

Strategies to Increase, Engage and Maintain High-quality Members of a Skin Cancer Clinical Research Network in Australia

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Abstract: Introduction: Australia has the highest incidence of skin cancer globally and it is increasing. In Australia, two in every three trials are investigator-initiated trials developed by clinical research networks (CRNs). CRN trials rely on the participation of high-quality members who are essential to drive the research program. Attracting and retaining high-quality CRNs members is important.

Methods: Applying grounded theory, data from six mature Australian cancer CRNs were evaluated to identify, define and evaluate strategies that could be used to grow, engage and retain high-quality members to a new skin cancer CRN. The impact of the strategies influencing membership growth, engagement and retention were evaluated for impact. Data from websites, reports and communications was analysed.

Results: The skin cancer CRN established in 2007. Membership grew annually. 14 strategies for membership growth, engagement and retention were identified, defined, evaluated and priority-ranked for impact.

Conclusion: The skin cancer CRN now has 1 700+ high-quality, internationally representative members who conduct high-quality trials. Other organisations can build upon these strategies by continuing to invest in initiatives focussed on increasing and retaining high-quality members to ensure the efficient conduct of high-quality clinical research which may improve patient outcomes.

Keywords: Membership, Cancer, Clinical research networks, Clinical research, Australia.

Introduction

Australia has the highest incidence of skin cancer globally and it is increasing [9, 27]. In Australia, two in every three trials are investigator-initiated trials (IITs) developed by clinical research networks (CRNs) and cancer is the top-ranked disease researched [1, 2, 12]. There are 14 cancer CRNs in Australia that conduct IITs [25, 26]. CRNs rely on the participation of high-quality members who are essential to drive each CRN's research program to the highest standards [11, 28, 34]. Building on Australia's reputation for medical research excellence, patient engagement and overall performance [2, 12] it is important to support cancer CRNs to attract, engage and grow their memberships to ensure sufficient capacity for high-quality research.

Australian cancer CRNs are membership networks that bring together multi-disciplinary experts who volunteer their time to improving outcomes for patients with specific cancers through the conduct of clinically-relevant IITs that address high priority research questions. They achieve this by supporting and pooling the expertise of their network of practicing clinicians and allied health experts to generate novel ideas, author protocols that can secure funding (with or without industry collaboration), working together across multiple sites to maximise patient accrual [25, 26]. The maturity, governance and size of these CRNs differ to the needs of each group and the needs of the patients each seeks to help (Table 1). There are 6 cancer CRNs in Australia which were established prior to 2000.

The success of the Australian cancer CRNs, especially the durability of the older groups to thrive, provide evidence that CRNs can be established and indeed grow in the Australian context. Many CRNs have been highly successful in improving clinical practice through the conduct of high-quality trials that changed practice world-wide [4-8, 14, 16]. This success was only possible by attracting, retaining and engaging with their members. Given the success of the CRNs in Australia, newer groups could learn about how to attract, engage and retain high-quality members from the experiences of the mature groups. The aim of this study is to evaluate strategies that support the member growth of a skin cancer CRN in Australia. There are two components of the study:

1. The first component is to evaluate strategies to grow the membership.
2. The second component is to evaluate strategies to engage and retain high-quality members.

Materials and methods

Applying grounded theory [3], we looked to the Australian CRNs established prior to 2000 and identified strategies to grow, engage and retain high-quality members. Each of the six Australian cancer CRNs established prior to 2000 host a website and produce an annual report [19-22, 24, 29, 31, 33, 36-38, 40-42] which we studied. Strategies to grow, engage and retain members were identified.

- Strategies for membership growth:
 1. Development of suitable membership application processes.
 2. Education and training opportunities for members.
 3. Hosting an annual scientific meeting to promote the CRN's activities.
 4. Promotion of the CRN at relevant conferences.
 5. Development of appropriate scientific review mechanisms for new idea generation and concept development.
 6. Provision of networking opportunities for members via affiliate membership to similar cancer networks.
 7. Grant-giving strategies available to members.

Table 1. The Australian cancer CRNs that established prior to 2000: governance and membership arrangements calculated to June 2020 [19-22, 24, 29, 31, 33, 36-38, 40-42].

