

ANNUAL REPORT 2018



Canadian Association of Radiologists
L'Association canadienne des radiologistes

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Rapport annuel 2018

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ABOUT THE CANADIAN ASSOCIATION OF RADIOLOGISTS

The Canadian Association of Radiologists (CAR) is the national voice of radiologist in Canada, dedicated to imaging excellence and advocating for the highest standard of patient care across the country. The CAR is a recognized leader in education, research and innovation in radiology. The CAR is focused on providing world-class resources that empower our members to be more successful in their profession.

CAR MISSION AND VISION

MISSION

To be the national voice for medical imaging excellence in patient care.

VISION

1. The CAR is the **national authority and voice of radiologists** speaking to the federal government, industry, provincial and international radiology organizations and other specialty societies on matters of radiology training, research, manpower, licensing, accreditation, standards and future trends in radiology.
2. The CAR is a strong organization with universal membership providing a **unified, guiding, respected voice for all Canadian radiologists** and the practice of radiology in Canada.
3. Emphasizing appropriate, safe and cost-efficient quality care, the CAR is the **preferred source of best practice information for radiologists, government, industry, healthcare authorities and the public**. The CAR actively disseminates best practices by creating and maintaining guidelines, standards and promoting continuing education for radiologists, other physicians, healthcare workers, healthcare policy makers and the public.

MESSAGE FROM THE PRESIDENT

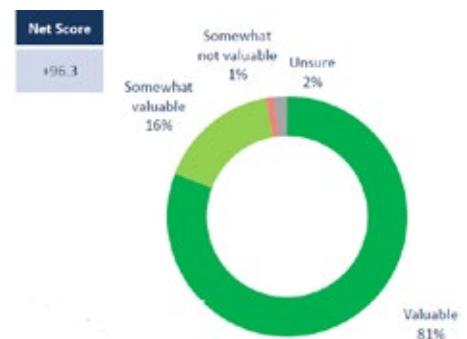


It has been an honour to be your President and to represent you, my peers, both nationally and internationally. As I come to the end of my presidency, I have been reflecting on all that the CAR has accomplished while I have had the helm. During my tenure, it has been my distinct privilege to participate in many great initiatives, and to work with my fellow board members to meet and overcome challenges. Perhaps the most memorable achievement of my term as President has been the advancements that we have collectively made on Artificial Intelligence (which we deem Augmentative Intelligence) in Canadian Medical Imaging. It was one of my priorities at the beginning to establish the CAR's presence in this rapidly burgeoning enterprise. We have succeeded well beyond my expectations, entirely due to our members' hard work & an extremely dedicated group of volunteers leading the AI initiative in radiology. Led by Dr. An Tang, their brilliance and technological savvy have helped to make the CAR a recognized expert within Canada and far abroad. An internationally cited white paper on AI, and a soon to published white paper on AI ethics and legal considerations are but two concrete examples of stellar output from these members. I look forward to continued progress on this front.

SEEN MORE, HEARD MORE AND BETTER UNDERSTOOD

From an advocacy perspective, I believe we have excelled. Having been part of three successful Days on Parliament Hill, I can attest firsthand that we are moving forward. We have been successful, with our coalition partners, in influencing the government to revisit the increases to the small business tax that were passed in 2017. Through meetings with influencers and key parliamentarians, we have received recognition for our work on AI and the medical imaging equipment fund and have been invited to participate in roundtable discussions with the department of Innovation, Science and Economic Development. Of course, we must also credit our stakeholders for supporting our work and helping to raise awareness about the issues facing medical imaging across Canada.

Public awareness about the role of radiologists in Canada is at an all-time high. In 2018, the CAR commissioned Nanos research to conduct a public opinion poll of Canadians to measure their impressions of radiologists and to garner support for our initiatives. We were somewhat surprised to learn that the public is quite aware of our profession and highly values our role in patient care. I attribute this to our members and the CAR's hard work.



ENGAGEMENT

The CAR is working to connect more effectively and purposefully with our members. Social media engagement is increasing substantially. We doubled our number of followers between 2017 and 2018. We have also streamlined our communications to make it easier for our members to access information. We are focused on improving the quality of our member outreach and facilitating our members' access to our services and programs. This year thanks to a suggestion from my colleague, Dr. Andrea Lum we introduced a short review immediately following our board meetings.

SAFEGUARDING PATIENTS

We will continue to develop standards that safeguard the public and that are focused on the best and more recent research. The Mammography Accreditation Program team recently updated their standards. The CAR working group, led by Dr. Nancy Wadden have revised and updated a number of guidelines. These changes are based on the highest quality evidence-based research. Ultimately, through our work on guidelines and other aspects of quality assurance and improvement, patients will benefit from the resulting improvement in health outcomes.

PROMOTING LEARNING – ACCESS TO CPD

In 2018, we made significant investments to expand and enhance our learning and development offerings. Our Annual Scientific Meeting is bigger and better than ever before and attracts radiologists from across Canada. The 2018 ASM was our biggest ever, and we are looking forward to expanding our program offerings even more in the future. In Fall 2018, we launched RAD Academy, our online learning management system. RAD Academy has been resoundingly popular with an initial uptake of over 2000 members and will continue to be a hub to obtain CPD exclusively through membership in the CAR. I anticipate in short order we will offer such programs as “National Grand Rounds” to enhance our members’ education on a national basis. In addition to our work on improving educational opportunities for our members, the CAR is continuing to improve our membership benefits programs, to add even more value for members.

