Developing and Implementing a Systems-Based Residents as Teachers Initiative

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Abstract

Purpose
Using a systems-based approach for developing and implementing a residents as teachers (RaT) initiative follows the trend of systems thinking in health care and medical education, and assures positive outcomes and sustainability. This paper outlines the steps for a systematic, program-wide RaT initiative, using the University of British Columbia (UBC) as a case example. Project period was 2013-2015.

Study Design
The initiative team surveyed 65 of UBC’s then 72 residency programs on their level of involvement and comprehensiveness in teaching residents to teach, which they used to create a 0-4 classification system. A six-topic RaT core curriculum was developed and train-the-trainer sessions were offered to build capacity within programs to customize and deliver the topics. An online scheduling system was used to schedule RaT sessions, track resident attendance, and disseminate evaluation surveys.

Results
A portion of the programs (n=21, 34%) were classified at Level 0, indicating few to no teaching competencies were taught. After the implementation of RaT in four programs, the majority of residents (n=61, 88%) indicated the overall quality of the educational experience was good or excellent. Most responses (n=2-93, 89-100%) agreed or strongly agreed that learning objectives were met for each RaT topic.

Conclusions
Implementing a systems-based approach for RaT allows for centralized curriculum, administration, and evaluation, but also allows individual programs to have ownership and responsibility over curriculum adaptation, delivery methods, and faculty and resident engagement. Furthermore, the classification system provides a way to identify program needs and track improvements across all postgraduate residency training.
Keywords: Residents; teaching; implementation; systems; curriculum development; program; evaluation

Introduction

Residents spend about a quarter of their time in a ‘near-peer teacher’ capacity, passing on their knowledge to junior learners, which enhances residents’ own learning (Morrison, Shapiro and Harthill, 2005; Whittaker Jr et al., 2006; Zabar et al., 2004). After transitioning into practice, physicians must continue to be effective teachers in order to communicate with patients, work in teams, and share knowledge with the public, and are increasingly asked to take on the role of preceptor to medical students and residents. Given this, it is widely agreed that teaching residents to teach is an important component of resident training as it provides them with skills that they will use during and after their residency (Jarvis-Selinger et al., 2011).

The importance of residents as teachers has also been demonstrated in the Royal College of Physicians and Surgeons of Canada’s 2015 CanMEDS Physician Competency Framework, which outlines the various fundamental physician roles (Royal College of Physicians and Surgeons of Canada, 2015). In particular, the Scholar role states as its competency that physicians "teach students, residents, the public, and other health care professionals" (Royal College of Physicians and Surgeons of Canada, 2015). The Accreditation Council for Graduate Medical Education (2017) and the Liaison Committee on Membership Education (2010) also require or support residents to be trained as teachers. In response, residency programs across Canada and the US have implemented various offerings to ensure that residents learn to be competent teachers.

Existing residents-as-teachers (RaT) programs span a variety of curricular content and the majority fall into the category of voluntary, one time, stand-alone workshops (Jarvis-Selinger et al., 2011), with few notable exceptions of longitudinal and integrated programs (Hafler, 2003; Morrison et al., 2004). A review of the literature informs us that several things are required for a successful RaT program, where success is defined as sustainability and making a positive impact on resident teaching and student learning. These include:

1. Acknowledging that teaching residents to teach is not the highest ranked program priority;
2. Being sensitive to not just adding a RaT course into an already packed academic curriculum;
3. Understanding the myriad of demands on residents and faculty time;
4. Knowing that a "one-and-done" workshop approach does not create real, lasting change;
5. Understanding that a "one-size-fits-all" approach does not translate across medical specialties (Morrison et al., 2001);
6. Incorporating more than one measure in the assessment of teaching;
7. Evaluating program delivery, sustainability, and impact beyond changes in teaching behaviours (Jarvis-Selinger et al., 2011).

