RADIOLOGY INTEREST GROUPS: A RECIPE FOR SUCCESS

Jessica Dobson, Andrew Fenwick, Victoria Linehan, Dr. Angus Hartery

Department of Radiology

Memorial University of Newfoundland & Labrador

Disclosure of Conflict of Interest

We do not have a relationship with a for-profit and/or a not-for-profit organization to disclose.

*Jessica Dobson
Andrew Fenwick
Victoria Linehan
Dr. Angus Hartery*

Learning Objectives

1. Highlight the importance of interest groups in undergraduate medical education.
2. Identify key components of a Radiology Interest Group (RIG) using specific examples from our institution.
3. Discuss how to optimize available resources to increase student engagement in radiology.

Introduction:

Radiology Interest Groups

Valuable for students:¹

- Early education
- Mentorship
- Clinical exposure
- Career planning opportunities

Valuable for profession:^{2,3}

- Fosters understanding of radiology
- Fosters appreciation of the radiologist
- Forum for cultivating interest
- Mechanism for recruiting talented trainees

Introduction:

Radiology Interest Groups

- Research on specialty interest groups limited to: emergency and family medicine, oncology, and interventional radiology³⁻⁷
- *Fricke & Gunderman* (2010) qualitatively discuss aspects of RIG creation and enhancement²
- Our study is the first to quantitatively analyze elements of a successful RIG

Introduction:

Sharing Our Success

- 2014: Memorial University RIG established by two second-year medical students and one staff radiologist
- 2018: Received inaugural Medical Students' Society *Interest Group of the Year* award
- We consider our RIG successful based on local awards, high attendance, and formal anonymous feedback

Interest Group
of the Year
2018

MUM **MED**SOC.

Congratulations
Radiology Interest
Group

Introduction:

Sharing Our Success

Given recent institutional success, we evaluated event outcomes utilizing thematic analysis and will review the following key considerations:

Our Events:

2016-2019

Methods:

Feedback Collection

- Pre-clinical medical students (Year 1 and/or 2)
- 11 unique extracurricular events (17 total events)
- Sept. 2016 – Jan. 2019
- Voluntary, anonymous feedback form:
 - 8 Likert Scale questions
 - Positive and/or negative comments
 - Other suggestions
- 418 forms overall:
 - Average: 25 forms per event (response rate unknown)

Methods:

Thematic Analysis

➤ 275 of 418 forms contained written feedback:

- Thematic analysis performed using six-step method described by *Braun & Clarke*⁸

➤ Exclusions:

- One-word comments or similar, e.g. "thanks", "no", "great"
- Comments too specific to one event, e.g. "seemed like an overwhelming amount of apps – doesn't it take a lot of time to manage all of these?"
- Non-specific comments present on forms with other written answers, e.g. "how ultrasound works I'll never know"

Methods:

Thematic Analysis

1. 219 comments used to develop codes with definitions and recognition terms
2. Established codes were assigned to comments by authors
 - Comments coded independently by VL and AF: 80% inter-author agreement
 - Inconsistencies discussed by VL, AF, and JD to reach consensus
3. Codes were grouped into four common themes
4. Frequencies of codes was tallied
5. Frequencies of codes between event types were compared

Results:

Likert Scale

- 76-341 responses to eight questions on 418 feedback forms

Feedback from RIG events

Results:

Likert Scale

- 71-94% strongly agreed content was novel, relevant, or understandable, or thought the event should happen next year
- 31-42% strongly agreed event changed perspective on radiology, increased interest in radiology, or will contribute to future career choice

Feedback from RIG events

Results:

Feedback Themes

- Three themes identified following analysis of written feedback:

Engagement

Professional
Development

Mentorship

Results:

Thematic Map

Results:

Prevalence of Codes by Theme

Student Feedback from Events

Engagement

Professional Development

Mentorship

Results:

Prevalence of Codes by Event Type

Results:

Engagement

- The theme of **engagement** emerged as students commented on:
 - Enjoyment: session was positively experienced
 - Presentation: speaker was passionate, session was organized, or appropriate length/difficulty
 - Interaction: session offered interactive questions or opportunity for hands-on learning
- Event types with the engagement code in high frequency include: **networking** events, **workshops**, and **interactive** lectures

Results:

Engagement

- The theme of engagement was most commonly noted in **networking** events:
 - 80% of all engagement feedback

Examples:

- **Trivia Night:** mixed teams of radiology staff, residents, and medical students tested their knowledge of radiology, medical history, and more, with prizes
- **CXR Competition & Dinner:** winners of a CXR competition were rewarded with dinner with radiology staff

MUN MED RIG would like to invite you to our first

RADIOLOGY TRIVIA NIGHT

We are thrilled to invite our rads staff, residents, and medical students to our first ever TRIVIA NIGHT!

Join us in teams of six for a night of fun and prizes, including pitchers, appetizers, swag bags, & bragging rights!

Trivia

Radiology, medical history, pop culture, and more!

Wed, June 20
6:30 to 9 PM

Trivia starts at 7PM.