Our international outreach has been very strong. For example, I am looking forward to “ESR meets Canada” at the European Congress of Radiology in 2020, with reciprocal presence of the best of ECR 2020 presenters coming to our 2020 CAR ASM.

Although my term will soon be coming to an end, I believe that there is much more to be accomplished. The future remains very bright for Radiology in Canada. We must maintain our momentum. In 2019, the Conference Board of Canada will publish the Value of Radiology 2.0. We anticipate that the report will demonstrate even more need for investment in medical imaging equipment and encourage further investment in radiology as a profession. We intend to use the findings from this report to further our advocacy efforts that will inform discussions with decision-makers and prompt support from the government and Canadians alike.

We have built our success on the foundation of our positive relationships with our stakeholders, including provincial, national, and international organizations. Maintaining and strengthening our existing relationships, while building new bridges to likeminded organizations will solidify and amplify our position as the national voice for radiologists in Canada.

As I transition to Past-President I must express my gratitude to the Board, our hardworking volunteers, our staff and above all else, I am thankful to you, our CAR members. Without your support, we would not have been able to accomplish all that we have.

The best & most rewarding part of this position has always been meeting and working with people – radiologists and staff dedicated to the organization, our members and our patients. Thank you so much for the opportunity and for these amazing two years!

Emil Lee, MD, FRCPC

President of the Canadian Association of Radiologists

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STRATEGIC GOALS 2018–2022

1. Be recognized as the **national voice of radiologists and advocate for the profession** in Canada, with the profession and beyond.
2. Be recognized as the **leader in setting practice guidelines and defining the quality agenda for diagnostic imaging** in Canada, and to facilitate the implementation of those practice guidelines to improve the quality of patient care.
3. Be recognized as a **relevant and valuable national association** by Canadian radiologists, providing unique programs and services.
4. Be a **resilient organization, able to respond to changing needs through a strong foundation** and operations that are aligned with association best practices.

MESSAGE FROM THE CHIEF EXECUTIVE OFFICER



Dear CAR Members,

It has been an honour and a privilege to serve as CEO of the Canadian Association of Radiologists (CAR) the last three years and a pleasure to continue to meet radiologists from coast to coast. From Cornerbrook, to Vancouver and in-between. It is refreshing to see that all members are committed to furthering their knowledge, practice and patient care.

In the last year key highlights include the drive to mobilize research and innovation, specifically Artificial Intelligence (AI) in radiology. The expertise and collaboration of the individuals comprised of the AI working group is remarkable. Their efforts have significantly contributed to putting the CAR on the map as a leading expert in the field globally. What stood out the most were the conversations around the impact of AI. Some members are concerned. One member of the AI working group, stood out. He has a map of creative solutions involving the union of imaging and data science. His belief was not if it can be done, but how and when we will use AI as a real force multiplier. He was excited by the journey of discovery to get to that AI end. That day, I knew that the radiology community was well placed to harness and guide the power of AI. The stakeholders were taken back by the knowledge, passion and intellectual might that the CAR representatives brought forward. The future is not fully known; but I knew then, that reflective of this member, *this association will not go gentle into that good night*. This passion helped to illuminate the CAR's Strategic Innovation Fund Grant Application, which we eagerly wait to hear if one of the successful recipients.

THE CAR IS BACK!

Advocacy is something that I am particularly passionate about. I believe it defines the CAR as an organization. Meeting with key influencers and federal politicians brought factors impacting the radiology community to the forefront. This benefits not only radiologists but patients, which is something that the CAR can be proud of.

95% OF OUR MEMBERS ENGAGED IN THE CAR'S RAD ACADEMY

Our educational offerings are what distinguish us from other associations. As the national specialty society representing radiologists, we offer the largest Annual Scientific Meeting in Canada with over 600 delegates. Our newly launched Learning Management System, RAD Academy has been a huge success with 95% of our membership signing on. RAD Academy is a remarkable tool, available exclusively to members, which helps provide radiologists with the learning and development content that they need.

PATIENT AT THE CENTER

Patient care continues to be at the forefront and interwoven in everything we do. Through the review of guidelines to the solidification of our MAP accreditation standards, we always have the welfare of patients in mind. Of course, none of this would be possible without the leadership of our Board of Directors and consultation with our stakeholders. Engagement is one of our most important priorities. Our *raison d'être* is our members and to provide them with the resources that they need to be more successful in their practices. We accomplish this by offering valuable benefits. We also connect with our members. Through participation in working groups, steering committees and online engagement tools, we are bridging the communication between radiologists.

You may have heard the CAR reference the 2018-22 Strategic Plan on various occasions. Our five pillars for success include Advocacy, Patient Care, Education, Research and Innovation and Engagement. I have shared some highlights that touch on each of these points above; however, I invite you to consult the information within this report for a more extensive look at our successes in 2018. I would like to acknowledge the CAR Board of Directors and Working Groups for their dedication to their profession and tenacity.

I am excited to build on the momentum that we have started and look forward to even greater success for 2019.

