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Clinical Genetics Curriculum Consultation - August-October 2024

Feedback form: Draft Clinical Genetics Advanced Training Curriculum

Consultation on a new Clinical Genetics curriculum is an opportunity for all RACP members and stakeholders to comment on proposed changes to Clinical Genetics training.

The current Clinical Genetics Advanced Training Program is informally divided into three streams: general clinical genetics, cancer genetics and metabolic genetics. The progression criteria presented in this consultation, and in the Learning, Teaching and Assessment programs summary, has been drafted for general clinical genetics trainees. It is understood that different levels of competence are required across knowledge guides, depending on which stream trainees are completing their core training in. As a result, guidance documents will be made available to trainees, supervisors, training settings, Progress Review Panels, and Training Committees regarding the progression criteria to be applied to trainees completing training in cancer genetics and metabolic genetics.

The new curriculum

- **At-a-glance - high-level overview of the new curriculum**
- **Draft curriculum standards - outlines what trainees need to learn.**
- **Draft learning, teaching and assessment programs - how trainees are going to demonstrate their learning.**

How to give feedback

- **Focus on content, not the framework**
- **Outline what might be lacking**
- **Be specific on what you think should be**

changed Why give feedback?

- **Have your say**
- **Help shape the future of training**
- **Tell us what we've missed**
- **Tell us what works for you**
- **Claim category 2 CPD hours for time spent reviewing the curriculum and providing feedback**

All feedback will be considered by the Curriculum Review Group for Clinical Genetics and used to inform further development and refinement of the new curriculum.

This form will take ~15 minutes to complete and will close at 9:00AM AEDT Monday, 7 October 2024.

Completion of this feedback form is entirely voluntary. All data will be de-identified and/or reported in aggregate. By proceeding to the questions you are providing your informed consent to participate. Your responses will be used to refine the draft curriculum, help plan implementation and for evaluation purposes.

Thank you in advance for your feedback.

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1. Full name (optional)

Matilda Haas

2. Are you an RACP member?

- ☐ Yes
- ☒ No
- ☐ If yes, what is your specialty?

Specialty

3. Are you providing feedback as an individual, or on behalf of a committee or organisation?

- ☐ Individual
- ☐ RACP Committee
- ☒ Organisation
- ☐ Other

Please specify committee, organisation or other

Australian Genomics

4. What is your or your organisation's role in physician training? Please select all that apply

- ☐ RACP Committee member
- ☐ Supervisor for Advanced Training
- ☐ Clinical Genetics trainee
- ☐ Clinical Genetics Fellow
- ☐ Head of Department at an RACP-accredited training site
- ☐ Interested RACP member
- ☐ Specialty society
- ☒ Other (please specify)

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Australian Genomics is an Australian Government initiative supporting genomic research and its translation into clinical practice. Through broad engagement and a national collaborative approach, it achieves two key objectives: to improve efficiency, reach and timeliness of genomic research projects, and to support Commonwealth State and Territory health departments in the implementation of genomics research outcomes by refining and communicating evidence to inform policy development.

Australian Genomics engages with current and emerging government policy and priorities to identify gaps and opportunities, to support policy and action for integrating genomic technologies into the health system. By interfacing with consumers, governments, industry and global genomics initiatives, Australian Genomics drives change and growth in the sector.

Australian Genomics engages with the national clinical genetics community through our governance committees, communities of practice, clinical flagship projects (2016-2021), implementation projects (2021-2023) and priority project working groups. Through this engagement, the professional roles, priorities and needs of clinical geneticists are well understood by the organisation.

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Curriculum standards

The curriculum standards outline the educational objectives of the training program and the standard against which trainees' abilities are measured.

The draft curriculum standards for Clinical Genetics Advanced Training include:

- **Competencies** outline the expected professional behaviours, values and practices of trainees in 10 domains of professional practice.

- **Entrustable Professional Activities** (EPAs) outline the essential work tasks trainees need to be able to perform in the workplace.

- **Knowledge guides** outline the expected baseline knowledge of trainees.

Please review the draft curriculum standards for Clinical Genetics Advanced Training in full before answering the questions below.

