academic radiology

The work of the Faculty's Academic Committee spans both pre- and post-qualification activities of the Faculty. This year has seen the launch of the 'outstanding researcher awards' to recognise the contribution of clinical radiologists to radiology research in the NHS. One trainee and one consultant award will be available every two years. The first awards will be presented at the Radiology Research Day in November 2017.

Delivering the best service

Service delivery at a time of stress and shortages in the workforce is a constant concern and one that is reported on repeatedly by the Faculty's Regional Chairs. Major efficiencies could be gained if radiologists could access imaging reports from previous scans. This is inhibited by the lack of common standards for information technology (IT) systems. The Faculty produced an invaluable document Who shares wins which had input from industry as well as radiologists.15 It offers a straightforward 'headlines' approach to creating radiology networks backed up with the necessary detailed technical commentary. This has been widely disseminated not least to the Sustainability and Transformation Plans in 44 areas of the NHS in England. This work was led by the Faculty's Radiology Informatics Committee which has also made great strides towards defining standards for a digital library and significant progress on peer feedback.



Right

RadJobs provides a platform for clinical radiologists and clinical oncologists across the UK to advertise vacancies within their department

A major new patient-focused development has been mechanical stroke thrombectomy. The Faculty is very keen to see this delivered widely across the UK, but provision of the service is impeded by the pressures on the radiologist workforce. The UK lags way behind provision in other European countries, notably Germany.¹²

The Faculty is working collaboratively with others to identify what is required to deliver new services, such as prostate diagnosis by magnetic resonance imaging (MRI) techniques working with Prostate Cancer UK.

Guidance and publications

As always, the Faculty has produced extensive professional guidance either as new publications or updating existing work. Among the documents published in the last year are:

The breast imaging and diagnostic workforce in the UK

Standards for the communication of radiological reports and fail-safe alert notification

Standards for the reporting of imaging investigations by non-radiologist medically qualified practitioners

Hybrid Imaging: guidance on legislative, reporting and training aspects

Standards for the provision of teleradiology within the UK, second edition

Standards for providing a 24-hour interventional radiology service, second edition

Interventional oncology: guidance for service delivery

iRefer

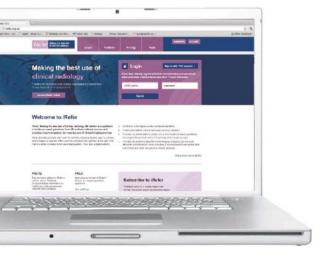
It has also been the year in which the flagship Faculty publication, *iRefer* (the renowned radiology referral guidelines) has been issued in its eighth edition.¹⁶ It is being released in a number of formats including traditional booklets, a web-based version and it is being piloted for the first time in a clinical decision support system by the College working with a software company.

Quality improvement

Quality of service delivery is a central focus of the Faculty for the benefit of patients. This is demonstrated through professional guidance and also through the promotion of quality improvement including clinical audit. The Clinical Radiology Audit Committee continues to focus on areas in which radiology makes a real difference, an example being emergency abdominal computed tomography (CT) where the quality of radiology reporting can have a considerable impact on patient healthcare outcomes. The Committee continues to work towards greater commitment to quality improvement (QI): there will be a 2018 QI Poster Competition and the Committee will determine how best to inform the membership about QI.

The Radiology Events and Discrepancies (READ) newsletters and presentations are valuable learning tools. The Faculty is working to improve the visibility and value of READ for local discrepancy meetings and to encourage contribution to and use of the resources which are available online.¹⁷

Another component of quality improvement is the service accreditation scheme jointly run with the Society and College of Radiographers – the Imaging Services Accreditation Scheme (ISAS). The last year has seen extensive work to review and remodel the scheme to make it more attractive to services and increase take-up.