Nick Neuheimer, CAE, MSc
Chief Executive Officer
Canadian Association of Radiologists

2018 A YEAR IN NUMBERS

1	Learning management system, RAD Academy – 95% of members signed up
1	Nanos Research Public opinion poll on perception of radiologists
1	Application to the Innovation, Science and Economic Development's Strategic Innovation Fund – \$160 Million
1	White Paper on AI, published in the CARJ
1	New Editor-in-Chief for CAR Journal, Dr. Mehran Midia
1	Revamped website with new branding
1	Standards change to the Mammography Accreditation Program
2	New member benefits: 75% Discount STATdx and RAD Academy
2	Clinical Decision Support System Meetings
5	New partnerships with BMS, CADTH, MD Financial Management, TD Insurance, The Rounds and STATdx
2	Successful Days on the Hill – 25 MP meetings
2	New guidelines: Gadolinium Deposition in the Brain and Contrast Agent in Kidney Disease
3	Invitations to international meetings
12	Continued Professional Development (CPD) activity accreditation applications processed
33	Meetings with MPs and Senators in the pursuit of our advocacy goals
295	CAR volunteers engaged
583	Attendees at the CAR 2018 Annual Scientific Meeting
250	Attendees at the 2018 CAR Canadian Reception at the RSNA
680	Units accredited by the CAR's Mammography Accreditation Program.
2,395	CAR members

TOP 5 INITIATIVES OF 2018

There were many initiatives that contributed to the promotion of high standards in patient-centred imaging, lifelong learning and research. Below include the top five for 2018.

1. The launch of **RAD Academy**, the CAR's learning management system. An overwhelming positive response to this online learning tool with nearly 100% of CAR members signing up. Membership with CAR provides exclusive access to this resource and helps our members to participate in self-learning and assessment activities to maintain their competency.
2. The **Public Opinion Poll**, facilitated by Nanos Research. This national wide survey measured Canadians' perception of radiologists. We were pleased to learn that the majority of Canadians are familiar with the role of radiologists, feel that they provide value and support investments in modern medical imaging equipment and AI in radiology.
3. The publication of the **White Paper on AI in Radiology**. This was led by the CAR AI Working Group. It was published in the May 2018 issue of the CARJ and has been referenced internationally. Thus far there have been 7,272 of downloads of the White Paper in Science Direct and 5,665 from the CAR Journal online.
4. The **2019 Pre-Budget Submission**. Focused on five key issues: investment of \$625 million in modern medical imaging equipment, TB eradication in Northern communities, artificial intelligence, federal leadership in establishing ethical frameworks for implementation in Canada and clinical decision support tools for diagnostic imaging. The eradication of TB received some traction and was included in the Standing Committee on Finance's recommendations for the 2019 budget.
5. A successful **Day on the Hill**. Representatives from across Canada with Members of Parliament on November 5 and 6, 2018 for a full day of meetings and an evening reception at Centre Block. The focus of this event was based on the pre-budget submission priorities. We were encouraged by the interest demonstrated by the MPs, Minister and Senators in attendance and the political staff we met.

ADVOCACY

NATIONAL VOICE OF RADIOLOGY

In 2018, we built on our commitment and mandate to be the national voice of radiology. We aligned our advocacy activities to reflect the national political priorities and issues that are important to our members. We created opportunities to engage Members of Parliament through Days on the Hill and on one on one meetings. We also used our social media presence as a vehicle to reach out to these audiences and the public at large. We measured public perception of radiologists and sought out public opinion on our priorities. The CAR collaborated with national and provincial associations as well as other partners to strengthen our message. Our messaging has paved the way for ongoing discussions with key opinion leaders and elected officials. We embarked on the Value of Radiology 2.0 with the Conference Board of Canada. The report will measure the patient care benefit that would arise from the Government taking a leadership role in establishing a medical imaging equipment fund. We anticipate that the findings will inform our discussions with political representatives and further demonstrate the possible return on investment in medical imaging. Our ultimate goal is the improvement of diagnostic imaging in Canada.

FOCUSING ON THE ISSUES

We have developed a robust advocacy strategy that focuses on the priority issues for our members, the practice of radiology and to the healthcare system. In August, the CAR submitted its third **formal pre-budget consultation** document to the House of Commons Standing Committee on Finance. On the strength of its submission, the Standing Committee on Finance acted on one of our key priorities and recommended an investment in medical imaging equipment for the eradication of tuberculosis in Northern Communities.

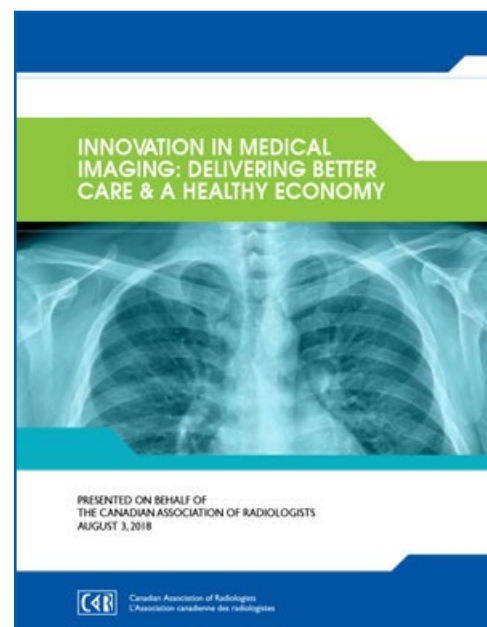
Recommendation 70 – “Invest in medical imaging equipment in northern communities to help eradicate tuberculosis.”

– Standing Committee on Finance

Similarly, Inuit Tapiriit Kanatami (ITK) published a TB Elimination Framework in December 2018 which, included a **focus on imaging technologies and infrastructure as a top priority in enhancing care**. We are hopeful that this recommendation will be adopted in the 2019 Federal Budget as well as a recommendation for a national medical imaging equipment strategy.