Australian cancer CRNs [acronym], year established	Date of CRN incorporation and ASIC registration	Charity registration with ACNC	Membership size	Membership details	Members application process	Are pilot grants available? (Yes, No)
Part A: Pre-2000: Australian cancer CRNs that were established prior to 2000 (<i>listed in chronological order</i>)						
Australasian Leukaemia & Lymphoma Group [ALLG], 1973	01 Nov 1999	Registered	895 members	Full (paid), associate (fee-free), consumer (fee-free)	Submit online, 2 × nominees required	Yes
Breast Cancer Trials [BCT] formerly called Australia and New Zealand Breast Cancer Trials Group, 1978	12 Mar 1991	Registered	800+ members	Full, Affiliate (fee-free)	Submit online, no nominees required	Yes
Australian and New Zealand Children’s Haematology and Oncology Group [ANZCHOG], 1986	01 Nov 1999	Registered	Not available**	Full, Affiliate (fee-free)	Submit online, 1 × nominee required	Yes
Trans-Tasman Radiation Oncology Group [TROG], 1989	11 Aug 2008	Registered	1 568 members	Full, Affiliate (fee-free)	Submit online, 2 × nominees required	Yes
Australasian Gastro-Intestinal Trials Group [AGITG], 1991	21 Jul 2000	Registered	1 400+ members	Full, Affiliate (fee -free)	Submit online, 2 × nominees required	Yes
Australia and New Zealand Sarcoma Association, formerly called the Australasian Sarcoma Study Group and the Australian Sarcoma Group [ANZSA], 1998	15 Aug 2008	Registered	Not available**	Full (paid), Associate (paid), Corresponding (paid)	Submit online, no nominees required	Yes
Part B: Post-2000: Australian cancer CRNs that established after 2000 (<i>listed in chronological order</i>)						
Australia New Zealand Gynaecological Oncology Group [ANZGOG], 2000						
Psycho-oncology Cooperative Research Group [PoCOG], 2005						
Cooperative Trials Group for Neuro-Oncology [COGNO], 2007						
Melanoma and Skin Cancer Trials [MASC Trials], formally called the Australia and New Zealand Melanoma Trials Group [ANZMTG], 2007						
Australian and New Zealand Urogenital and Prostate Cancer Trials Group [ANZUP], 2008						
Primary Care Collaborative Cancer Clinical Trials Group [PC4], 2009						
Cancer Symptom Trials [CST], 2017						
Thoracic Oncology Group Australasia, formerly called the Australasian Lung Cancer Trials Group [TOGA], 2020						

Notes and abbreviations: Australian Securities and Investment Commission (ASIC) [30];

Australian Charities and Not-for-profits Commission (ACNC) [18];

*The ACNC online registry portal was launched on 03 December 2012;

**The membership data for the ANZSA and the ANZCHOG groups were not available.

- Strategies for engaging and retaining high-quality members:
 1. Mentoring opportunities for members.
 2. Professional development opportunities for members.
 3. Distribution of membership communications for members.
 4. Opportunities to participate in current and new research.
 5. Publication of research results.
 6. Presentation of research findings.
 7. Production of videos promoting the CRN and research.

The strategies from part (i) “to support membership growth” and part (ii) “engaging and retaining high-quality members” were applied to the skin cancer CRN. Data from the skin cancer CRN’s website, annual reports, and membership communications [33] was studied.

Given the impact of the COVID-19 pandemic on global health and clinical research, we decided to analyse data up to and including only the reported activity to 2020. This was a pragmatic decision by this team in respect to the impact of the pandemic on clinicians, institutions, patients and their families in Australia and indeed world-wide [15].

The impact of each strategy was assessed by the lead-author in respect to effort, effect and importance, see the rating scale devised by the author described in Table 2. In some instances, anecdotal evidence is referenced in the absence of available data.

Table 2. Rating impact of each strategy according to the effort, effect and importance

Effort		Effect		Importance	
Score	Interpretation	Score	Interpretation	Score	Interpretation
3	Significant effort	2	New members joined	3	Highly important
2	Moderate effort			2	Moderately important
1	Slight effort	1	No loss of members (i.e. member retained)	1	Slightly important
0	No effort			0	Not important

Results

Seven strategies to grow the skin cancer CRN membership were considered and applied.