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It has been the year in which the flagship Faculty publication, *iRefer* has been issued in its eighth edition



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Clinical Radiology journal

The Clinical Radiology journal has gone from strength to strength with the impact factor now standing at 2.478. In the last year there were two special issues on cardiovascular and thoracic imaging. 2016 saw the launch of the dedicated journals app which is available to all Fellows and members as a member benefit, allowing members to stay informed any time and anywhere. With a focus on engaging with trainees, members of the Editorial Board participated in the 2016 Research Day highlighting the opportunities available to those interested in pursuing an academic career in clinical radiology.

Teleradiology

It is understandable that NHS organisations who are struggling to provide radiology services turn to outsourcing. While the Faculty recognises the huge advantage of having an in-house service with integrated clinical communication, the teleradiology industry is fulfilling an important gap. Such services are, of course, largely populated by radiologists who at other times work in the NHS. The Faculty has set up a Teleradiology Forum to exchange ideas.

What's next for the Faculty?

The next year will be a period in which many of the Faculty's key developments will come to fruition, not least in examination delivery, the future for *iRefer* in clinical decision support and the further development of quality improvement. The shape of practice may change significantly but the radiologist's key role as a doctor skilled in image interpretation, diagnosis, advising on the management of the patient alongside the growing impact of minimally invasive interventional radiology techniques will remain.

Looking to the future, the anticipated impact of artificial intelligence and machine learning on the specialty has been at the forefront of discussions at international conferences. There is no doubt that the increasing complexity of the work that radiologists do and the volume of data now available to them from imaging systems means that computer-assisted diagnosis is almost inevitable. As with most technological developments, it is difficult to determine the pace of change and where the impact will be felt first. The Faculty view is to embrace what technology can offer and help prepare the specialty for its next advance.







Clinical Oncology

The clinical oncology landscape is changing, with planned service reorganisation in England, increasing demand for more complex radiotherapy across the UK and the overhaul of the Cancer Drugs Fund. Progress with the Cancer Strategies has been slow to date, and the College has been vocal about the likely impact of this on delivery of the planned outcomes by 2020.

A changing specialty

The Faculty agreed priorities in its *Annual Plan* to support the College's *Strategy 2017–20.*^{1,3} A number of those priorities are reflected in the work in train over the past year.

The environment for delivering and developing cancer services has been subject to service pressures in the form of increased demand and, in England, plans for reorganisation of radiotherapy service delivery. Demand for the newest systemic therapies and improved treatment techniques and workforce pressures are also present. This is against the backdrop of the major, publicly-stated ambitions for improvements to cancer services as expressed through the English and Scottish Cancer Strategies. ^{7,8} As reflected in the College section of this *Review*, it is clear that there will be limited progress made on those strategies. While the investment in radiotherapy services announced for Scotland is proportionally greater than that in England, there are many other challenges for that nation.

The specialty of clinical oncology has constantly to evolve to meet patient expectations and this will continue to be the case. In many instances, cancers can now be treated effectively and are no longer the life-limiting illnesses they once were. With an aging population, the incidence of cancer is growing and many cancers can be thought of as a chronic disease of the elderly.

The proposals to reconfigure radiotherapy services in England have caused much debate. The College has engaged fully, working with colleagues in medical physics and therapy radiography through the Radiotherapy Board. While few working in radiotherapy services would challenge the need for change, the main concern has been arriving at proposals that are fit for purpose to meet the different challenges in different parts of the country. There is a risk that effective local solutions will be overlooked. It is also important not to lock the services into a configuration that might suit requirements today but could become inflexible for the future. It is expected that a similar review of chemotherapy services will follow.

In England, the Cancer Drugs Fund has also undergone a significant overhaul. National data (collected via the Systemic Anti-Cancer Therapy Dataset – for chemotherapy treatment) will be used to evaluate the benefit of certain drugs to the 'real world' rather than trial population. Ongoing funding will be contingent on an acceptable benefit being demonstrated.

The delivery of radiotherapy has become considerably more complex over the last few years. The vital task of planning radiotherapy with new techniques which offer fewer side-effects and better outcomes for patients takes longer. However, there are insufficient clinical oncologists to do this. Equally, there is not the workforce necessary to meet the other demands of the cancer strategies if

their ambitions are to be realised. Skill mix offers partial solutions but cannot supply every need immediately.