The CAR's 2018 **Pre-budget Submission** outlined four key priorities:

1. Invest **\$625 million over five years**, as part of the federal transfer to the provinces, to ensure that available imaging equipment meets the quality standards that patients deserve inclusive of our seniors and indigenous communities.
2. Invest **\$3 million in 2019** for medical imaging equipment in Northern communities to help eradicate tuberculosis.
3. Invest **\$9 million over three years** to fund projects to implement clinical decision support tools for imaging referrals.
4. Invest **\$10.5 million over three years** through the Strategic Innovation Fund, sponsored by Innovation, Science and Economic Development Canada to begin establishing federal frameworks to regulate the implementation of AI tools in medicine and healthcare.



DAY ON THE HILL 2018

On November 5-6, we held our third annual **Day on the Hill**. The event encompassed two days of advocacy and education about the value of radiology and the importance of medical imaging in patient care pathways. This event was held in early November in conjunction with the International Day of Radiology. This year's theme featured cardiac imaging and we were fortunate enough to have Dr. Jonathan Leipsic, cardiac radiologist be the spokesperson for the event.

The occasion kicked off with an evening reception in the Centre Block of Parliament Hill. Over 50 MPs and Senators attended and met with CAR members. The reception focused on the theme of cardiac imaging and how technological advancements in the field are being harnessed by industry and radiologists to enhance clinical workflows and optimize patient care.

This year, the CAR delegates were joined by representatives from IBM Watson Health Imaging, Bracco and GE Healthcare who provided demos of solutions currently being used by radiologists in their practices.

Following the reception, CAR delegates participated in a day of one-on-one meetings with MPs, Senators, and senior staffers. We met with over 20 MPs, Senators, and senior staffers. In every case, these meetings demonstrated the CAR's commitment to advancing the goals and objectives of radiologists. It also provided the CAR with the opportunity to be part of the national conversation on healthcare. Throughout the day, CAR members emphasized the value of radiology in the broader healthcare system and shared their personal experiences of working with patients within their areas of sub-specialization. The crucial work of radiologists is not always well understood, and these events are an opportunity to raise awareness about radiology itself, while building relationships with parliamentarians who will help to champion our priorities and consider the perspective of radiologists when making decisions that affect the health of Canadians across the country.



NANOS PUBLIC OPINION POLL – CANADIANS ARE AWARE AND VALUE RADIOLOGISTS

As part of our seen, heard and understood initiative, in July 2018, the CAR commissioned Nanos research to poll Canadians on their perception of radiologists. The purpose was to establish a benchmark so that we can better measure awareness about radiologists and their role in the healthcare system. We also used this opportunity to present a few of our priorities relating to a federal medical equipment fund and AI in radiology. We were pleasantly surprised to learn that the majority of Canadians are familiar with radiologists and value their contribution to the healthcare system. There was also strong support for the federal government to invest in medical imaging equipment and to take a leadership role in AI.

The findings were beneficial for our meetings with government, and we will continue to use the findings in our external communications. These results were shared with our provincial counterparts as well as our members. Included below is a summary of the findings.

NANOS POLL RESULTS

- Nearly all Canadians say the work of a radiologist in our healthcare system is valuable or somewhat valuable
- Over nine out of ten Canadians say they are generally or somewhat familiar with what radiologists do
- A majority of Canadians have received a health care treatment that included a radiologist or have a family member who has received a healthcare treatment that included a radiologist
- Among those who have received a healthcare treatment that included a radiologist or have a family member or a close friend who has, the median waiting period between the request for a medical imaging test or procedure and the time it was completed was 2 weeks
- Over two in three Canadians believe Canada should spend tax dollars to have more current medical imaging equipment
- Over eight in ten Canadians support or somewhat support additional research in the use of AI in radiology within Canada

NIK NANOS, CAR BOARD OF DIRECTORS MEETING, SEPTEMBER 2018



“The national survey results suggest that the public really does know who radiologists are and understands the role of radiologists and the value they add.”

– Nik Nanos, Chief Data Scientist and Founder of the Nanos Research Group of Companies

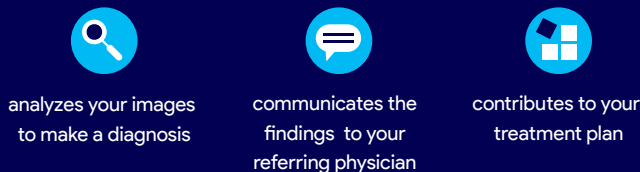
WHO ARE RADIOLOGISTS AND HOW DO THEY HELP PATIENTS?

Radiologists are doctors who play a key role in patient care.

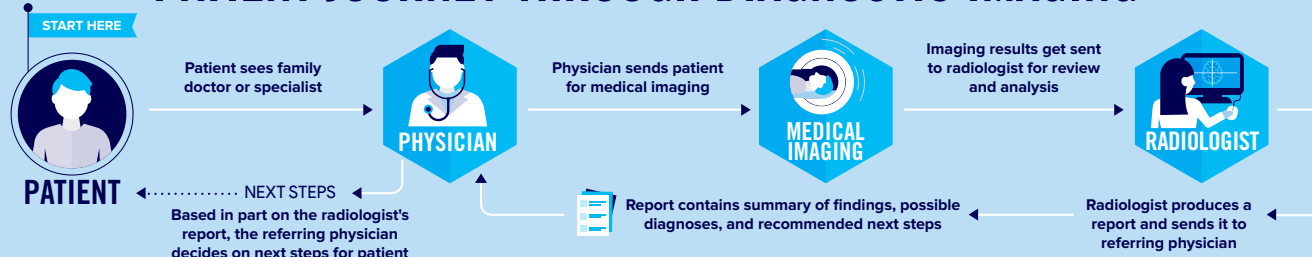
If you've undergone an exam or procedure using imaging, such as MRI, CT, ultrasound, or mammography, then a radiologist has been part of your diagnosis or treatment.