In order to assure that development and implementation successfully lead to positive outcomes and sustainability, program designers should take a broader view. A systems-based approach provides a more comprehensive way to approach RaT program development and follows the trend of systems thinking in health care and medical education (Bierema, 2003; Kappagoda, 2014). Systems thinking is "an approach to problem solving that views 'problems' as part of a wider, dynamic system" (de Savigny and Adam, 2009). This type of thinking allows planners to consider how interventions, in this case a RaT program, would intersect with systems, such as postgraduate medical education (PGME) at a university and plan accordingly. PGME in Canada is becoming more systems-based – in the past, each
residency program would be responsible for creating its own curriculum and assessments; now, all programs are standardized under the CanMEDS Physician Competency Framework (Royal College of Physicians and Surgeons of Canada, 2015) as the Royal College uses it for its accreditation standards and evaluations. If PGME is embracing systematic programming, doing the same for RaT program development aligns well.

At the University of British Columbia (UBC), we used a systems-based approach to develop and implement a RaT initiative across all residency programs (72 programs in 2015; 78 as of 2019). One benefit of taking a systems approach to RaT is it reduces the workload of individual residency programs as they are able to share resources; for example, curriculum materials can be centrally developed and administrated, then distributed and adapted to meet the context of each clinical specialty. Another benefit is standardization and equity across programs.

The purpose of this paper is to outline the steps to develop and implement a systematic RaT initiative across PGME, and discuss the implications and applications of the initiative.

Methods and Results

Literature Search
The RaT initiative began by first understanding the literature on resident teaching and RaT programs. In 2011, the Future of Medical Education in Canada (FMEC) Postgraduate Project commissioned an environmental scan of the existing resident teaching programs across Canada (Jarvis-Selinger et al., 2011). This paper provided a narrative synthesis of the existing landscape for resident teaching programs and allowed us to identify gaps and lessons learned by other programs. We replicated the methodology for studies published after the FMEC paper, namely those between 2011 and 2014, inclusive. The search terms were "residents as teachers" and "resident teaching" and the databases searched were PubMed and the Education Resources Information Center (ERIC). Grey literature was searched through Google Canada and Google Scholar. Titles and abstracts were used to identify articles, and further reading of the articles to confirm relevancy.

Based on the title and abstract review, we fully reviewed 14 additional articles on RaT of which 13 were relevant (Butani et al., 2013; Donato and Harris, 2013; Donovan, 2011; Keller et al., 2012; Lachman, Christensen, and Pawlina, 2013; Lakshmanan et al., 2014; Patocka, Meyers, and Delaney, 2011; Peyre et al., 2011; Ricciotti et al., 2012; Smith and Kohlwes, 2011; Snydman et al., 2013; Wachtel, Greenberg et al., 2013; Yuan et al., 2014). Current trends in the literature are that 1) RaT programs vary in content and design, with mostly discipline-specific, one-off deliveries; 2) program evaluations are not conducted aside from some assessments of resident teaching; and 3) a learner-centered approach should be incorporated into program development and implementation (Jarvis-Selinger et al., 2011). These current conclusions were similar to those found in the FMEC paper (Jarvis-Selinger et al., 2011).

Data Collection, Survey, Target Group
In addition to the broader literature review, we conducted an environment scan across UBC’s residency programs to understand the climate, perspectives, and activities related to residents-as-teachers. We delivered this environmental scan survey at a program directors workshop, which is held semi-annually and comprises at least one attendee from each of the 72 programs, usually the program director. The survey asked if the residency program teaches residents how to teach various content areas; during which years of residency they are taught these topics; how are they taught (in an academic half-day, informally, etc.); and whether and how the residents are assessed on their teaching. The initial response rate was low (N=28, 38%). In phase two, we reorganized and revised the survey to capture more detailed information and for a better response rate. We targeted delivery to the remaining 44 programs and retrieved responses from an additional 37 programs, for a total of 65 responses (90%). The environment scan is an ongoing point of data collection to understand how the climate of teaching residents to teach changes as uptake of RaT
increases.