Increasing membership

The membership of the skin cancer CRN grew from 35 Australian members to a large, international membership consisting of 1 718 members [33]. The growth and regionality of the skin cancer CRN membership fluctuated over time. This is likely due to different resourcing, membership initiatives, clinical research activities which influenced and attracted new members at different times in different ways (Fig. 1).

International membership commenced in 2009 and continues to grow. In 2020, one in every five members was from overseas, demonstrating the global reach of the group (Table 3).



Fig. 1 The skin cancer CRN membership growth

Table 3. Growth of the skin cancer CRN membership

Year	Australian members	New Zealand members	International members	Total new members per year	Cumulative total per year
2007	35	0	0	35	35
2008	149	0	0	149	184
2009	67	20	14	101	285
2010	56	8	28	126	411
2011	124	8	10	103	514
2012	68	0	13	86	600
2013	73	3	60	136	736
2014	42	2	12	56	792
2015	77	4	32	199	991
2016	56	25	86	92	1 083
2017	89	20	35	133	1 216
2018	200	41	29	270	1 486
2019	69	6	17	92	1 578
2020	111	0	29	140	1 718
2020 (% of the total memberships)	1 216 (71%)	137 (8%)	365 (21%)		

Strategies to grow the skin cancer CRN membership were applied and the results include the following:

1. Development of suitable membership application processes

The CRNs offer tailored membership application processes to join (Table 1). The process of membership application to the skin cancer CRN is simple and fee-free. Membership includes ‘full’ (clinicians and researchers) and ‘associate’ (industry and consumer representatives) categories. International membership was offered. It was compulsory to join the CRN if members are engaged as a participating site. This encouraged a research-active membership.

The simple, fee-free, global membership application process to the skin cancer CRN was a valuable strategy for growing the membership.

The experience of developing suitable membership application processes on the growth in membership of the skin cancer CRN was that:

- The skin cancer CRN staff were consistent in their efforts to complete forms with missing data by repeat attempts to contact and obtain data from the applicants. This process ensured no applications or applicants were lost in the application process. This boosted the number of applications which were properly processed;
- The membership process initially required new members to seek the provision of two nominees to support each application. This was administratively burdensome for applicants and the CRN. To simplify the process the need for nominees was removed. This simplification of the application process removed an administrative barrier, improving efficiencies and preserving resources;
- The decision to allow fee-free application was attractive to new members and preserved the administration resource needed to process and maintain the fee schedule by the CRN.

2. Education and training opportunities for members

Education and training initiatives are an important service that all CRNs offer to their members. To attract new members, the skin cancer CRN hosted and participated in various education and training initiatives. 36 initiatives were conducted face to face. The 36 initiatives including 16 CRN ‘hosted’ events, 20 CRN ‘collaborator’ events, of these 21 were held nationally and the remaining 15 were international events.

Providing education and training for members was a useful strategy to retain high-quality members and avoid membership loss.

The experience of implementing education and training initiatives on growth in membership of the skin cancer CRN was that:

- Accepting invitations to collaborate on events in Australia and abroad is a good strategy for membership growth;
- Collaborative events generally have larger audiences, and this will further increase the opportunity to attract new members;
- Across all types of initiatives, the ‘open invitation’ method is a better strategy to attract new members;
- Targeted invitations resulted in fewer new members applying to join;
- More broadly it is an important function of CRNs to improve the skills, education and training to their members. This service maintains high-quality members.

3. Hosting an annual scientific meeting to promote the skin cancer CRN’s activities

The Australian cancer CRNs each host ASMs for their members. The ASM registration fee structure and meeting format vary for each group and are outlined in the annual reports for each CRN [19-22, 24, 29, 31, 33, 36-38, 40-42]. The skin cancer CRN hosted an annual ASM for their members. The annual event was fee-free and not sponsored by the industry representatives. Every meeting spanned no more than one business day and coincided with existing national meetings (boosting member access to attend). The purpose of the ASM was to disseminate information and new research findings relevant to the skin cancer community, to promote new IIT opportunities, to discuss new concepts and to attract new members.

Hosting an ASM was a valuable strategy for attracting new members and maintaining existing members.