THE RADIOLOGIST IS THE DOCTOR WHO:



PATIENT JOURNEY THROUGH DIAGNOSTIC IMAGING



DID YOU KNOW?

Radiologists are the physicians who specialize in interpreting results of imaging exams. Family physicians and other specialists turn to radiologists for consultation on the safest and most appropriate exam.

The professional conducting the imaging exam is an imaging technologist.

The majority of radiologists have at least 14 years of postgraduate education.

5 WAYS RADIOLOGISTS HELP PATIENTS



RADIOLOGY LETS US SEE INSIDE THE BODY

Radiology is fundamental to modern medicine because imaging is used to diagnose and treat many diseases and conditions. Radiology allows doctors to see inside the body, virtually eliminating the need for exploratory surgery.

RADIOLOGISTS IMPROVE PATIENT CARE THROUGH:



On average, radiologists spend their time:



Canadian Association of Radiologists
L'Association canadienne des radiologistes



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Disclaimer: This information has been simplified and is not meant to replace medical advice. Please contact your physician with specific medical questions or for a referral to a radiologist or other physician.

RESEARCH AND INNOVATION

ARTIFICIAL INTELLIGENCE

Radiologists were the first specialty in Canada to publish a paper on AI.

One of the CAR's most active committees is the **Artificial Intelligence Working Group**. This working group, comprised of subject matter experts is chaired by prominent radiologist; Dr. An Tang (Université de Montréal). The group is comprised of radiologists from a range of subspecialties (covering adult and pediatric radiology) and backgrounds (including imaging informatics, engineering, biophysics, and research), and has grown to include more than 45 members, including sub-groups from across Canada.

The group's mission is to discuss and deliberate on practice, policy, and patient care issues related to the introduction and implementation of artificial intelligence (AI) mechanisms in imaging. The members of the group serve as our subject matter experts and ensure that the CAR remains actively involved in advancements pertaining to the use of AI in imaging in Canada.

It is the CAR's firm belief that radiologists – as the experts in the use of imaging for diagnosis and treatment of disease – should be stakeholders in the development and implementation of data and AI-driven systems that will be deployed in radiology departments across the country.

Canada is a world leader in AI research. The federal government has put an emphasis on this portfolio and has partnered with other countries like France to move this initiative forward in various disciplines, including medicine. Mobilizing fundamental AI and DL research for applications in medical imaging will define the way that the next generation of Canadians access and experience their healthcare. There is already plenty of research on AI, specifically how to maximize computers to better identifying patterns and making accurate predictions based on those patterns. This research has direct and immediate implications for medical imaging.

The progress of the AI working group has been astounding. In 2018, the group published a **White Paper on Artificial Intelligence in Radiology** in the CAR Journal and will soon publish a second white paper on the ethical and legal considerations that accompany AI in radiology. The first white paper has received international recognition and has been quoted by many industry experts. The CAR, as part of a comprehensive communications strategy, created an infographic that helps to break down the content in the paper.

The AI working group has also partnered with industry and academic institutions to apply for a **Strategic Innovation Fund** grant through the Department of Innovation, Science and Economic Development. The application was one of 8 that were shortlisted from among 350 other applications. The consortium could be successful in receiving up to \$160 million through this initiative. The final decision regarding grants awarded will be determined in April 2019.

"I am extremely honoured to chair the Canadian Association of Radiologists (CAR) Artificial Intelligence Working Group. This year, we have published a white paper on the ethical and legal issues related to artificial intelligence in radiology, written from a Canadian perspective, which I am very proud of. I must acknowledge my colleagues who are an integral part of the development and success of the working group. Gratitude to the CAR for providing a platform for bringing brilliant minds together to conceptualize the paper."

– Dr. An Tang, Chair of AI Working Group, University of Montreal



PATIENT SAFETY

QUALITY ASSURANCE

The CAR is dedicated to maintaining the highest standards of care, promoting patient safety and helping radiologists contribute to the very best healthcare for patients. The ongoing work of developing, reviewing and revising the CAR clinical practice guidelines (CPG) is one of several ways the CAR contributes to this work. The CPG working groups are multidisciplinary in nature, ensuring appropriate representation of medical subspecialties and allied health disciplines. Dozens of volunteers contribute their time and expertise to these working groups and others like the Mammography Accreditation Program (MAP). It is through these types of relationships that the CAR shares information, provides leadership, and consults on emerging issues. As a result, members can access information, resources and professional meetings for example, they might not be able to access otherwise.

CLINICAL PRACTICE GUIDELINES

In 2018, the CAR published two guidelines pertinent to contrast agents: **Gadolinium-Based Contrast Agents in Kidney Disease** and **Gadolinium Deposition in the Brain**. These were both published in the CAR Journal. Dr. Nicola Schieda (University of Ottawa) led these initiatives.

At the end of the year, work also began on a number of publications that are expected to be published in 2019, including a guideline on the **Management of Incidental Renal Findings**, led by Dr. Iain Kirkpatrick

(University of Manitoba), and an update to the **Breast Imaging and Intervention Guideline**, led by Dr. Shiela Appavoo (Alberta). Additionally, the CAR is set to approve a number of position statements on areas of clinical interest to radiologists across the country.