**Initiative model**

By using a systems-based approach, we identified a model for implementation, which included the following five components:

1. Establish a centralized and coordinated administration structure;
2. Create a system to categorize readiness and developmental stage for each program;
3. Build a foundational curriculum that can be modified and adapted as needed, enabling residency programs to customize and scale it for their context;
4. Offer a train-the-trainers program for faculty and residents to build teaching capacity and sustainability within each program;
5. Simultaneously create an overall evaluation plan.

**Centralized and coordinated administration structure**

The first component in this model was to empower the network needed for a systems-based RaT initiative to succeed through a single supportive administrative structure and be clear about the important role played by each residency programs’ leadership. In our case, the central UBC Faculty Development Office provided leadership and administrative support by identifying each program’s developmental stage, providing a RaT curriculum and facilitation materials, training faculty to deliver sessions, centrally tracking attendance with coordination from the programs, and collecting session evaluations to contribute to an overall evaluation plan. Through this supportive networked approach, residency programs began to set a schedule of sessions that suited their program, find faculty to deliver sessions, and assess resident teaching. We also planned to provide programs with ongoing session evaluation data and opportunities for feedback on how the RaT initiative was proceeding.

**Classification system development**

From a systems-based approach, we used the data collected through the residency program environmental scan survey to develop a classification system to categorize residency programs’ developmental stage for RaT. This had several benefits: 1) it helped identify how to implement a RaT program at the appropriate level for each residency; 2) it allowed the implementation team and each program director to have a common understanding of the program’s RaT needs as a starting point for development; 3) it could track changes in developmental stage as programs implement RaT; and 4) it provided a snapshot of a RaT initiative across PGME at a university. The development of the classification system was a two phase process. Phase one resulted in the first version of the classification system (Table 1).

**Table 1. Initial classification system of residency programs’ RaT developmental stages with descriptions of the five levels.**

| Level | Description |
|-------|-------------|
| 1     | No formal plan. No events in current academic year. |
| 2     | Ad Hoc teaching of resident as teacher (no longitudinal curriculum). Delivered by outside experts. |
Formal opportunities provided for Resident as Teacher planned on a regular basis (retreats, electives, academic half-days/teaching conferences). Assessment of learning and periodic review of curriculum. Mix of external and internal experts.

Longitudinal educational program; explicit goals and learning objectives, defined educational curriculum, assessment of learning teaching behaviors; evaluation of program/curriculum. Local departmental expertise.

Formal program with additional assessment of resident as teacher integrated into workplace.

To test the clarity and discreteness of the classification system’s rank definitions, two faculty developers from the initiative team independently coded 28 programs based on the initial environmental scan data (fully-crossed design for coding). Inter-rater reliability calculated using Kendall’s tau with SPSS Statistics for Windows, Version 23.0 was low ($r_{\tau}(21)=.309, p=.017$). The coders reported that data collected using the initial survey was not adequate to classify the programs, which led to a more comprehensive survey as described earlier (Full survey is available in Supplementary File 1).

In phase two, the classification system was revised such that minimal interpretation would be required in ranking programs. With input from three experts, we identified and created a sub-score for each key component for classifying a residency program’s RaT developmental stage resulting in five sub-scores (Table 2). The curriculum sub-score represented the proportion of educational topics taught and how topics were taught. The assessment sub-score represented the proportion of topics assessed and how residents’ teaching skills were assessed. The feedback sub-score represented the frequency and type of feedback provided on residents’ teaching. The people sub-score represented whether those who teach residents to teach are internal or external to the residency program. Finally, the evaluation sub-score represented the proportion and level of program evaluation (Kirkpatrick Partners, 2016). Sub-scores were excluded for a given program if data were insufficient to inform the calculation. Any sub-score exceeding one was scored as one. Total scores were calculated by weighting components that were more significant, adding the relevant sub-scores, and dividing by the highest possible score to give a percentage score, which could then be converted into a level in the corresponding revised classification system (Table 3). The resulting system for classifying a program’s RaT developmental stage eliminates subjective interpretation of survey data. Instead, residency program details are weighted and scored to give an overall level in the classification system.