4. Promotion of the skin cancer CRN at relevant conferences

All of the CRNs have promoted their networks by hosting information booths at conferences. The skin cancer CRN arranged booths at 12 events in Australia and abroad during the period [33]. After studying the data: (i) we identified that the staff involved in the promotion activities had varying professional experience, (ii) on occasion research output (either oral and or poster presentations) were presented in parallel (Table 4).

Table 4. Impact on the skin cancer CRN's membership as a result conference participation

Year	Conference audience (National, Global)	Was research presented? (Describe)	CRN staff experience attending the booth (> 2 vs < 2 years)	Did new members join?	How many new members joined? (< 10 or > 10 members)
2010	Global	Yes, research presented	> 2 years	Yes	> 10 members
2013	National	No	< 2 years	Yes	< 10 members
	National	No	< 2 years	Yes	< 10 members
2016	Global	Yes, research presented	> 2 years	Yes	< 10 members
2017	National	Yes, research presented	< 2 years	Yes	< 10 members
2018	Global	Yes, research presented	> 2 years	Yes	> 10 members
	Global	Yes, research presented	> 2 years	Yes	> 10 members
	National	No	< 2 years	Yes	< 10 members
	National	Yes, research presented	> 2 years	Yes	> 10 members
2019	National	Yes, research presented	> 2 years	Yes	> 10 members
	National	Yes, research presented	> 2 years	Yes	> 10 members
	National	Yes, research presented	> 2 years	Yes	> 10 members

Efforts to attract new members by promoting the CRN by hosting promotional booths at relevant conferences was a valuable strategy to attract new members and the strategy worked well.

The experience of pursuing new membership by hosting promotional booths at conferences was that:

- More members joined when there was a booth attended by more experienced CRN staff and when research was presented in parallel;
- When the booth was attended by less experienced CRN staff, fewer new members joined the group;
- This strategy can be maximised and improved by (i) investing in booth space, (ii) ensuring more experienced CRN staff are involved, and (iii) ensuring conference presentations can be delivered in parallel.

5. Development of appropriate scientific review mechanisms for new research idea generation and protocol development

CRNs exist to conduct IITs generated by their members that are designed to help patients [25, 26]. All of the CRNs describe their processes for new research idea generation and protocol development on their websites and reports. Some groups offer a peer-review process via a Scientific Advisory Committee structure. This service is important to supporting the membership. From 2008, the skin cancer CRN supported members to develop new research ideas via a template that was reviewed by the executive committee. Depending on the needs of each member, the CRN staff could help to populate the template, undertake literature reviews, protocol writing services, coordinate expert input (i.e. bio-statistics, patient reported quality of life, health economic endpoints, project / data management services and grant writing support). This service was offered fee-free and provided a direct line of communication between members and staff. In 2018, this process was updated with the establishment of a skin cancer CRN Scientific Advisory Committee (supported by five Discipline Specific Advisories and two Priority Research Interest Area groups [33]). The Scientific Advisory Committee structure enabled a more efficient and refined method of scientific review and research prioritisation and engaged more than 100 members.

The strategy for developing appropriate scientific review mechanisms for new idea generation and concept development was a valuable strategy to attract new members.

The experience of implementing scientific review mechanisms for new research idea generation and protocol development was that:

- The Scientific Advisory Committee worked well, it was attractive to and accessed by members. It led to an increase in members and research ideas that developed into funded trials [33];
- The allocation of dedicated CRN staff to provide administrative support to develop new ideas, built trust and confidence and saved members time and fast-tracked review.

6. Networking opportunities for members via affiliate membership to similar networks

All of the CRNs are affiliate members to other similar networks including but not limited to the Clinical Oncological Society of Australia (COSA). The skin cancer CRN maintained affiliate membership with COSA from 2007, the Australian Ethical Health Alliance from 2019 and Australian Clinical Trials Alliance from 2014 [33].

Affiliate membership was a valuable strategy for attracting new members, as well as retaining and engaging existing members.

The experience of affiliate membership was that:

- Affiliate memberships were mutually beneficial, facilitated stakeholder collaboration, provided opportunities for: information sharing, access to professional and education programs, cross promotion, financial discounts for various opportunities;
- Affiliate memberships attracted new members to the skin cancer CRN.

