risr/assess

case study

The Royal Australian and New Zealand College of Radiologists®

Industry:
Medical education and training

Location:
Australia, New Zealand and Singapore

about RANZCR:

The Royal Australian and New Zealand College of Radiologists (RANZCR) is a not-for-profit membership organisation for clinical radiologists and radiation oncologists in Australia, New Zealand and Singapore.

With clinical practice becoming increasingly digitalised, the College recognised the need for innovation, allowing them to maintain high certification standards and increase authentic assessment - assessing practitioners on realistic work tasks and thereby ensuring they are fit for practice.

Restrictions on face-to-face education during the Covid-19 pandemic fast-tracked this renewal process. The college needed to ensure workforce pipelines were maintained. It could not risk shortages of qualified consultants or the potential impact on patient care if supervisors' workload became more strained under increased training responsibilities.

RANZCR partnered with **risr/**, both organisations uniquely placed to provide leadership in the technological innovation needed to enable assessment of trainees during Covid-19 and beyond. The project required us to re-conceptualise and support the qualifying assessments for clinical radiologists using innovative technology. **risr/** is an international company with bases in the UK, Europe, North America and Asia Pacific and a 22 year history of providing innovative assessment solutions within the medical sector. This partnership enable enabled a digital transformation of the qualifying examinations to be delivered successfully in July 2021

the challenge:

RANZCR had successfully run in-person assessments for large groups of candidates for many years. Due to the size of the region and its reliance on geographically distributed assessors and trainees, this undertaking required extensive interstate or international travel and carried a large administrative burden.

The institution recognised the need for innovation. The exams had become anachronistic and were no longer reflective of the realities of the workplace when assessing readiness to practice. In practice, clinicians used electronic applications and media, but they were being tested using materials such as plain film Xray.

The existing process to create exam materials was inefficient with questions in development needing to be circulated between dispersed examiners. A system was required in which the integrity of the exam could be maintained with tightly controlled secure online authoring processes.

After the emergence of Covid-19, the recognition of the need for innovation became an urgent necessity. The regional restrictions and international and state border closures across the region meant the dedicated national centres built to achieve the highly regulated standards were no longer accessible. This, coupled with a lack of examiner availability due to medical specialists being needed in professional settings, forced the almost immediate shift to digital exams. It was imperative that this shift maintained the integrity of the highly regulated exams and accreditation standards.

RANZCR knew an 'out of the box' solution would not work for them, the exams were unique and technically complex, the volume of candidates large and the stakes were high, they needed a specialist system and partner. **risr/** history in building and developing software solutions at the forefront of assessment innovation made them the obvious choice.

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the research:

A range of suppliers were considered by RANZCR, all of which could provide a basic e-assessment platform and tick some of the required boxes. A significant range of bespoke functionality was required that needed to be developed and tested in a partnership arrangement.

risr/ doesn't just supply an e-assessment platform, the organisation has a robust suitability process in place that allows collaboration with potential clients to research and understand their needs and to assess their technical requirements. Ultimately enabling the configuration of the assessment platform risr/assess, to best support the niche aspects of RANZCR's high-stake exams.

Step one was investigating system requirements. For this project, that involved a proof of concept on written examinations which enabled the smooth and controlled running of the assessments. Secondly, there was a gap-fit analysis to examine exam integrity and assess how well risr/assess met all of the needs. This allowed risr/ to identify specialist areas for development, which for RANZCR included:

- The integration of video, resources and marking for ease of use and for invigilation purposes.
- A DICOM image viewer that candidates could view in detail.
- Image availability to support best-practice in selecting / blueprinting an exam to ensure it covered the full range of clinical practices being assessed.
- Collaborating on exam material development.

The research identified the areas for development, which in turn allowed the risr/ team to build the additional functionality required.

Step two was working with the carefully selected clinical reference group to explore a series of guided examinations. Combining the clinicians experience with risr/ technical knowledge, allowed the team to trouble-shoot and refine processes and presentation. This involved all components of the exam process from development (and approval) of test items through to bespoke quality assurance, delivery and analysis. A complete end-to-end process.

the pilot phase:

After the initial configuration, the RANZCR and risr/ teams completed a piloting period. This allowed for the thorough testing of different examination scenarios to confirm the product was fit for purpose and to stress-test for any potential issues. With the RANZCR team based in Australia and the risr/ team based internationally, we were able to utilise a 'following the sun' model, with the College supporting the risr/ team in testing to expedite the implementation, and the risr/ team then working on the product development.

Investing time and resources into this stage was integral to success, not only did it assist in fine-tuning processes and functionality, but it also helped to identify areas which had potential for further development. An example of this is the DICOM viewer, which the team were able to repurpose from clinical to examination use. DICOM images are large and technically difficult to deliver in a live exam, enabling this functionality within the risr/assess system ensured the exam quality was not only replicated, but the standards were being raised. This innovation allowed the assessment to reflect real life experience, narrowing the gap between assessment and working practice, a huge step forward for the College and for the field of radiology.