Table 2. Model for classifying residency programs’ RaT developmental stage – descriptions and formulas for ranking programs.

| Component | Details | Sub-score Calculation |
|-----------|---------|-----------------------|
| Curriculum | How many topics are taught (proportion) and how are they taught (weighting)?<br><br>The more teaching topics addressed, and the more formal and integrated the method, the higher the score. | $(# \text{ topics taught ad hoc within rotation x 0.2}) + (# \text{ topics taught in retreat x 0.4}) + (# \text{ topics taught in external course x 0.6}) + (# \text{ topics taught in academic half-days x 0.8}) + (# \text{ of topics taught formally within rotation x 1}) / (\text{total # of topics})$ |
### Assessment

How many topics are assessed (proportion) and how are they assessed (weighting)?

*The more topics assessed, and the more observation-based the assessment, the higher the score.*

(# of topics assessed / total # of topics) x (highest of: 0.2 for knowledge test, 0.4 for FITER, 0.6 for OSTE, 0.8 for ITER, 1.0 for WBA)

### Feedback

How often are residents given feedback (frequency) and what kind of feedback are they given (weighting)?

*The more frequent and observation-based the feedback, the higher the score.*

(# of feedback sessions per academic year) x (highest of: 0 for N/A, 0.5 for feedback based on indirect information, 1 for feedback based on direct observation)

### People

Who teaches the residents to teach?

*The more integrated and experienced the teachers, the higher the score.*

Highest of: 0.25 for residents, 0.5 for external experts, 0.75 for internal experts, 1 for both internal experts and residents

### Evaluation

Is the program evaluated, and how is it evaluated?

*The more frequently evaluation occurs, and the more in-depth the evaluation, the higher the score.*

(# of activities evaluated / total # of activities) x (highest of: 0.25 for Kirkpatrick level 1, 0.5 for level 2, 0.75 for level 3, 1 for level 4)

### Total score

Add up scores and divide by highest possible score.

Curriculum sub-score + Assessment sub-score + Feedback sub-score + People sub-score + Evaluation sub-score/5

* Kirkpatrick Partners, 2016

Abbreviations: FITER: Formative in-training evaluation report, OSTE: objective structured teaching exam, ITER: in-training evaluation report, WBA: workplace-based assessment.

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### Table 3. Final classification system of residency programs’ RaT developmental stages with descriptions of the five levels.

| Level | Percentage score | Description |
|-------|------------------|-------------|
| 0     | 0-20%            | None or a few teaching competencies are addressed No feedback given |
Residency programs that taught and/or assessed some teaching competencies were generally classified under Level 0 (n=21) or Level 1 (n=14), while those who taught and/or assessed most teaching competencies were generally classified under Level 2 (n=15) or Level 3 (n=12). No programs were classified under Level 4 (Figure 1). There was inadequate data for classification of 10 programs.

Figure 1. Program score and classification level of 62 of 72 residency programs at the University of British Columbia (UBC). Bar colour corresponds to level in the Residents as Teachers (RaT) classification scale (light grey = level 0, medium grey = level 1, dark grey = level 2, black = level 3).

| Level | Percentage | Teaching Methods |
|-------|------------|------------------|
| 1     | 21-40%     | Some teaching competencies are addressed. Informally taught ad hoc or one-off. Little or no feedback given. |
| 2     | 41-60%     | Approximately half of teaching competencies are addressed. Taught in academic half-days. Sessions led by external and/or internal experts. Feedback based on indirect information. |
| 3     | 61-80%     | Most teaching competencies are addressed. Taught in academic half-days. Sessions led by internal experts and/or residents. Feedback based on direct observation. Some informal program evaluation (satisfaction data). |
| 4     | 81-100%    | All teaching competencies are addressed. Formally taught within the rotation. Sessions led by both internal experts and residents. Formally assessed (e.g., workplace based assessment, objective structured teaching examination). Frequent feedback based on direct observation. In-depth program evaluation addressing all multiple levels of the Kirkpatrick model. |
Curriculum development