7. Pilot grant-giving strategies

Trials are costly. Attracting research and funding is challenging [35]. In an effort to address this the mature CRNs offer seed funding opportunities to their members to support pilot studies (Table 1). All groups who identify as incorporated legal entities registered with the Australian Securities and Investment Commission, are also charities registered with the Australian Charities and Not For Profit Commission [18, 30]. This facilitates tax-deductible donations to be made which can generate new income to support research via pilot grants.

No pilot research grants were offered to the members of the skin cancer CRN, no data was available to analyse. Pilot grant-giving strategies was an under-developed strategy.

Membership composition

Of the total membership of 1 718 skin cancer CRN members recruited to June 2020 [33]. About 90% of the membership self-identified as clinical experts (78% are Australian full members, 12% are international full members) and the remaining 10% as associate members (industry and consumer representatives). Of these, 754 were clinicians representing the specialities who care for, treat and manage patients with early and later stage melanoma and skin cancers (medical oncology, surgery, dermatology, radiation oncology and general practice). International membership includes representatives from countries including: Argentina, Belgium, Brazil, Canada, China, Czech Republic, Denmark, Finland, France, Germany, Greece, Ireland, India, Italy, New Caledonia, New Zealand, Norway, Portugal, Russia, Serbia, Slovenia, Sri Lanka, Sweden, Switzerland, The Netherlands, Turkey, Ukraine, United Kingdom, United States of America. This data shows that the skin cancer CRN membership is global with a strong clinical focussed (Table 5).

Table 5. Characteristics of the skin cancer CRN membership

Membership type	Member per category	% of total
Australian full members	1 343	78.17%
[Members in regional / rural AU]	[122]	[9.08%]
International full members	211	12.28%
Associate members	164	9.55%
Position categories (<i>multiple categories possible, only the primary category is selected</i>)		
Medical	651	37.89%
Position category not stated	262	15.25%
Research	258	15.02%
Nursing	117	6.81%
Consumers	95	5.53%
Other	72	4.19%
Academic	56	3.26%
Research fellow	56	3.26%
Student	50	2.91%
Health scientist	34	1.98%
Clinical services director / manager	30	1.75%
Policy	24	1.40%
Health services management	13	0.76%
Discipline categories (<i>multiple categories possible, only the primary category is selected</i>)		
Associate member	296	17.23%
Clinical trials	219	12.75%
Medical oncology	153	8.91%
Surgery	152	8.85%
Dermatology	129	7.51%
Research	127	7.39%
Radiation oncology	125	7.28%
General practice	120	6.98%
19 subcategories with ≤ 50 members	397	22.92%
Total	1 718 members	100%

Membership engagement and retention

Once the skin cancer CRN membership had been established, it became important to engage and retain their members. Seven strategies for engaging and retaining high-quality members were applied to the skin cancer CRN. The results of the strategies for engaging and retaining high-quality members are as follows:

1. Mentoring opportunities for members

Each of the CRNs offered mentoring opportunities to their members. To attract new members the skin cancer CRN developed both formal and informal mentoring opportunities which would appeal to new members, especially those in the earlier phase of their career. Members were able to join and participate in the CRN's committees (including executive and office bearer appointments, Committees (Scientific, Trial Management, Data Safety) and new networks (e.g. Australasian ocular melanoma alliance and Australasian merkel cell carcinoma interest group) [33]. Opportunities were offered by open invitation regularly, facilitated 1:1, as well as group mentoring arrangements. These opportunities provided valuable support and learnings for individual members.

Mentoring opportunities for members was a valuable strategy for engaging and retaining high-quality members.

2. Professional development opportunities

Each of the Australian CRNs offered professional development opportunities to their members. Examples include leadership opportunities, award recognition, research output contribution and acknowledgment (i.e., co-authorship, presentation opportunities), industry collaboration opportunities (e.g., preceptorship participation, presentation opportunities at industry events and / or other forms of CRN representation).

The experience of developing professional opportunities was a valuable strategy for engaging and retaining high-quality members. The experience of developing professional opportunities for skin cancer CRN members was that:

- Members more frequently engaged in professional development opportunities which required less effort;
- Investigators (who were also members) were required to routinely participate in research meetings, this led to opportunities for recognition including attending conferences, co-authorship, presentations and awards which helped with career development;
- The membership and research portfolio grew and diversified over time [33] indicating a high-quality, research literate, global community of skin cancer experts.