The real test of stability was in the first round of live exams. This consisted of 82 examiners based out of seven hubs across Australia and New Zealand. These examiners managed 140 candidates based in 14 hubs across the world rotating through a number of different assessment stations each including a representation of a range of different clinical testing scenarios. In a landscape where movement was frozen by the pandemic, the exams were not only able to go ahead, but all of the 140 candidates successfully navigated and completed their assessments.

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- *140 candidates based in 14 hubs across the world*
- *All 140 candidates successfully navigated and completed their assessments.*

the technological choices:

The accelerated timescale was triggered by the pandemic, but the need for innovation was driven by the aspiration to align examinations with the new digital realities of clinicians in practice. RANZCR needed a system that could mitigate the Covid-19 restrictions and would maintain and raise the high regulatory standards. risr/assess system supported the functionality required to "covid-proof" the process, whilst matching and raising the high standards.

Beyond the suitability of the system functionality, risr/ services offer far more than the traditional client/ supplier transactional package. risr/ had the skills and experience to support the expert but small RANZCR team through the transition and set up, in a collaborative way, sharing knowledge to achieve excellence.

With the team drawing on decades of experience and extensive capabilities, they were able to offer best practice advice on processes to support RANZCR in implementing the best possible solution for their assessments. These processes were then piloted, such as the written exams (the simpler of the portfolio of assessments used at RANZCR), to demonstrate how the new practices added value to examiners and candidates, providing reassurance and building confidence in the system. This incremental and scaffolded approach to development and layered support approach enabled the teams to build on each other's areas of expertise.

the implementation phase:

This project involved a significant technical and cultural change for the college. Examiners at RANZCR are volunteers, whose motivating factors are learning excellence and they traditionally enjoyed the face-to-face interaction with trainees. Digitising the exam process removed elements of these factors. To counter this, change management strategies focused on demonstrating long-term benefits to the profession, with qualifying graduates tested on clinically relevant tasks. Examiners appreciated the immediate impact and benefits of change. For example, by future proofing the assessments via the DICOM imagery, adding flexibility to their scheduling, and supporting the intuitive interface to ease their transition, the exciting new functionality convinced even the most sceptical.

Also, the move to more standardised cases contributed to the increased defensibility. These challenges had been commonplace in the medical assessment industry due to the high-stakes nature of the assessments and the high level of investment from the trainees; defensibility was crucial. The new technology supported by **risr/assess** offered protection to the College from legal challenge all in one platform. The multiple patient case display allowed candidates to be better assessed for competence in a standardised way, with the integration of video links between candidates and a series of examiners, marking and resources all on a single platform. A further success was the reduction in travel time required for examiners and candidates allowing them more time in the clinical setting where they were so desperately needed during covid-19.

Ultimately the cultural barriers were overcome by the authenticity of the online exams. The innovative new functionality more than compensated for any perceived disadvantages, and the wider stakeholders could not only see the benefits of change but became strong advocates for it.

the reliability and scale:

Since the implementation of **risr/assess** for clinical examinations at RANZCR, the new DICOM functionality has been released to all **risr/assess** platform users and has been successfully utilised within examinations all around the world, in a variety of contexts. The functionality was robustly tested by RANZCR and **risr/** during the project and continues to be thoroughly investigated and tested with each new customer implementation. Reliability and consistency of performance has now been replicated extensively.

The cost-benefit of this project was a central consideration. Favourable cost-benefit analysis was achieved with reduced travel costs and reduced absence from the clinical environment for both trainees and examiners, providing the capacity to significantly off-set the technical investment required.

The partnership between RANZCR and **risr/** is ongoing. The next development steps include screen synchronisation between examiners and candidates. This will facilitate very detailed assessment of candidates when performing highly specific diagnostic procedures and clinical reasoning with patient's authentic clinical scans.

The success and stability of the platform has enabled **risr/** to explore further areas of potential development beyond clinical radiology, such as the integration of other lab reporting and diagnostic systems in place of DICOM images, another step forward in the digital alignment with clinical practice. This renders the innovation more generally applicable in a wide variety of clinical contexts.

The adoption of this technology, with careful piloting, meant that a highly complex qualifying examination in clinical radiology could be delivered without interruption, protecting the clinical workforce pipeline and, in doing so, contributing to the provision of exemplary standards of patient safety and care in the extraordinary pandemic circumstances and beyond.

*The **risr/** unified platform consists of three configurable modules focusing on assessment preparation, delivery and analysis. Available as standalone products, or any combination of the three, the modules use the latest technological innovations to cater to all areas of assessment.*

risr/apply

Simplifies all of your scheduling, booking and payment administration for exams and courses. It helps you to manage the candidate application process alongside the recruitment of examiners, ready for scheduling into your assessment platform.

risr/assess

Helps you prepare and administer exams whether they are written or digital, offline or online. Examiners save hours of time with our complete exam management system and automated MMIs, OSCEs and online exams.

risr/advance

Makes it easy for you to collect, store and present all your candidate assessment evidence in one place. You can track progress and give your candidates the insight they need to direct their learning journey.

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