5. **Please indicate your level of agreement or disagreement with the following statements about the curriculum standards:**

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The curriculum standards are relevant and outline the expected standard of graduates of the training program		yes			
The curriculum standards are achievable for trainees		yes			
The curriculum standards outline skills, knowledge and attributes that can be assessed by supervisors		yes			
Training settings will be able to provide learning experiences aligned to the curriculum standards		yes			

6. **If you have identified any content missing from the draft curriculum standards, disagreed with any of the above, or have any other comments, please provide details below.**

Competencies, Entrustable Professional Activities (EPAs), Knowledge Guides:

- Competencies and EPAs are often based on self-reflection, self monitoring and evaluation, with the desired outcome being behaviour change. A framework or competencies based approach could be incorporated to guide this process e.g for culturally safe care for Aboriginal and Torres Strait Islander patients, incorporating the strategies set out in the document 'Integrated Genetic Health Care: Improving Access for Aboriginal and Torres Strait Islander People to Clinical Genetics through Partnership and Primary Health Leadership' could provide a standardised framework.

- The inclusion of ‘policy, systems and advocacy’ as a competency and the behaviours associated with it are supported by Australian Genomics.

- The inclusion of the role of the Clinical Geneticist in engaging with patient and community groups is supported by Australian Genomics.

- The knowledge guide is comprehensive and covers a range of specific issues – RACP could consider whether managing Direct to Consumer test follow up and/or patients coming to a genetics service with existing data may be relevant for inclusion.

- RACP could reconsider the use of the term 'unsolicited findings'. While this is a complicated terminology issue, Australian Genomics completed a project in 2023 with broad stakeholder engagement which suggested that the genomics community prefer the use of the term 'additional findings' (the report is available here https://www.australiangenomics.org.au/wp-content/uploads/2024/07/Genomic-Findings_Final-Report_March-2024.pdf). However, we should note that one recommendation of the report includes further engagement with patients and public in relation to this terminiology.

- Under EPA 7 'Communciation with patients' in the 'ethics and professional behaviour' doomain, RACP could consider inclusion of the understanding the appropriateness of sharing of clinical data, and what data can be shared, with/without patient consent.

- Under the EPAs, RACP could consider inclusion of a role for Clinical Geneticists in engaging GPs and primary care. According to a recent Australian Genomics supported report on rare disease care pathways in remote areas, there remains important opportunities for engagement with GPs and supporting their knowledge about genetics as part of the clinical pathways to support rare disease patients (the report is available here https://www.australiangenomics.org.au/projects/improving-diagnostic-pathways-for-rare-diseases-in-regional-australia/).

- Clinical Geneticists are often formally or informally involved in teaching within their professional practice – the HGSA census reported that more than half of the clinical geneticists who responded are involved regularly in formal education and more than 85% in the informal education of others health professionals. Australian Genomics supports the prominent role of Clinical Geneticists in teaching and learning and their involvement in upskilling other specialists as part of mainstream access to genomic tresting. However, that prominence also suggests that Clinical Geneticists should should be able to promote effective education strategies and frameworks.

- We would propose that the Supervision and Teaching EPA also acknowledge the principles, processes, and skills of teaching, in addition to supervision. We would also propose at the higher level Clinical Geneticists could facilitate "effective" genomics education, and suggest that in EPA1, teaching competently by 'imparting professional knowledge' might be replaced by words used elsewhere 'apply appropriate educational strategies to develop others' professional knowledge'. The models proposed for training of Clinical Geneticists, including continued assessments throughout the trainees education (e.g. through case reports and log book) are an effective shift from summative assessment to learning and reflection tool, with ongoing feedback.

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Entry, progression and completion criteria

For Clinical Genetics, the curriculum standards are summarised as 17 learning goals.

The learning goals articulate what trainees need to be, do and know, and are assessed throughout training on a five-point scale.

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Levels	1	2	3	4	5
Entrustable Professional Activities (EPAs)	Is able to be present and observe	Is able to act with direct supervision	Is able to act with indirect supervision (e.g., supervisor physically located within the training setting)	Is able to act with supervision at a distance (e.g., supervisor available to assist via phone)	Is able to provide supervision
Knowledge Guides	Has **heard of** some of the topics and concepts in this Knowledge Guide that underpin patient care (*heard of*)	**Knows** the topics and concepts in this Knowledge Guide that underpin patient care (*knows*)	**Knows how** to apply the knowledge in this Knowledge Guide to patient care (*knows how*)	**Frequently shows** they can apply knowledge in this Knowledge Guide to patient care (*shows how*)	**Consistently applies** sound knowledge in this Knowledge Guide to patient care (*does*)
Professional Behaviours (Competencies)	Needs to work on behaviour in **more than five domains** of professional practice	Needs to work on behaviour in **four or five domains** of professional practice	Needs to work on behaviour in **two or three domains** of professional practice	Needs to work on behaviour in **one or two domains** of professional practice	Consistently behaves in line with **all ten domains** of professional practice

The learning, teaching and assessment structure

Progression and completion criteria define the standard trainees need to achieve for each learning goal to progress to the next stage of training.

