

## ARTICLES YOU MAY ENJOY May 2020

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NOTE: the OVID journal links (Academic Medicine, JCEHP, Simulation in Health Care) don't work as they "time out" so you'll have to go to the UVic or UBC library site to access them.

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### 1. **Fundamental trends within falling match rates: insights from the past decade of Canadian residency matching data**

Andy G.X. Zeng, Connor T.A. Brenna, Silvio Ndoja

Canadian Medical Education Journal DOI: <https://doi.org/10.36834/cmej.69289>

#### **Abstract:**

#### **Background**

The number of unmatched Canadian Medical Graduates (CMGs) has risen dramatically over the last decade. To identify long-term solutions to this problem, an understanding of the factors contributing to these rising unmatched rates is critical.

#### **Methods**

Using match and electives data from 2009-2019, we employed machine learning algorithms to identify three clusters of disciplines with distinct trends in match and electives behaviours. We assessed the relationships between unmatched rates, competitiveness, rates of parallel planning, and program selection practices at a discipline level.

#### **Results**

Across Canada, growth in CMGs has outpaced growth in residency seats, narrowing the seat-to-applicant ratio. Yet not all disciplines have been affected equally - a subset of surgical disciplines

experienced a consistent decline in residency seats over time. Applicants to these disciplines are also at disproportionate risk of becoming unmatched, and this is associated with lower rates of parallel planning as quantified through clinical electives and match applications. This, in turn, is associated with the program selection practices of these disciplines.

**Conclusion** Long term solutions to the unmatched CMG crisis require more nuance than indiscriminately increasing residency seats and should consider cluster specific match ratios as well as regulations around clinical electives and program selection practices.

**To read more:**

<https://journalhosting.ucalgary.ca/index.php/cmej/article/view/69289/53994>

## **2. Thematic analysis of qualitative data: AMEE Guide No. 131**

Michelle E. Kiger & Lara Varpio

**Medical Teacher** Published online: 01 May 2020

**Abstract:**

Thematic analysis is a widely used, yet often misunderstood, method of qualitative data analysis. It is a useful and accessible tool for qualitative researchers, but confusion regarding the method's philosophical underpinnings and imprecision in how it has been described have complicated its use and acceptance among researchers. In this Guide, we outline what thematic analysis is, positioning it in relation to other methods of qualitative analysis, and describe when it is appropriate to use the method under a variety of epistemological frameworks. We also provide a detailed definition of a theme, as this term is often misapplied. Next, we describe the most commonly used six-step framework for conducting thematic analysis, illustrating each step using examples from our own research. Finally, we discuss advantages and disadvantages of this method and alert researchers to pitfalls to avoid when using thematic analysis. We aim to highlight thematic analysis as a powerful and flexible method of qualitative analysis and to empower researchers at all levels of experience to conduct thematic analysis in rigorous and thoughtful way.

**To read more:**

<https://www-tandfonline-com.ezproxy.library.uvic.ca/doi/full/10.1080/0142159X.2020.1755030>

<https://www-tandfonline-com.ezproxy.library.ubc.ca/doi/full/10.1080/0142159X.2020.1755030>

## **3. When I say ... growth mindset**

Nora Y. Osman, David E. Sloane, & David A. Hirsh

**Medical Education** version of record online May 1, 2020

**Abstract:**

Short piece; no abstract

**To read more:**

<https://onlinelibrary-wiley-com.ezproxy.library.uvic.ca/doi/10.1111/medu.14168>

<https://onlinelibrary-wiley-com.ezproxy.library.ubc.ca/doi/10.1111/medu.14168>

**4. Using video-reflexive ethnography to understand complexity and change practice**

Rola Ajjawi, Joanne Hilder, Christy Noble, Andrew Teodorczuk, Stephen Billett

**Medical Education** version of record on-line May 1, 2020

**Abstract:**

**Context**

A range of research methods have been used to understand effective workplace learning in the health professions. The impact of findings from this research usually requires knowledge translation activities in the form of faculty development initiatives, such as supervisor workshops. Far rarer, but with greater potential, are research approaches that concurrently seek to understand and change practice through empowering clinicians to refine aspects of their practice.