Training and recruitment

Over the last few years there has been a struggle to fill all training places in clinical oncology. The reasons for this are not entirely clear, but some trainees may be reluctant to move to a different part of the country from where they are already established with family and other commitments. The Faculty has been making extensive efforts to attract trainees into clinical oncology by developing promotional resources and expanding its presence at careers events. The Faculty has also encouraged more exposure at undergraduate level and better use of 'tasters' for trainees to experience clinical oncology at an early stage in their careers.

The year has also seen the completion of work on a Postgraduate Certificate of Medical Education in clinical oncology developed with the University of Dundee which follows the successful similar certificate established in the sister Faculty of Clinical Radiology. Another major project started in the training arena is a fundamental review of the training curriculum which will take account of the latest General Medical Council requirements.

In wider educational developments, work has been moving forward on developing e-learning resources, to support proton therapy. The 'Imaging for Oncology' project is creating resources for clinical oncology trainees in learning about imaging as it relates to oncology. The Clinical Oncology Planning Project (COPP) aims to procure software to assist clinical oncologists of the future in the core skills of tumour outlining, provide a means to assess this through the Clinical Oncology Fellowship examinations and to provide a personal educational tool.

RCR17

In a separate development, as part of the growing clinical oncology component of the College's annual educational meeting – *RCR17* and *RCR18* – there will be hands-on sessions for tumour outlining as an added feature.

The future of training

The Faculty has given considerable thought to the way training should beconfigured in the future, driven by the likely shift towards increased team working. Currently, most clinical oncologists deliver care as part of large, multiprofessional teams comprising allied healthcare professionals (AHPs), most commonly medical oncologists. Many 'routine' tasks are delivered by AHPs with little medical input. Training should ensure that trainees acquire sufficient understanding of these tasks on which to base complex problemsolving and to make sure these consultants-to-be have the flexibility to adapt in a rapidly changing

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environment. Current treatment delivery models need to be radically overhauled to meet demand; the service needs generalists capable of becoming the specialists required, as embodied in the *Shape of Training* review.²⁰ The main area of impact is non-surgical oncology and consideration should be given to commonality of early specialty training across clinical and medical oncology which we believe would offer significant gains.

Academic Committee

An important development in the year has been work commenced by the new Academic Committee which is setting out to encourage and nurture those who are already highly motivated to pursue an academic career. The Committee is expected to take this programme forward over the coming years.

Flagship publications for the Faculty

As always, the Faculty has produced professional guidance either as new publications or updating existing work. In the last year, with significant effort from Fellows and members, the second edition of the very important *Radiotherapy dose fractionation* has been published. In a new approach to producing clinically-relevant guidance *Postoperative radiotherapy for breast cancer: UK consensus statements* has been issued. The annual workforce census has provided further evidence on workforce shortages.¹¹

Audit and quality improvement

The Clinical Oncology Audit Committee has done an excellent job over the years, not least in highlighting variability in radiotherapy waiting times, access and dose fractionation. Similarly, work undertaken by the Committee has been of benefit to clinical trials and has informed national guidance. Audit is a quality improvement process and the Committee will seek to provide added impetus to methods used to improve quality in healthcare that can be integrated within the audit function.

Clinical Oncology journal

The Clinical Oncology journal has continued its success over the past year with impact factor now standing at 3.236.²¹ This is a tremendous achievement and is a tribute to the Editor and the editorial team. Developments over the past 12 months include the launch of the dedicated journals app for Fellows and members as well as the appointment of a trainee representative to the Editorial Board with a focus on education. The *Radiotherapy in low and middle income countries* special issue received particular attention, including from the wider media. The journal member outreach programme has continued with a successful workshop for trainees held in Belfast in May 2017.