Bitters Pub
& Restaurant

216 Prince Philip Dr

Results:

Engagement

- The theme of engagement also had high frequencies in **workshops** and **interactive lectures**

Example:

- **Foreign Bodies Lecture:** case-based interactive session on identifying foreign bodies on plain film

MEMORIAL
UNIVERSITY

Radiology Interest Group

**THE FOREIGN BODY –
SHOULD IT BE THERE?**

LISA SMYTH, MD, FRCPC, ABR

Results:

Professional Development

- The theme of **professional development** emerged as students commented on:
 - Educational: session was informative or useful, or there was a positive learning environment
 - Curriculum: session should be incorporated into the core curriculum
 - Relevance: content was applicable to current studies or future career
- Event types with the professional development code in high frequency were **workshops, leadership events, and interactive lectures**

Results:

Professional Development

- The theme of professional development was most commonly noted in **workshops**:
 - 85% of all professional development feedback

Examples:

- **U/S-Guided Procedures:** small groups rotated through four stations—abdominal anatomy, vascular anatomy, core biopsy, vascular access
- **PACS Tools:** students completed quiz using PACS software to select answer

Results:

Professional Development

- The theme of engagement also had high frequencies in **leadership events** and **interactive lectures**

Examples:

- **Boosting Productivity:** talk on skills and Apps useful in minimizing distractions and improving time management
- **Approach to CXR:** interactive lecture providing systematic approach to interpreting CXR with practice cases

An Approach to Chest X-Rays

With Dr. Lisa Smyth

When: Tuesday, Oct. 16th, 12-1pm

Where: M1M101

Please BYOL(unch)

During the talk the 3 winners of this year's Chest X-Ray Competition "Game of Unknowns" will be announced!

This competition was for second year students only. However, this talk is still highly relevant to first year students and could give you the upper hand in next years competition!

Results:

Mentorship

- The theme of **mentorship** emerged as students commented on:
 - Insight: session provided new understanding of radiology as a specialty
 - Networking: facilitators were friendly, relatable, or available for questions
 - Guidance: facilitator provided advice or insight into lifestyle or work-life balance
 - Interest: session fostered interest in pursuing radiology as a career
- Event types with the mentorship code in high frequency include **didactic lectures, workshops, and leadership events**

Results:

Mentorship

- The theme of professional development was most commonly noted in **didactic lectures**:
 - 50% of all mentorship feedback

Example:

- **Introduction to Radiology**: overview of principles of radiology, modalities, residency, typical daily work life, work-life balance, and the future of the specialty

The poster is for a lecture titled "Introduction to Radiology" presented by the Radiology Interest Group. It features a dark brown background with white text. The top section says "RADIOLOGY INTEREST GROUP PRESENTS". Below that is the speaker's name "Dr. Wesley Chan" and his title "Director of Undergraduate Medical Education for Radiology". The main title "Introduction to Radiology" is in a large, bold font. A list of topics follows: "What is Radiology?", "Careers in Radiology", "Radiology in a Digital World", and "AI, Technology & Radiology". At the bottom, it states "Room TBD" and "Tuesday, February 13th, 12pm". The poster is decorated with a pattern of concentric circles on the right and bottom edges.

RADIOLOGY INTEREST GROUP
PRESENTS

Dr. Wesley Chan
Director of Undergraduate Medical Education for Radiology

**Introduction to
Radiology**

- What is Radiology?
- Careers in Radiology
- Radiology in a Digital World
- AI, Technology & Radiology

Room TBD
Tuesday, February 13th, 12pm

Results:

Mentorship

- The theme of mentorship also had high frequencies in **workshop** and **leadership events**

Example:

- **Nuclear Medicine Tour:** lecture on nuclear imaging modalities followed by a tour of our new department, guided by our medical physicists

RADIOLOGY INTEREST GROUP

Join us for a talk by

Radiology department chair
Dr. Conor Maguire

on **Nuclear Medicine and PET**,
followed by a
tour of the new department.

12:00: *General NM*
12:30: *PET Principles*
1:00: *Department Tour*
(tour by sign-up only)

Subway sandwiches provided:
Like to secure lunch!

NM Crash Course
Tues, June 19th, 12pm
NM Dept Classroom

NUCLEAR MEDICINE
talk & tour

Results:

Suggestions

- **Technical:** lighting, screen clarity
 - “Images were tough to see on the projector”
- **Timing:** duration of event, too many slides
 - “More scheduled time would be appreciated”
- **Complexity:** too advanced, not enough background information
 - “Was a bit too advanced to be able to appreciate”
- **Scheduling:** timing of event in semester
 - “Would be beneficial earlier in the year”
- **Additional information requested:** more in-depth learning, training, or situations
 - “Would have enjoyed more cases if possible”

Discussion:

Limitations

- Single institution
- Sample Bias:
 - Attendees are voluntary, seeking to learn, therefore more likely to give positive feedback, self-selected members of RIG, students attending events completing survey likely have baseline interest in radiology
 - The authors were directly involved in events and their planning
- Feedback form/question phrasing bias:
 - Forms were not designed for this project, but rather for the benefit of future RIG chairs to improve events: there are potentially leading questions
- Trivia event:
 - Some feedback forms for the Trivia event were written by staff or residents, not students. This is the only event in which this occurred.