**Methods**

In this methodological article, we describe video-reflexive ethnography (VRE), a collaborative visual research approach that seeks to capture, illuminate and optimise in situ work and education practices. Video-reflexive ethnography usually has three phases: (a) initial familiarisation with practice through field observations; (b) video-recording of practice, and (c) reflexive sessions about the edited footage with participants and researchers. Drawing on our own experiences as researchers using VRE, we discuss four key principles of VRE: (a) exnovation; (b) collaboration; (c) reflexivity, and (d) care.

**Discussion**

Although VRE has been used to illuminate and understand health professionals education, its potential for changing clinical education practices has yet to be realised. Video-reflexive ethnography enables observation of the social and relational interactions in health care practice and allows individual (and group) perspectives to be articulated and analysed. The approach can prompt fresh perspectives and insights into health care education and practice for researchers and clinicians through shared deliberations about how practice might be reimagined and enacted.

**To read more:**

<https://onlinelibrary-wiley-com.ezproxy.library.uvic.ca/doi/full/10.1111/medu.14156>

<https://onlinelibrary-wiley-com.ezproxy.library.ubc.ca/doi/full/10.1111/medu.14156>

## **5. The nature of learning from simulation: Now I know it, now I'll do it, I'll work on that**

Farhana Shariff, Rose Hatala, Glenn Regehr

**Medical Education** version of record on-line April 13, 2020

### **Abstract:**

#### **Context**

Ongoing learning in complex clinical environments requires health professionals to assess their own performance, manage their learning, and modify their practices based on self-monitored progress. Self-regulated learning (SRL) theory suggests that although learners may be capable of such learning, they often need guidance to enact it effectively. Debriefings following simulation may be an ideal time to support learners' use of SRL in targeted areas, but the extent to which they are optimally fostering these practices has not been examined.

#### **Methods**

A qualitative study informed by grounded theory methodology was conducted in the context of three interprofessional in situ trauma simulations at our level 1 trauma centre. A total of 18 participants were interviewed both immediately and 5-6 weeks after the simulation experience. Transcripts were analysed using an iterative constant comparative approach to explore concepts and themes regarding the nature of learning from and after simulation.

#### **Results**

During initial interviews, there were many examples of acquired content knowledge and straightforward practice changes that might not require ongoing SRL to enact well in practice. However, even for skills identified as needing to be 'worked on,' SRL strategies were lacking. At follow-up interviews, some participants had evolved more specific learning goals and rudimentary plans for implementation and improvement, but suggested this was prompted by the study interview questions rather than the simulation debriefing itself.

#### **Conclusions**

Overall, participants did not engage in fulsome development of SRL plans based on the simulation and debriefing; however, there were elements of SRL present, particularly after participants were given time to reflect on the interview questions and their own goals. This suggests that simulation training can support the use of SRL. However, debriefing approaches might be better optimised to take full advantage of the opportunity to encourage and foster SRL in practice after the simulation is over.

#### **To read more:**

<https://onlinelibrary-wiley-com.ezproxy.library.uvic.ca/doi/10.1111/medu.14153>

<https://onlinelibrary-wiley-com.ezproxy.library.ubc.ca/doi/10.1111/medu.14153>

## **6. Evidence-based medicine, shared decision making and the hidden curriculum: a qualitative content analysis**

Emélie Braschi, Dawn Stacey, France Légaré, Roland Grad & Douglas Archibald

**Perspectives on Medical Education** Published April 22, 2020

### **Abstract:**

### **Introduction**

Medical education should portray evidence-based medicine (EBM) and shared decision making (SDM) as central to patient care. However, misconceptions regarding EBM and SDM are common in clinical practice, and these biases might unintentionally be transmitted to medical trainees through a hidden curriculum. The current study explores how assumptions of EBM and SDM can be hidden in formal curriculum material such as PowerPoint slides.

### **Methods**

We conducted a qualitative content analysis using a purposive sample of 18 PowerPoints on the management of upper respiratory tract infections. We identified concepts pertaining to decision making using theory-driven codes taken from the fields of EBM and SDM. We then re-analyzed the coded text using a constructivist latent thematic approach to develop a rich description of conceptualizations of decision making in relation to EBM and SDM frameworks.