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		Entry criteria	Progression criteria		Completion criteria
	Learning goals	At entry into training	End of specialty foundation	End of specialty consolidation	End of Transition to Fellowship
Be	**1. Professional behaviours**	Level 5	Level 5	Level 5	Level 5
Do (work tasks)	**1. Team leadership:** Lead a team of health professionals	Level 1	Level 3	Level 4	Level 5
	2. Supervision and teaching: Supervise and teach professional colleagues	Level 1	Level 3	Level 4	Level 5
	3. Quality improvement: Identify and address failures in health care delivery	Level 1	Level 3	Level 4	Level 5
	4. Clinical assessment and management: Clinically assess and manage the ongoing care of patients	Level 1	Level 3	Level 4	Level 5
	5. Management of transitions in care: Manage the transition of patient care between health professionals, providers, and contexts	Level 1	Level 3	Level 4	Level 5
	6. Longitudinal care: Manage and coordinate the longitudinal care of patients/families with genetic conditions	Level 1	Level 3	Level 4	Level 5
	7. Communication with patients: Discuss diagnoses and management plans with patients	Level 1	Level 3	Level 4	Level 5
	8. Investigations: Select, organise, and interpret investigations	Level 1	Level 3	Level 4	Level 5
	9. Clinic management: Manage an outpatient clinic	Level 1	Level 3	Level 4	Level 5
Know (Knowledge Guides)	**1. Clinical sciences**	Level 2	Level 3	Level 4	Level 5
	2. Laboratory based clinical genomics	Level 1	Level 3	Level 4	Level 5
	3. Cancer genetics	Level 1	Level 1	Level 2	Level 3
	4. Genetic syndromes and management	Level 1	Level 3	Level 4	Level 5
	5. Metabolic genetics	Level 1	Level 1	Level 2	Level 3
	6. Subspecialty genetics	Level 1	Level 2	Level 3	Level 4
	7. Genetic counselling	Level 1	Level 2	Level 4	Level 5

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Please indicate your level of agreement or disagreement with the following statements about the draft entry, progression and completion criteria for Clinical Genetics Advanced Training.

7. The criteria set an appropriate standard for trainees:

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Entering the training program	yes				
At the end of the Specialty Foundation phase (first year)		yes			
At the end of the Specialty Consolidation phase (second year)		yes			
At the end of training phase (transition to Fellowship/third year)		yes			

8. The criteria are achievable for trainees:

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
		yes		

9. All trainees reach the same standard by the end of clinical genetics training, regardless of which training stream they complete:

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
		yes		

10. One set of progression criteria can be applied to all trainees in clinical genetics:

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
	yes			

11. Please comment on the three genetics training streams and their representation in the curriculum.

-

12. Please provide comments about the draft entry, progression and completion criteria, or why you may have disagreed with the above.

- It is unclear why the knowledge level for cancer and metabolic genetics requirement should be level 3 at the transition to fellowship stage, while it is level 5 for most other learning goals.

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Learning program

The learning program outlines the process and methods by which trainees will acquire skills, knowledge, and behaviours. It includes required and recommended learning activities. Refer to the Clinical Genetics learning, teaching and assessment programs summary.

The proposed learning program requirements for Clinical Genetics Advanced Training include:

- **Professional experience**
- **Location of training**
- **Learning activities**
- **Learning courses**

13. Please indicate your level of agreement or disagreement with the following statements about the proposed professional experience requirements:

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The professional experience requirements are achievable for **trainees**		yes			
The professional experience requirements are achievable for **supervisors**		yes			
The professional experience requirements will facilitate trainees' achievement of the curriculum standards		yes			
It is appropriate for **laboratory experience** to be rather than required				yes	
Laboratory experience should count towards non-core rather than core training			yes		

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14. Please indicate your level of agreement or disagreement with the following statements about the other aspects of the proposed learning program:

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The other aspects of the learning program requirements are achievable for **trainees**		yes			
The other aspects of the learning program requirements are achievable for **supervisors**		yes			
The other aspects of the learning program requirements will facilitate trainees' achievement of the curriculum standards		yes			
The reduction of the required number of **case reports** from 12 to six (i.e. 2 per phase) over the course of training is appropriate		yes			
The inclusion of a **logbook** to record learning experiences is appropriate		yes			

15. Please provide comments and suggestions for changes to the proposed learning program, or why you may have disagreed with the above.