3. Distribution of membership communications

Each of the CRNs prepare and distribute membership communications (including newsletters, e-bulletins and social media profiles). The skin cancer CRN distributed regular membership communications. The experience of preparing and distributing membership communications was that:

- Membership communications attracted existing members to contribute more to the group, as well as encouraging new members to join,
- This strategy ensured high-quality membership engagement;
- It boosted the members' commitment to the cause.

Membership communications build trust and are a transparent mechanism to communicate various research and other opportunities to the members. In order to alleviate inconsistencies in production and frequency of distribution, resourcing of a dedicated CRN staff resource is recommended as this will optimise effectiveness of this strategy.

Membership communications was an important strategy for engaging and retaining a high-quality membership.

4. Opportunities to participate in current and new research

As the number of skin cancer clinical trial opportunities increased, the number of members and countries represented in the skin cancer CRN's membership increased [33] (Table 3). Ensuring an adequate pipeline of current and new research was a valuable strategy for engaging and retaining a high-quality membership. The experience of providing opportunities to participate in research was that:

- Monitoring the current screening and recruitment metrics for individual CRN-sponsored IITs was a helpful tool to gauge member and site-level of enthusiasm;
- Ensuring opportunities to participate in research incentivises high-quality members to engage and stay with the group.

5. Publication of research results in peer-reviewed journals

As is standard academic practice, CRNs disseminate their research results including through publication in peer-reviewed journals. This reflects the research credibility of the project, team and the CRN. The skin cancer CRN and its members conducted high-quality IITs, including some that changed practice world-wide [4, 6]. Over the period, a total of 86 publications were published. This strategy helped to establish the reputation of the CRN for high-quality research, which in turn helped to engage and retain high-quality members (Fig. 2).

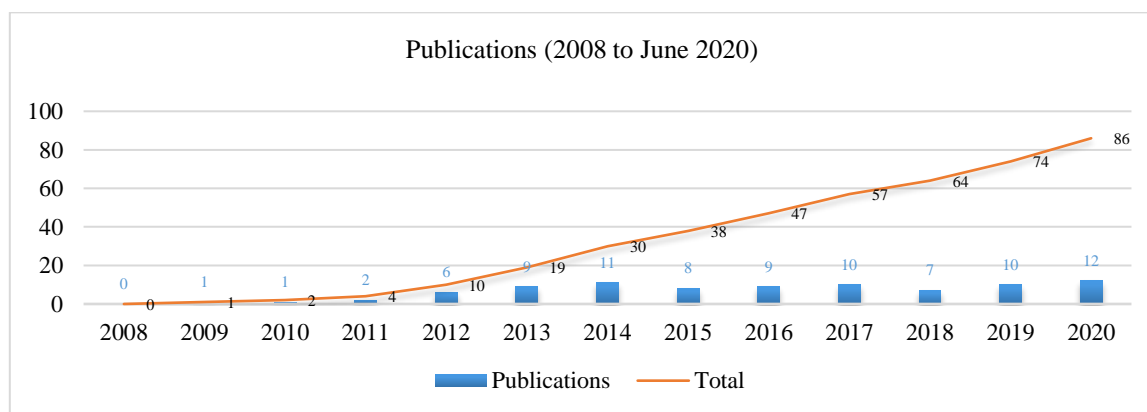


Fig. 2 Number of skin cancer CRN's research publications

The publication of research in peer-reviewed journals was a valuable strategy to promote important clinical findings produced by the skin cancer CRN and its members.

6. Presentation of research at conferences

Over the 13-year period, the skin cancer CRN presented at 390 conference presentations around the world. Oral and poster presentations were prepared and presented by the chief investigators and their research teams. This data demonstrates the growing reputation, track-record of the members, research teams and the skin cancer CRN overall (Fig. 3).