The next steps for the Faculty

Many of the Faculty's initiatives and developments referred to here will make significant progress over the next 12 months, such as the Clinical Oncology Planning Project and the curriculum review. Less clear is the potential impact the implementation of the final version of Shape of Training will have on both clinical and possibly medical oncology. Whatever happens, clinical oncology needs to act to highlight and manage the severe future workforce shortfall resulting from poor recruitment now. Over the forward period, the first NHS proton beam therapy services in the UK will become available.



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cancers can now be treated effectively and are no longer the life limiting illnesses they once were.





Finance and resources

College finances remain stable for 2017, although with a growing membership and increasing expectations, funding challenges may arise in the future.

To ensure that the College is working as efficiently as possible, information management is being looked at, with investment in this area over a three-year programme of work.

Providing value for money

The College has managed to expand the services offered to and support for its membership significantly over recent years while keeping increases in subscriptions and fees at or below the prevailing level of inflation. With good planning and careful budget management, the College has delivered strong and consistent financial results and a workable budget for 2017. However, the expectations of a growing membership could bring future resourcing challenges.

A key element of financial management is the College investment portfolio held for the long-term. With the guidance of the College's investment manager, the portfolio has performed above the longer term benchmark despite the volatility of markets at times.

Investing in efficiency

In order to provide high-quality services to the membership and to other stakeholders including the public and patients, the College has to embrace what technology can offer and ensure that its main assets of information, data and knowledge, are marshalled effectively and used productively. To that end, a three-year information management programme has commenced which will look at the flows of data, information and knowledge into, through and out of the College. Following a business process review, the programme could lead to investment in major systems over the next few years.

To assist in this, a new Virtual College Group has been established which will have a focus on the interface between the College and its membership through the website and other digital resources. The Group will become a sounding board to help shape future programmes and projects.

A new Officer remit

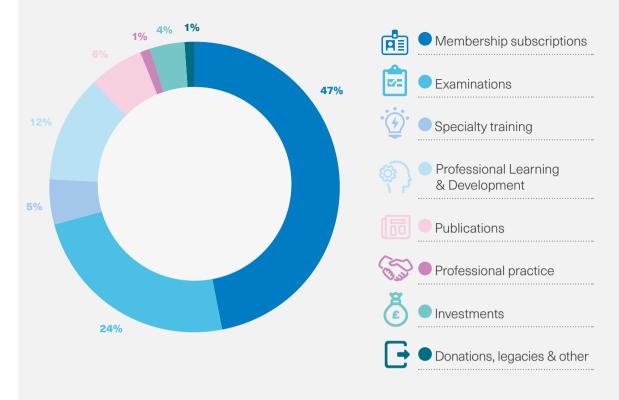
This broadening remit of the work of resources, membership value and the need for the College to act in a business-like manner has led to widening the role of the Treasurer to embrace all of those aspects under the new title of Medical Director, Membership and Business from September 2017. The role also encompasses responsibility for the Senior Fellows' Forum formed during the year for those close to retirement or recently retired. The Forum provides a continuing professional community for long-serving Fellows and also draws on their career-long expertise and insights into the work of the College.

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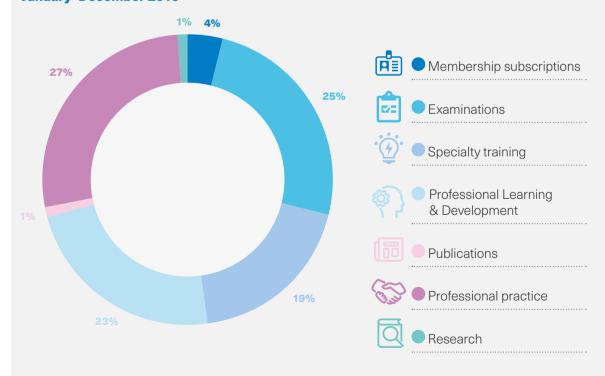
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Income January-December 2016



Expenditure January-December 2016



RCR Officers 2016–2017



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Vice-President, Clinical Radiology Dr Richard FitzGerald



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Executive Director, Education and Deputy Chief Executive Joe Booth



Executive Director, Finance and ResourcesKen Green



Executive Director, Professional Practice Tania Vanburen

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