- The learning program is very detailed and often describes very specific circumstances and scenarios that may not arise during the 36 month course of training and professional practice. Does RACP have an approach for trainees and supervisors to follow if trainees are not exposed to these circumstances during their training?

- Learning courses:

- RACP should monitor and evaluate over time whether there are implications of removing the recommendation that trainees complete a tertiary counselling course.

- The recommendation of completion of a university genetics course is supported by Australian Genomics. Along with the Harvard and USyd courses, the course offered by Monash could also be listed.

- Laboratory experience:

- The current and future workforce will be required to provide expertise in genomics (in clinics, supporting mainstreaming, teaching, policy and research) and current trainees get little exposure to it, apart from ordering tests and receiving reports. Trainees would benefit from more hands-on time in the laboratory to understand analysis and interpretation at a higher level. The suggestion of completing a formal course in variant curation will reduce variability in trainees experiences, however this should be part of immersion training rather than as a replacement.

- The proposal for laboratory experience (1 week each of cyto/molecular/biochem) to become ‘recommended’ rather than ‘required’ contrasts with the desire for more genomics training. A decision based on availability of training opportunities would be detrimental to future proofing of the skill set, but also reduce the opportunity to broaden the lab interactions. Genomic data will have an ever-increasing impact on clinical genetics and so more opportunities for trainee interaction with laboratory genomics should be provided.

- 3-6 month rotations in clinical laboratories as part of ‘non-core’ training is a welcomed suggestion, however funding for these positions to cover the trainee salaries and to resource the teaching/supervision may be difficult to achieve in many laboratories.

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Teaching program

The teaching program outlines the process and methods by which supervisors will engage with trainees to impart skills, knowledge, and behaviours. It includes supervision requirements and activities.

The proposed teaching program requirements for Clinical Genetics Advanced Training include:

TEACHING PROGRAM

Summary of proposed changes

- Proposed all core training rotations require at least 1 supervisor with FRACP in clinical genetics rather than "a practicing clinical geneticist".
- Proposed changes to supervision requirements for non-core training
- Introduction of Progress Review Panels for all Advanced Training programs.

CURRENT REQUIREMENT	**Core training** • 1 supervisor per rotation, who is a Fellow of the RACP and a practising clinical geneticist • 1 supervisor per rotation, who is a Fellow of the RACP (or equivalent) **Non-core training** • 1 x supervisor per rotation, who is a Fellow of the RACP and a practising clinical geneticist (general clinical genetics and cancer genetics streams) or metabolic geneticist (metabolic genetics stream) • 1 x supervisor per rotation, who is a Fellow of the RACP (or equivalent)

PROPOSED REQUIREMENT	**Core training:**
	• **2** individuals for the role of Education Supervisor per rotation, including:
	  ○ **Minimum of 1** supervisor per rotation who is a Fellow of the RACP in clinical genetics
	
	Non-core training:
	• **2** individuals for the role of Education Supervisor per rotation, including:
	  ○ **Minimum of 1** supervisor per rotation who is a Fellow of the RACP or an individual with equivalent physician accreditation (i.e., a Fellow of another College e.g., Royal Colleges of Physicians, Board certified clinical geneticist)
	
	Other
	• **1 individual for the role of Research Project Supervisor** (may or may not be the Education Supervisor)
	• **1 RACP training committee to act as a Progress Review Panel**

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16. Please indicate your level of agreement or disagreement with the following statements about the proposed teaching program for Clinical Genetics Advanced Training:

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The teaching program requirements are achievable for trainees		yes			
The teaching program requirements will support trainees' achievement of the curriculum standards		yes			

17. Please provide comments about the proposed teaching program, including suggestions for changes, or why you may have disagreed with the above.

- The implications of unifying training requirements for general, cancer and metabolic genetics should be considered, given that they are three distinct specialisations with unique expertise and scope of practice. This should be considered in the design of training requirements and whether trainees are obtaining relevant professional experience before achieving Fellowship. Alignment with other countries should be considered.