| Residency program                                      | Program score /100 |
|--------------------------------------------------------|--------------------|
| Adult Neurology                                         | 78                 |
| Colorectal Surgery                                      | 77                 |
| General Surgery                                         | 75                 |
| Pediatric Rheumatology                                  | 73                 |
| Emergency Medicine                                      | 72                 |
| Neonatal-Perinatal Medicine                            | 71                 |
| Neurosurgery                                            | 71                 |
| Adult Cardiology                                        | 70                 |
| Anatomical Pathology                                    | 69                 |
| Thoracic Surgery                                        | 67                 |
| Hematological Pathology                                 | 65                 |
| Adult Gastroenterology                                  | 61                 |
| Adult Respiratory                                       | 59                 |
| Gynecologic Reproductive Endocrinology & Infertility    | 58                 |
| Medical Biochemistry                                    | 55                 |
| Neuroradiology                                          | 55                 |
| Internal Medicine                                       | 54                 |
| Child and Adolescent Psychiatry                         | 53                 |
| Orthopedic Surgery                                      | 53                 |
| Adult Rheumatology                                      | 52                 |
| Diagnostic Radiology                                    | 52                 |
| Developmental Pediatrics                                | 50                 |
| Pediatric Neurology                                     | 50                 |
| Obstetrics & Gynecology                                 | 47                 |
| Hematology                                              | 45                 |
| Pediatric Critical Care Medicine                        | 44                 |
| Medical Genetics                                        | 44                 |
| Pediatric Emergency Medicine                            | 39                 |
| Physical Medicine & Rehabilitation                      | 37                 |
| Maternal Fetal Medicine                                 | 35                 |
| Adult Infectious Diseases                               | 33                 |
| Medical Oncology                                        | 33                 |
| Public Health & Preventive Medicine                     | 33                 |
| Adolescent Medicine                                     | 32                 |
| Medical Microbiology                                    | 32                 |
| Cardiac Surgery                                         | 29                 |
| Adult Critical Care Medicine                            | 29                 |
| Ophthalmology                                           | 29                 |
| Forensic Psychiatry                                     | 27                 |
| Pediatrics                                              | 27                 |
| Pediatric Respiratory                                   | 24                 |
| Pediatric Gastroenterology                              | 20                 |
| Pediatric Clinical Immunology & Allergy                 | 18                 |
| Psychiatry                                              | 17                 |
| Plastic surgery                                         | 15                 |
| Radiology                                               | 15                 |
| Palliative Medicine                                     | 13                 |
| Family Medicine                                         | 12                 |
| Geriatric Psychiatry                                    | 12                 |
| Anesthesiology                                          | 11                 |
| Adult Endocrinology & Metabolism                        | 11                 |
| General Pathology                                       | 10                 |
| Geriatric Medicine                                      | 10                 |
| Adult Neurology                                         | 8                  |
| Pediatric Cardiology                                    | 7                  |
| Radiation Oncology                                      | 7                  |
| Urology                                                 | 6                  |
| Pediatric Hematology/Oncology                           | 4                  |
| Gynecologic Oncology                                    | 1                  |
| Transfusion Medicine                                    | 1                  |
| Dermatology                                              | 0                  |
| Nuclear Medicine                                        | 0                  |
A core component of this RaT initiative was to develop a curriculum that met the needs of all residency programs. Since residents in each program teach in different contexts and on different topics, we recommended developing a foundational curriculum that addressed the teaching techniques that are common to all. We created our curriculum by reviewing the CanMEDS enabling competencies for the Scholar role as it pertained to teaching and extracted resident teaching needs identified in the literature (Committee on Accreditation of Canadian Medical Schools, 2018; Jarvis-Selinger et al., 2011). Next, two of the authors of this paper (LS and SJS), both experienced educators, narrowed these teaching topics, developed the specific objectives for each topic, and created an outline of the topic content. The curriculum was reviewed by other faculty developers, the Associate Dean of PGME, and select residency program directors at UBC, and their feedback was incorporated.