### **Results**

PowerPoint slides can relay a hidden curriculum, which can normalize: pathophysiological reasoning, unexplained variations in clinical care, the use of EBM mimics, defensive medicine, an unrealistic portrayal of benefits, and paternalism.

### **Discussion**

Addressing the hidden curriculum in formal curricular material should be explored as a novel strategy to foster a positive attitude towards EBM and SDM and to improve patient outcomes by encouraging the use of these skills.

### **To read more:**

<https://link.springer.com/article/10.1007/s40037-020-00578-0>

## **7. Competences for implementation science: what trainees need to learn and where they learn it**

Marie-Therese Schultes, Monisa Aijaz, Julia Klug & Dean L. Fixsen

**Advances in Health Sciences Education** published May 5, 2020

### **Abstract:**

Education in implementation science, which involves the training of health professionals in how to implement evidence-based findings into health practice systematically, has become a highly relevant topic in health sciences education. The present study advances education in implementation science by

compiling a competence profile for implementation practice and research and by exploring implementation experts' sources of expertise. The competence profile is theoretically based on educational psychology, which implies the definition of improvable and teachable competences. In an online-survey, an international, multidisciplinary sample of 82 implementation experts named competences that they considered most helpful for conducting implementation practice and implementation research. For these competences, they also indicated whether they had acquired them in their professional education, additional training, or by self-study and on-the-job experience. Data were analyzed using a mixed-methods approach that combined qualitative content analyses with descriptive statistics. The participants deemed collaboration knowledge and skills most helpful for implementation practice. For implementation research, they named research methodology knowledge and skills as the most important ones. The participants had acquired most of the competences that they found helpful for implementation practice in self-study or by on-the-job experience. However, participants had learned most of their competences for implementation research in their professional education. The present results inform education and training activities in implementation science and serve as a starting point for a fluid set of interdisciplinary implementation science competences that will be updated continuously. Implications for curriculum development and the design of educational activities are discussed.

**To read more:**

<https://link-springer-com.ezproxy.library.uvic.ca/article/10.1007/s10459-020-09969-8>

<https://link-springer-com.ezproxy.library.ubc.ca/article/10.1007/s10459-020-09969-8>

**8. Problems No One Looked For: Philosophical Expeditions into Medical Education**

Mario Veen & Anna Cianciolo

**Teaching and Learning in Medicine** published April 10, 2020

**Abstract:**

**Issue**

Medical education has “muddy zones of practice,” areas of complexity and uncertainty that frustrate the achievement of our intended educational outcomes. Slowing down to consider context and reflect on practice are now seen as essential to medical education as we are called upon to examine carefully what we are doing to care for learners and improve their performance, professionalism, and well-being. Philosophy can be seen as the fundamental approach to pausing at times of complexity and uncertainty to ask basic questions about seemingly obvious practices so that we can see (and do) things in new ways.

**Evidence**

Philosophy and medical education have long been related; many of our basic concepts can be traced to philosophical ideas. Philosophy is a problem-creation approach, and its method is analysis; it is a constant process of shifting frames and turning into objects of analysis the lenses through which we see the world. However, philosophy is not about constant questioning for the sake of questioning.

Progression in medical education practice involves recognizing when to switch from a philosophical to a practical perspective, and when to switch back.

### **Implications**

In medical education, a philosophical approach empowers us to “slow down when we should,” thereby engaging us more directly with our subjects of study, revealing our assumptions, and helping us address vexing problems from a new angle. Doing philosophy involves thinking like a beginner, getting back to basics, and disrupting frames of reference. Being philosophical is about wonder and intense, childlike curiosity, human qualities we all share. Taking a philosophical approach to medical education need not be an unguided endeavor, but can be a dialog through which medical educators and philosophers learn together.