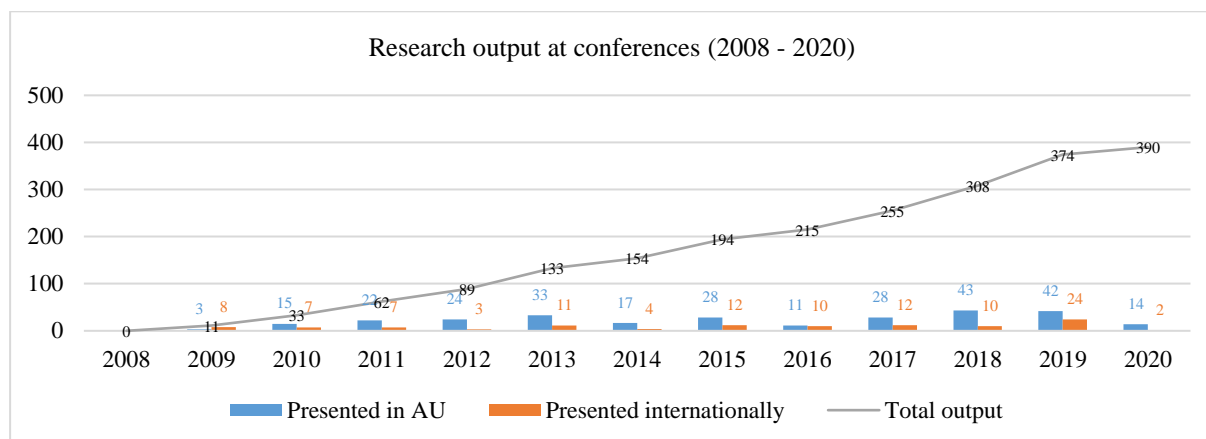


Fig. 3 Number of skin cancer CRN conference presentations

Presentation of research findings at conferences was a valuable strategy to retain and engage high-quality membership, as well as attracting new members to join. The experience of presenting research findings at conferences was that:

- Presentations at Australian meetings led to more members joining;
- Presentations at international meetings led to fewer members joining but the international members who joined generally wanted to join because they wanted to submit new ideas and / or participate in specific trials.

7. Production of videos promoting the CRN and research

The Australian CRNs disseminate information to their members by producing videos. Examples of video content include: CRN research results, clinical trials information, clinical content, consumer content and trials methodology content [19-22, 24, 29, 31, 33, 36-38, 40-42]. Over the 13-year period, the skin cancer CRN produced six videos promoting the specific IITs with a recruitment focus (one video was released in year 2009, 2011, 2014, 2015, 2017, 2020 [33, 44]). Due to the limited number of videos produced, there was limited impact of this strategy on engaging and retaining members.

The experience of producing the videos was that:

- Overall, the videos generated interest from existing and potential investigators, sites and patients to specific trials but had little impact on membership;
- Video production was dependent on the interest of the chief researcher and whether each had access to sufficient resources to pay for a video to be produced.

Summary of each strategy with respect to effort, effect and impact on membership growth and engagement

Since 2007, 14 strategies have been applied and evaluated to maximise membership growth of the skin cancer CRN. Each strategy was evaluated in respect to effort, effect and impact (Table 3), this data is summarised in Table 6.

There was no loss of membership over the reporting period, therefore all strategies were valuable in membership gains, engagement and retention. The priority ranking of these two strategies frameworks group in to three categories, items are listed in no particular order:

- Strategies that are significant effort, high impact resulting in membership gains:
 - Hosting an annual scientific meeting to promote the CRN's activities;
 - Promotion of the CRN at relevant conferences;

- Development of appropriate scientific review mechanisms for new idea generation and protocol development;
- Opportunities to participate in current and new research;
- Publication of research findings;
- Presentation of research findings.
- Strategies that are moderate effort, moderate impact resulting in membership gains:
 - Education and training opportunities for members;
 - Mentoring opportunities for members;
 - Professional development opportunities for members;
 - Distribution of membership communications;
 - Provision of networking opportunities for members via affiliate membership to similar networks.
- Strategies that are slight to moderate effort, reduced impact resulting in no membership loss or gain:
 - Development of suitable membership application processes;
 - Production of videos promoting the CRN and research.
- Strategies that were not assessed in respect to effort, effect and impact:
 - The grant-giving strategy was not able to be evaluated and was therefore excluded.