REFERRAL GUIDELINES

The CAR Referral Guidelines WG has been hard at work. Under the leadership of Gold Medal Winner, Dr. Martin Reed, University of Manitoba, the CAR has hosted two successful **Clinical Decision Support (CDS) Systems** symposia. These events brought together stakeholders from across the country and included provincial ministries of health, the College of Family Physicians of Canada, the Canadian Association of Emergency Physicians and Choosing Wisely Canada. The overarching goal is to work together to enhance the appropriateness of medical imaging in Canada. Recently, the CAR signed a Memorandum of Understanding with CADTH and they have also joined this initiative. CADTH has completed a literature review of CDS in Canada and internationally, and also plan to host a panel discussion on CDS at their annual conference in Edmonton in April 2019.

This ultimate goal of the Referral Guidelines WG is to learn more about what options for CDS are possible and to engage front-line physicians to establish how the CAR can collaborate on a national level to enhance patient care and ensure the appropriateness of imaging orders.

“The CAR’s Clinical Practice Guidelines are crucially important because they represent the integration of the latest worldwide evidence available on a particular topic with our own unique Canadian healthcare needs. The Guideline issued on the use of ‘Gadolinium Based Contrast Agents (GBCAs) in kidney disease’ is a perfect example of this, since it critically appraised the evidence on the topic and offered an initially more guarded approach to screening for renal function in the Canadian population while embracing the more liberal use of macrocyclic and newer linear GBCA, when medically indicated, in patients with kidney disease or on dialysis. To this end, the revised and updated Clinical Practice Guideline will help Radiologists navigate through important changes in the practice of prescribing GBCA in patients with renal impairment or on dialysis and also manage healthcare costs associated with screening in the outpatient setting balancing the exceedingly low risk of Nephrogenic Systemic Fibrosis when using macrocyclic or newer linear agents. Canadian Radiologists and patients should confidently rely on the most recent and up-to-date evidence on a topic, synthesized by the Clinical Practice Guidelines, improving patient access and care in Canada.”

— Dr. Nicola Schieda, University of Ottawa



THE MAMMOGRAPHY ACCREDITATION PROGRAM

By the end of 2018, approximately 670 units across 520 facilities were MAP-accredited, a new record indicating an overall growth in demand for accreditation in clinics and hospitals.

ONGOING COMMITMENT TO THE HIGHEST QUALITY OF MAMMOGRAPHY CARE

In 2018, the Mammography Accreditation Program (MAP) undertook a review of its standards for breast imaging. To be in line with international standards MAP updated their read rates for radiologists. The new standard will come into effect in January 2019 and will require individual radiologists to achieve 1000 reads per year. This is an increase from the prior requirement of 480 reads. This decision was based on evidence-based research and is intended to improve patient care. Dr. Nancy Wadden (Memorial University), Chair of the MAP Advisory Committee led the initiative in consultation with the Canadian Society of Breast Imaging. The new standard was communicated to breast imaging clinics, provincial directors for breast screening programs, provincial radiology associations and to the CAR membership.

Radiologists will have ample time to meet this new standard, as it does not apply until the unit they are associated with, is up for re-accreditation. For regions that may have difficulty meeting the new requirement, the CAR will work with them on an individual basis to ensure they can meet the standard. Exceptions can be made for remote and rural clinics. The CAR has also formed a partnership with the ACR to offer a breast imaging boot camp at a discounted rate, which will ultimately count towards the number of reads.

The CAR and the MAP Team would like to acknowledge the reviewers for the noteworthy contributions and guidance they have made to the MAP program. The team values their assistance, as experienced radiologists and medical physicists, in the review of images. Their ongoing commitment to the highest quality of mammography care and dedication to standards compliance, ensures that patients from across the country are receiving the highest standard of care.

"The CSBI is guided by its mission to promote high quality breast imaging in Canada. The evidence is clear that a minimum volume of mammograms reads per year is required to maintain good performance for screening mammography and improved diagnostic accuracy. The CSBI supports the changes to MAP, requiring a minimum number of mammograms of 1000 per year per Canadian Radiologist."

— Dr. Jean Seely, President, Canadian Society of Breast Imaging



"This is an overdue change and may not be easy for everyone. I've brought my concerns to the CAR and they recognize that the way this is operationalized must be done with respect for the community. It is clear to me that they want to work with the radiology community to meet this standard, including a transition year to allow groups to adapt. Groups with challenges like small referral communities and qualifications of locums are encouraged to contact the CAR MAP program."

— Dr. Paula B. Gordon, OBC, MD, FRCPC, FSBI, Clinical Professor, University of British Columbia



MAP-ACCREDITED CENTRES AND UNITS YEARLY PERSPECTIVE

Jurisdiction	2016		2017		2018	
	Centres	Units	Centres	Units	Centres	Units
Alberta	69	87	69	86	68	86
British Columbia	39	44	38	43	39	45
Manitoba	9	15	8	13	9	15
New Brunswick	15	19	15	20	15	20
Newfoundland and Labrador	7	8	7	8	8	10
Nova Scotia	11	14	12	14	12	14
Northwest Territories	1	1	1	1	1	1
Ontario	236	305	230	298	235	311
Prince Edward Island	2	3	2	3	2	3
Quebec	122	155	119	153	118	150
Saskatchewan	13	14	12	13	13	14
Total	524	665	513	652	520	669

EDUCATION

CELEBRATING THE SUCCESS OF THE 81ST ANNUAL SCIENTIFIC MEETING

The Annual Scientific Meeting, held from April 26 to 29 in Montreal, marked the 81st anniversary of the Canadian Association of Radiologists. With nearly 600 delegates from across Canada and around the world, the meeting featured talks by leading radiologists, industry and healthcare professionals, excellent networking opportunities and cutting-edge technology.