Discussion:

Ingredients for Success

With continued increase in the positive engagement of our interest group, the faculty lead has reflected with the past three student chairs.

We list 10 key points that we believe are ingredients for a successful RIG.

Interest Group
of the Year
2018

UNM MED SOC.

Congratulations
Radiology Interest
Group

Discussion:

Ingredients for Success

- 1) Leadership
- 2) Planning Ahead
- 3) Funding
- 4) Social media & Advertising
- 5) Collaboration
- 6) Competitions
- 7) Interactivity
- 8) Recording the event
- 9) Funding
- 10) Succession planning

1. Leadership

- Engaging leadership with vision is integral to success.
- *Organized motivated medical student and faculty lead*
- *Meet at the beginning of the year* or prior to plan out details of the rest of the year
- Faculty lead can direct organizers to appropriate faculty for events

Faculty of Medicine – Memorial University of Newfoundland: Radiology Interest Group

The objectives of this organization are to:

1. Enhance radiology education through a scheduled series of lectures, workshops, and events.
2. Promote a greater understanding of the diverse and important roles that radiologists have in healthcare.
3. Stimulate interest in radiology among medical students.
4. Provide an opportunity for medical students to explore and make informed decisions about radiology as a career.
5. Inform medical students about radiology residency and the CaRMS process.
6. Connect medical students interested in radiology or radiology related research with faculty mentors.

2. Planning ahead

- Implementing a vision means strong project management skills.
- Events must be scheduled ***around classes and exams***
- Conducting a ***student survey for potential topics*** early in the semester helps understand what students are looking for and maximizes attendance
- ***Working together with faculty lead*** to determine which topics are feasible and which radiologists and residents are keen to participate
- ***Booking rooms and ordering food*** should be organized in advance

3. Funding

- *Providing lunches can encourage attendance*
- *Funding obtained from multiple sources:*
 - Institutional student union (MUNSU)
 - Bake sales
 - Student Affairs
 - Occasionally faculty

MUN Students' Union

Canadian Federation of Students Local 35

4. Social Media & Advertising

- ***Social media*** can be used to promote and recap events, share resources, opportunities for research, and departmental news, and other ways to become involved
- ***Graphic design*** for effective advertisement with creative posters and pop culture branding creates awareness of events

5. Collaboration

- *Teaming up with other interest groups* is an effective and efficient way to split responsibilities, reduce costs, and attract a larger audience.
- Our examples include
 - *Emergency Medicine IG - Trauma Radiology*
 - *Obs/Gyn IG - Fetal Anomalies on U/S*
 - *Oncology IG - Breast Imaging, Nuclear Medicine Centre Tour*
 - *3D Printing IG - IR demonstrations of 3D vascular models*
 - *Choosing Wisely IG & Quality of Care NL - Workshop on ordering appropriateness*

6. Competitions

- Creative, fun, and interesting way to learn
- Our inaugural *radiology trivia night* had staff, residents, and students together on teams to test their knowledge.
- Our annual *chest x-ray contest* has been a well-received educational activity. Winners are taken for a steak dinner with radiologists.

7. Interactivity

- Interactive and hands-on events increases participant satisfaction and engagement
- Examples include:
 - ***Interventional radiology workshop*** - 3-D models, students place stent
 - ***Interactive x-rays*** - click the abnormality.
 - ***Ultrasound workshop*** - gelatin molds for target practice
 - ***PACS sessions*** - students to scroll through CT cases, understanding concepts such as cross referencing, windowing

8. Recording the event

- Taking photos to use in social media and the local radiology newsletter
- These photos can also be used in future posters.
- They help document and celebrate the event and may *encourage attendance at future events*

9. Feedback

- Feedback is essential in *determining if the event was well-received.*
- Feedback is delivered on paper.
- Tabulated and graphed in Excel with results shared with speaker
- *All feedback is reviewed for critique and comments.*

RADIOLOGY INTEREST GROUP

Help us help you!
This feedback is anonymous
and the data helps us make
these sessions better!

Lecture:
Med School year:
Date of lecture:

For each item identified below, please circle the number that best fits your agreement

Survey Item	1=Strongly Disagree 2=Disagree 3=Neutral 4=Agree 5= Strongly Agree				
	1	2	3	4	5
1. I learned something new at this event					
2. I believe the content was relevant to my current or future studies					
3. I was able to understand the concepts presented					
4. I thought there was enough time for questions and interaction					
5. This changed my perspective on what a radiologist does					
6. This increased my interest in radiology					
7. This session helped contribute to my future career choice					
8. This event should be given to students next year					

Things we did right:

Things we could do better:

Other comments:

10. Succession planning

- Effective transition with *official handover from previous student chair to new chair*
- This includes potential funding sources and other organizational tips
- *Interested individuals submit a short paragraph detailing their intentions and plans for the group*, to be reviewed by the faculty lead and student chairs

Conclusions:

An engaging RIG enhances pre-clinical medical education, fosters understanding and appreciation of the radiologist, and is a forum for the recruitment of talented trainees

Our RIG promotes the future of the radiology profession and serves as a practical model for other similar organizations.

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