The result was a six-topic foundational RaT curriculum, incorporating 10 learning objectives and eight hours of total curricular time (Table 4). LS and SJS also created facilitation materials for each of the core curriculum topics, which consisted of an instruction guide, presentation slides with detailed speaker notes, handouts, and in-class student exercises. These facilitation materials were based on longstanding workshops that were delivered by the central Faculty Development Office and had gone through several revisions based on feedback from the participants. The end result was a curriculum that is dynamic and adaptable to the specific workplace environments and needs of individual residency programs. The core curriculum will continue to develop and will be responsive to evolving external standards and feedback from UBC stakeholders as part of ongoing quality improvement.

### Table 4. RaT core curriculum topics, objectives, and content details.

| Topic | Core Curriculum Learning Objectives | Specific content |
|-------|-------------------------------------|-----------------|
| 1. Resident as teacher and learner (1 hr) | Identify principles of teaching and learning relevant to medical education<br>Select strategies for effective learning | • Adult principles of education and how they apply to medical education<br>• Effective learning<br>• The learning cycle<br>• Stages of competence |
| 2. Effective presentations (1 hr) | Deliver a presentation which is objective-driven, engaging, and uses interactive strategies for deeper learning | • Information processing theory to reflect on how people learn from presentations and how to facilitate the learning<br>• Characteristics of effective presentations and presenters<br>• Presentation goals, structure, delivery, interactive strategies |
3. Effective and efficient clinical teaching (1 hr)
   - Determine the learning needs of students and develop an educational plan
   - Apply time-saving strategies to teach in a busy clinical setting

4. Clinical reasoning/critical thinking skills (2 hrs)
   - Facilitate clinical reasoning/critical thinking skills using effective questions
   - Use models for teaching clinical reasoning on the run

5. Direct observation and feedback (2 hrs)
   - Practice skills for direct observation
   - Provide effective feedback

6. Patient education (1 hr)
   - Educate patients effectively

| Capacity building |
|-------------------|
| Building capacity to deliver the RaT curriculum is a crucial part of sustaining a systems-based RaT initiative, particularly from a pragmatic perspective as a centralized administrative office does not have the capacity or expertise of the context to teach every RaT session across all programs. Nurturing many individuals who can facilitate RaT sessions will reduce burnout and building capacity within a residency program allows for a context-specific approach to teaching. We offered train-the-trainer sessions to programs as a way to build capacity and encouraged the programs to identify and send faculty who are interested in facilitating. An experienced facilitator who is fluent in the RaT curriculum led the ongoing train-the-trainer sessions, one-on-one or in small groups close to the date of the scheduled RaT session. To increase sustainability, we encouraged programs to use their senior residents to facilitate the sessions if they took part in RaT sessions or other faculty development opportunities in their junior residency years. We also connected experienced RaT teachers to other programs in need of facilitators; in a cross-program teaching model. This works especially well for smaller programs that have limited faculty capacity. Finally, we invited faculty and residents to attend RaT Day, a full day designed to build capacity within programs by delivering three RaT curriculum topics and a session on how to implement RaT within their program. |

| Initiative evaluation |
|-----------------------|
| Another important component of our systems-based RaT initiative is the comprehensive evaluation – one that |
evaluates the initiative as a whole and allows for comparison of progress within and between programs. In order to keep the materials and delivery methods appealing, evaluation data that goes beyond the assessment of resident teaching behaviors and allows for constant quality improvement and long term impact data was also incorporated into the plan. Our initiative evaluation was developed by considering example program evaluation frameworks that are available (Fraser Health Authority, 2009; Yarbrough et al., 2011), which helped us identify the intended audience, evaluation questions, and data collection methods and analysis approach.