This annual event is not only an opportunity for radiologists to learn about the latest scientific developments in radiology, it also allows colleagues to convene face-to-face to share information, professional stories, clinical research, insights and ideas for future projects.

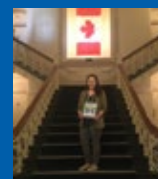
The keynotes featured fascinating presentations centred around the theme of **Artificial Intelligence in Radiology**. Our keynote speakers included Dr. Ron Summers, Dr. James Min, Dr. Darcy Wolfman and Dr. Lorraine LeGrand-Westfall. The program feature topics including:

- Deep Learning and AI for Radiology
- Machine Learning in Medical Imaging
- Challenges and Controversies in Clinical Applications of AI
- Thoracoabdominal CT in 2018
- Endometrial Imaging
- Hands-On Prostate MRI Workshop



"As the Chair of the Resident Working Group and a member of the CAR Board, I have had exposure to the inner workings of the CAR. When I first joined, I did not understand the value of membership for residents. After having worked with the staff and had the opportunity to champion programs for residents, I really do believe that there is value in the CAR and that our association is trying to structure initiatives for both residents and seasoned radiologists."

— Dr. Lindsay Cherpak, Resident



Dr. Cherpak at the Prime Minister's Office

A FOCUS ON RESIDENTS

The meeting's program once again featured the hugely popular Resident Track, which attracted a record number of participants. The track included a Resident Review, Junior and Senior Hot Seat Sessions for Residents, and a post-residency panel discussing tips and tricks for the first year out of residency. The residents were also invited to attend the Radiologists-in-Training Reception for a chance to network and meet members of the CAR's Board of Directors.



CAR AWARD WINNERS

As part of the ASM, the CAR hosted an Awards Ceremony to recognize the winners of the CAR awards, as well as the ASM contest winners. The evening was the perfect opportunity to acknowledge the strong work of a number of the CAR's members.

RECOGNIZING EXCELLENCE

CAR GOLD MEDAL AWARD

Dr. Lawrence Stein, MD, PhD, FRCPC

Assistant Professor and Capital Health Endowed Chair University of Alberta

CAR YOUNG INVESTIGATOR AWARD

Dr. Jacob Jaremko, MD, PhD, FRCPC

Assistant Professor and Capital Health Endowed Chair University of Alberta

DISTINGUISHED CAREER ACHIEVEMENT AWARD

Dr. Mayank Goyal MD, FRCPC

Clinical Professor, Medical Director, Seaman Family MR Research Centre Director, Imaging and Intervention, Calgary Stroke Program, University of Alberta

EDUCATIONAL EXHIBITS

1st Place — Sagar Kulkarni, Chandni Gupta and Jacqueline Matthew
Artificial Intelligence Applied to Fetal Ultrasound: Potential to Improve Anomaly Screening?

2nd Place — James Huynh, Vidhu Anand, Ashish Khandelwal
Multimodality Imaging of Stress-Induced (Takotsubo) Cardiomyopathy

3rd Place — Michelle Ferderbar, David Koff, Thomas Doyle and Reza Samavi
Computer Aided Diagnosis: The Future of Lung Cancer Screening

RADIOLOGIST-IN-TRAINING RESEARCH PROJECTS

1st Place (Tie) — Elena Adela Cora, Vias Demetriou, Fahad Essbaiheen, Hanan AlQahtani, Brian Drake, Howard Lesiuk, Philip White and Dana Iancu
Acute Thrombectomy in the Ageing Population: A Retrospective Analysis of Radiological and Clinical Outcomes in Acute Thrombectomies Performed in Patients ≥ 80 Years with an Intention to Treat Analysis

1st Place (Tie) — Hamed Basseri, Fernando Gastaldo, Sabarinath Nair, Sam Schulman and Gordon Yip
Evaluating the Effect of Direct Oral Anticoagulants versus Warfarin on Rates of Thrombosis Related Failure of IVC Filter Retrieval

2nd Place — Nancy Jiang, Crystal Fond, Demetrios Sahlas and Ramiro Larrazabal
Degree of Conjugate Gaze Deviation on Computed Tomography Scan Predicts Proximal Vessel Occlusion and Expedite Candidates for Endovascular Therapy

"Unlike other specialty associations where the specialty is in the name, the CAR is The Canadian Association of RADIOLOGISTS. It's the Radiologist that is our strength. I have been blessed by meeting and interacting with exceptional people from "coast to coast to coast". The friendships, both personal and professional that I have made through the CAR are priceless. For those of you who not members, I would encourage you to get involved, the CAR needs you."

— Dr. Lawrence Stein, Associate Professor, McGill University and Honorary Radiologist



SCIENTIFIC RESEARCH PROJECTS

1st Place – Lisa Y.W.Tang, Emmanuelle Lapointe, Jillian Chan, Youngjin Yoo, Lisa Lee, Andrew Riddehough, Shannon Kolind, Herena Kim, Ho Jin Kim, David Li, Anthony Traboulsee and Roger Tam
Machine learning for automated analysis of brain lesional patterns for NMO-MS differential diagnosis

2nd Place – Joao R. Inacio, Ashish Gupta, Hamid Bayanati, Carolina Souza, Sebastian Gilbert, Patrick James Villeneuve and Carole Dennie
CT-guided placement of microcoils to direct video-assisted thoracoscopic surgical resection of small lung nodules: safety, efficacy and outcome