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Assessment program

The assessment program outlines the methods and frequency for measuring trainees' progress and achievement of required skills, knowledge, and behaviours. Refer to the learning, teaching and assessment summary.

ASSESSMENT PROGRAM

Summary of proposed changes

- Introduction of new Learning capture tool that will be common across all Advanced Training programs
- Case-based discussions replaced with new Observation capture tool that will be common across all Advanced Training programs
- Supervisor's report replaced by new Progress report tool that will be common across all Advanced Training programs
- Case reports moved from assessment program to learning program as these will be considered learning tools in the new program.

CURRENT REQUIREMENT	• **1** Supervisor's report per rotation
	• **1** Advanced Training Research Project over the course of training
	• **12** Case Reports:
	  ○ **3** Case Reports in the first training year
	  ○ **4** Case Reports in the second training year
	  ○ **5** Case Reports in the third training year
	Core training
	• **4** Case-based discussions per year
	Non-core training
	• **2** Case-based discussions per year

PROPOSED REQUIREMENT	• **12** Observation captures per phase • **12** Learning captures per phase • **4** Progress reports per phase • **1** Research project over the course of training

New work-based assessments

The proposed curriculum introduces new work-based assessments, learning captures and observation captures. Click the links for an overview of these assessments.

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18. Please indicate your level of agreement or disagreement with the following statements about the proposed assessment program for Clinical Genetics Advanced Training:

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The assessment program requirements are achievable for **trainees**		yes			
The assessment program requirements are achievable for **supervisors**		yes			
The assessment program will gather enough data to provide trainees with sufficient feedback on their performance			yes		
The assessment program will gather sufficient evidence to make robust decisions about trainees' progression through the specialty training program			yes		
There will be enough opportunities to directly observe advanced trainees as part of the assessment program			yes		

19. Please provide comments about the proposed assessment program, including suggestions for changes, or why you may have disagreed with the above.

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Perceived benefits of the program

20. Which of the following areas do you believe will be significant benefits of the new Advanced Training program? Please select all that apply

- ☐ Early identification of trainees requiring support to achieve learning goals
- ☐ Flexibility of options for trainees to achieve curriculum standards
- ☒ Improved quality of feedback to trainees
- ☒ Improved quantity of feedback to trainees
- ☐ Improved assessment of trainees' competency
- ☐ Increased clarity about roles and responsibilities within the training program
- ☐ Trainees more prepared for practice
- ☐ Other (please specify)

- ☐ None of the above

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Implementation of the new Clinical Genetics Advanced Training program

21. I will be able to implement this program in my setting.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
		yes		

If you disagreed with the above please comment why.

Australian Genomics does not implement the clinical genetics training program.

22. Please outline the types of support you would need to implement this program.

23. What types of clinical scenarios or local learning opportunities would you use to assess the learning goals?

24. Which aspects of the proposed new curriculum, or other related aspects, would you like more information about?

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Communication channels and motivation

25. How did you hear about this consultation? Please select all that apply

- [x] Direct email from RACP
- [ ] From a colleague/word of mouth
- [ ] Social media
- [ ] The ROC (RACP Online Communities)
- [ ] RACP website
- [ ] Email from specialty society/other organisation
- [ ] Other (please specify)

26. Why did you decide to participate in this consultation?

Consultation on the proposed changes is an important opportunity for the genomics community to shape the future direction of clinical genetics training.

27. How long did you spend reviewing the curriculum and completing this survey?

approximately 6-8 hours

28. Please provide any final comments or feedback.

Research currently being done in Canada through the GEAR-shift project is reimagining the role of the clinical genetics service. The research has involved a series of interviews with Clinical Geneticists across the country, which will be followed by a Delphi consensus building process. So far, the study has reported on the views that in future, the Clinical Geneticist role will still incorporate detailed clinical assessments (evaluation) but largely shift to later in the care pathway, after diagnosis. Clinical Geneticists will be more involved in care navigation and become the experts and advocates for their patients to access novel treatments such as genetic therapies. In this way, they shift from diagnostician to expert, interventionalist and care provider.

This work may in future inform iterative changes to clinical genetics training programs and will serve as a prompt to regularly review and evolve training programs as genomics continues to be implementated at scale.

Thank you for your feedback on the draft Clinical Genetics Advanced Training curriculum.

If you have any questions or would like to speak to a member of the Curricula Renewal Project Team, please contact curriculum@racp.edu.au or phone +61 2 8076 6390 (AEST business hours).