Table 6. Impact of strategies to grow, engage and retain the skin cancer CRN’s membership

Strategies to support and expand the melanoma and skin Cancer Cooperative Trials Group (CCTG)’s membership			
Part (i): Strategies for membership <u>growth</u>	Effort	Effect	Impact on membership
1. Development of suitable membership application processes	2	2	1
2. Education and training opportunities for members	2	2	2
3. Hosting an annual scientific meeting to promote the CRN’s activities	3	2	3
4. Promotion of CCTG at relevant conferences	3	2	3
5. Development of appropriate scientific review mechanisms for new idea generation and protocol development	3	2	3
6. Networking opportunities for members via affiliate membership to similar networks	3	2	2
7. Grant-giving strategies for members*	NA	1	NA
Part (ii): Strategies for <u>engaging and retaining</u> high-quality members	Effort	Effect	Impact on membership
8. Mentoring opportunities for members	2	2	2
9. Professional development opportunities for members	2	2	2
10. Distribution of membership communications	2	2	2
11. Opportunities to participate in current and new research	3	2	3
12. Publication of research findings	3	2	3
13. Presentation of research findings	3	2	3
14. Production of videos promoting the CRN and research	2	1	0

Note: * This strategy was not able to be assessed.

Discussion

The results of this study show that specific strategies can be used to support the growth, engagement and retention of high-quality members to a skin cancer CRN in Australia. Selecting strategies that have a high impact can help to boost membership including: (i) Hosting an annual scientific meeting to promote the CRN’s activities; (ii) Promotion of the CRN at relevant conferences; (iii) Development of appropriate scientific review mechanisms

for new idea generation and protocol development; (iv) Opportunities to participate in current and new research; (v) Publication of research findings; and (vi) Presentation of research findings. A further eight strategies with reduced impact are defined.

In addition to the 14 strategies we identified, we recognise the importance of expert leadership and institutional engagement. Both are essential to membership expansion of the national skin cancer CRN. In 2008, senior expert representatives from the major skin cancer tertiary treatment centres in Australia formed the founding Executive Committee operating as a group of volunteers. This leadership structure continued in subsequent years as the CRN's governance arrangements matured. In 2019, the entity incorporated to become a legal entity governed by a company constitution. The membership continued to growth beyond 2019 indicating that incorporation was not an existential threat (and in fact operationally aligned with the mature CRNs; Table 1). Securing the participation and support of leading skin cancer oncologists representing different disciplines from different institutions across Australia and New Zealand was essential to the group's membership establishment, stability and expansion.

Establishing new CRNs requires resourcing. The skin cancer CRN received support from Cancer Australia [6]. Access to this funding supported the infrastructure costs including staff resourcing to support the core operations. The core operations included International conference on harmonisation and Good clinical practice compliant [23, 32, 39, 43] centralised infrastructure (e.g. trial randomisation systems, trial database, processes and policies). This helped to maintain standards as the group's research activities expanded.

CRN members are volunteers, and engage without monetary remuneration. It is therefore helpful to identify non-monetary incentives that are sufficiently appealing to members to encourage membership longevity. The strategies that we have identified meet these criteria. Adequate resourcing is an important component which helps to facilitate new CRN development including the capacity to attract, engage and retain members.

Given Australia has the highest rates of skin cancer in the world, the size, scope and regionality of the skin cancer CRN's membership demonstrates the global importance of the group. Previous studies have shown limited Australian skin cancer research [10, 13]. This study represents new knowledge which may help academic trial sponsors. This study highlights the importance of attracting, engaging and retaining high-quality members to develop and contribute to IITs that can generate the evidence used to improve patient care around the world.

Conclusion

The Australian skin cancer CRN has 1,700+ high-quality, internationally representative members who conduct high-quality IITs, with the appropriate skills and expertise to treat patients. 14 strategies for membership growth, engagement and retention were identified, and priority-ranked for impact in to three sub-groups. Significant effort, high-impact strategies resulting in membership gains include: (i) Hosting an Annual Scientific Meeting to promote activities, (ii) Promote the CRN at relevant conferences; (iii) Develop appropriate scientific review mechanisms for new idea generation and protocol development; (iv) Provide members with opportunities to participate in current and new research; (v) Publish research findings; and (vi) Present research findings. The eight remaining strategies that were identified required reduced effort to implement but had reduced membership impact (resulting in no loss or gain of members).

Other organisations can build upon these strategies by continuing to invest in initiatives focussed on increasing and retaining high-quality membership to ensure the efficient conduct of high-quality clinical research. This will improve the quality of the research conducted, evidence produced and lead to better patient outcomes.

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