3rd Place – Khashayar Rafatzand, Gabriela Santos-Nunez, Hazel Marecki, Alan Goldstein, James Carroll and Richard Perugini
Classification of Ventral Hernias (VH) Based on Rectus Anatomy and Function using Dynamic MRI (dMRI)

DEPARTMENTAL CLINICAL AUDIT PROJECTS

1st Place – Craig Ferguson, Gavin Low, Marina McToal, Stuart Jackson and Sean Winters
Renal Biopsy Adequacy and Complication Rates at a Large University Institution

2nd Place – Anthony Vo, Chris Fung, Jesse Stewart, and Richard Coulden
What Clinical Information Is Provided to Radiologists Interpreting Pelvic Radiographs from the ER at an Adult Trauma Center

3rd Place – Florence Thibault, Rachid Hadjeres, Antonio Maietta, Jennifer Sirois and Céline Bard
Fluoroscopically Guided Lumbar Puncture: Evaluation of the Cytological Diagnosis

VALUE OF RADIOLOGY RESEARCH PROJECT AWARD

Ania Kielar, Tetyana Maniuk, Stephanie Kenny, Mohamed El-Khodary, Joseph O'Sullivan and Wael Shabana
Cost Savings as a Result of Implementing TI-RADS Standardized Reporting in a Radiology Department

DEPARTING BOARD MEMBERS

The Awards Ceremony was also an occasion to recognize our departing Board Members. We thank the following individuals for their dedication and hard work.

Dr. Alex Botsford (Resident Representative)

Dr. Scott Harris (NL)

Dr. Lawrence Liebscher (ACR)

Dr. Lawrence Péloquin (QC)

"The new competition category entitled "Value of Radiology" is unique and innovative. It was a great experience to be able to showcase work done with my colleagues. We highlighted the value of radiology by implementing standardized thyroid reporting which directly led to a reduction in unnecessary, benign, thyroid biopsies and saved our hospital system a lot of money. Thank you to the CAR for providing this new forum for presenting this type of work."

– Dr. Ania Kielar, CAR Value of Radiology Winner, Joint Department of Medical Imaging/University of Toronto



THE CAR'S RAD ACADEMY – THE SOURCE FOR ONLINE CPD

The CAR's learning management system, RAD Academy, continues to gain popularity with 95% of our member engaged. As a benefit of membership, we offer radiologists high-calibre Royal College approved Section 3 Maintenance of Certification (MOC) credits through this interactive online system. Launched in September 2018, RAD Academy has been a tremendous success. RAD Academy features resident-specific information and resources, facilitating the transition from medical school to radiology residency to a career in radiology. 2019 will be a growth year, with additional investment being earmarked to enhance the system and develop more content. The CAR is the only Canadian national specialty association offering this system as a benefit of membership. RAD Academy is a strategic investment championed by the CAR Board of Directors.



"The RAD Academy Learning Management System has made it a breeze to complete the CARJ Insight4Imaging modules, and get Section 3 credits. I just sign into the module from my smart phone or tablet, click the link to read the article, and then complete the questions and reflection tool. A perfect way to get my CPD anywhere, at anytime."



– Dr. Carolyn Flegg, Chair, Canadian Association of Radiologists Board of Directors

MEMBERSHIP ENGAGEMENT

EXPANSION OF MEMBERSHIP

At the conclusion of December 2018, we currently had 2253 members, comparative to 2017 with 2154 members. This is a 5% increase. Membership expansion and engagement remains a top priority for the CAR as we continue to solidify our position as the national voice for Canadian radiologists. Members are at the core of all our decisions and actions, and we are constantly seeking to engage members in various ways.

CONNECTING WITH OUR MEMBERS

The CAR continues to expand its use of social media channels and we grew our reach exponentially in 2018. We also formed a relationship with The Rounds, an online secure engagement forum for physicians only. Within The Rounds private and public communities were created to bring radiologist together to collaborate and network. Our engagement continues to be high in terms of our enewsletter, which we use to communicate with our members about advocacy, educational opportunities, quality improvement initiatives and membership benefits.

The average open rate is 40%. This is much higher than the 20% association average. We have also surveyed our members on a variety of subjects as well as created a membership working group allowing us to be more aware of issues that are important to our members. We also have placed a stronger focus on value for membership and offer new benefits like the **CAR RAD Academy**, **STATdx** and **BMS Insurance** for business, cyber and personal. Of course, these benefits are on top of our existing programs and other benefits including our federal advocacy efforts, **TD home and auto insurance**, subscription to the CAR Journal and discounted rates for our ASM. The estimated value of the CAR affinity program is nearly \$2,500 per member.

* Reciprocal member provinces – in order to deliver maximum benefit to its members, and recognizing the complementary roles that a national body and provincial bodies play in serving Canadian radiologists, the CAR has entered a Reciprocal Membership agreement with the provincial radiology associations from Alberta, British Columbia, Nova Scotia and Quebec whereby radiologists practicing in these provinces must become members of both organizations to be members of either.

** Medical students (adhered by their own means) and radiology residents (adhered through their universities), including international residents and medical students.

INAUGURAL FELLOWS OF THE CAR



OUR 2018 PARTNERS

We are pleased to acknowledge the CAR's Corporate Partners. The CAR has benefited from our relationship with these organizations from a financial perspective, knowledge sharing and in-kind contributions. Without their support we would not be able to fulfill our goals and objectives. In 2018 we formed several new partnerships with BMS Insurance, CADTH, MD Financial Management and The Rounds.



CAR SUPPORTER | SYMPATHISANT DE LA CAR





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