An important consideration for systematic collection of data is to leverage systems and processes that are already being used by residency programs. At UBC, all programs use the web-based program, One45 for rotation scheduling and dissemination of in-training evaluations. Over three months, we piloted the use of One45 with four programs for scheduling RaT sessions, tracking resident attendance, and collecting evaluation data. The majority of residents who attended these programs’ RaT sessions completed the feedback surveys on One45 (N=53, 83%), and interviews with program administrators indicated that using the system was not onerous and required little change management. As a result, we felt confident to incorporate a portion of the RaT program evaluation data collection into the One45 system.

Preliminary data from session feedback surveys across the four programs (totaling eight sessions from emergency medicine, palliative medicine, pediatrics, ophthalmology) suggest that residents find the RaT initiative both relevant and useful. The majority of responses indicated that the overall quality of the educational experience was good or excellent (n=61, 88%), they would apply what they learned (n=58, 92%), the content was appropriate for their level of understanding (n=59, 94%), the structure of the session suited their learning needs (n=57, 90%), and the facilitator led the sessions skillfully (n=58, 92%). For all six RaT topics, most respondents agreed or strongly agreed that learning objectives were met (Topic 1: n=93, 93%; Topic 2: n=3, 100%; Topic 3: n=99, 89%; Topic 4: n=18, 100%; Topic 5: n=73, 91%; Topic 6: n=2, 100%).

Our evaluation plan currently focuses on implementation and experience. Over time we will also incorporate a process evaluation to investigate how RaT was implemented system-wide and whether the goals and objectives of the initiative were achieved. Through interviews and focus groups, we also plan to explore the experiences of residents, facilitators, and program directors, and impacts on these individuals and on the institution.

**Discussion**

The work being done across all residency programs at UBC is a first step to integrating a systems-based approach to RaT. This approach will allow for an economies of scale related to centralized curriculum design, program administration, and program evaluation. It also allows individual programs to have ownership and responsibility over curriculum adaptation, program implementation, faculty engagement, and resident uptake. The balance between central and local design creates an opportunity for the development of a consortium-based model (i.e., the proper blend of central and local) which acknowledges the vital role of local context, needs, and buy-in. For example, for the success of any RaT initiative, it is important for programs to have ownership over adapting the curriculum, supporting local champions, developing the implementation plan, and delivering the program. This creates a feeling of ownership without the unnecessary administrative burden of initial curriculum design based on best practices, readiness assessments, program evaluation, and ongoing continuous quality improvement. Having the appropriate pieces centralized also aids in not recreating the same activities across 78 different residency programs (as of 2019). A clear benefit of this model is the cost-savings realized through a central support mechanism for design, support, and evaluation without sacrificing local ownership, buy-in, and implementation. The train-the-trainers approach to supporting faculty members to teach also provides an *in situ* opportunity for faculty development across PGME.
The systematic way of developing RaT programming utilizing an evidence-based classification system provides a quick and easy way to identify program needs across all postgraduate training. It also overcomes the tendency of centralized development to take a one-size-fits-all approach which usually results in a one-size-fits-none. With this systems-based approach PGME can support success through an appropriate focus on central organization and local needs. Finally, this allows each of the 78 residency programs to show how their curriculum and assessment are aligned with the Royal College competencies. The approach is transferrable and scalable to other institutions and the implementation needs are minimal.

Take Home Messages

- While existing residents-as-teacher programs are stand-alone workshops, using a systematic approach can lead to efficiencies through centralized curriculum design, program administration, and program evaluation
- Flexibility in the curriculum adaptation and program implementation allows individual programs to have ownership and responsibility
- Train-the-trainer of RaT sessions builds capacity within programs
- The RaT developmental level classification system allows for an easy way to identify program needs and improvement over time
- Programs benefit from being able to demonstrate how their RaT program is aligned with the Royal College competencies

Notes On Contributors

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Appendices

None.

**Declarations**

The author has declared that there are no conflicts of interest.

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