### **To read more:**

<https://www-tandfonline-com.ezproxy.library.uvic.ca/doi/full/10.1080/10401334.2020.1748634>

<https://www-tandfonline-com.ezproxy.library.ubc.ca/doi/full/10.1080/10401334.2020.1748634>

## **9. A Proposed Shared Vision for Leadership Development for all Medical Students: A Call from a Coalition of Diverse Medical Schools**

Rajesh S. Mangrulkar ,Antonius Tsai,Susan M. Cox, Gwen W. Halaas, Elizabeth A. Nelson, Robert E. Nesse, Ronald C. Silvestri, Carrie L. Radabaugh, Susan Skochelak, Gary L. Beck Dallaghan & Beat Steiner

**Teaching and Learning in Medicine** Published May 2, 2020

### **Abstract:**

#### **Issue**

Despite clear relevance, need, descriptive literature, and student interest, few schools offer required curriculum to develop leadership skills. This paper outlines a proposed shared vision for leadership development drawn from a coalition of diverse medical schools. We advocate that leadership development is about self (looking inward), teams (not hierarchy), and change (looking outward). We propose that leadership development is for all medical students, not for a subset, and we believe that leadership curricula and programs must be experiential and applied.

#### **Evidence**

This paper also draws on the current literature and the experience of medical schools participating in the American Medical Association’s (AMA) Accelerating Change in Medical Education Consortium, confronts the common arguments against leadership training in medical education, and provides three cross-cutting principles that we believe must each be incorporated in all medical student-centered leadership development programs as they emerge and evolve at medical schools.

#### **Implications**

By confronting common arguments against leadership training and providing a framework for such training, we give medical educators important tools and insights into developing leadership training for

all students at their institutions. We argue that medical education is at a point where it must develop the critical characteristics of leadership as part of a new “core” for all students. This form of leadership does not refer to a title, but a relational form of leadership which allows physicians of any position to work effectively on themselves, influence others, and facilitate change.

**To read more:**

<https://www-tandfonline-com.ezproxy.library.uvic.ca/doi/full/10.1080/10401334.2020.1754835>

<https://www-tandfonline-com.ezproxy.library.ubc.ca/doi/full/10.1080/10401334.2020.1754835>

## **10. How Consistent Is Competent? Examining Variance in Psychomotor Skills Assessment**

Labbe, Mathilde; Young, Meredith; Mascarella, Marco; Husein, Murad; Doyle, Philip C.; Nguyen, Lily  
**Academic Medicine** Volume 95(5), May 2020, p 771-776

**Abstract:**

### **Purpose**

Direct assessment of trainee performance across time is a core tenet of competency-based medical education. Unlike variability of psychomotor skills across levels of expertise, performance variability exhibited by a particular trainee across time remains unexplored. The goal of this study was to document the consistency of individual surgeons' technical skill performance.

### **Method**

A secondary analysis of assessment data (collected in 2010-2012, originally published in 2015) generated by a prospective cohort of participants at Montreal Children's Hospital with differing levels of expertise was conducted in 2017. Trained raters scored blinded recordings of a myringotomy and tube insertion performed 4 times by junior and senior residents and attending surgeons over a 6-month period using a previously reported assessment tool. Descriptive exploratory analyses and univariate comparison of standard deviations (SDs) were conducted to document variability within individuals across time and across training levels.

### **Results**

Thirty-six assessments from 9 participants were analyzed. The SD of scores for junior residents was highly variable (5.8 out of a scale of 30 compared with 1.8 for both senior residents and attendings [ $F(2,19) = 5.68, P < 0.05$ ]). For a given individual, the range of scores was twice as large for junior residents than for senior residents and attendings.

### **Conclusions**

Surgical residents may display highly variable performances across time, and individual variability appears to decrease with increasing expertise. Operative skill variability could be underrepresented in direct observation assessment; emphasis on an adequate amount of repetitive evaluations for junior residents may be needed to support judgments of competence or entrustment.



**To read more:**

[https://journals-lww-com.ezproxy.library.uvic.ca/academicmedicine/Fulltext/2020/05000/How\\_Consistent\\_Is\\_Compent\\_Examining\\_Variance\\_in.33.aspx](https://journals-lww-com.ezproxy.library.uvic.ca/academicmedicine/Fulltext/2020/05000/How_Consistent_Is_Compent_Examining_Variance_in.33.aspx)

[https://journals-lww-com.ezproxy.library.ubc.ca/academicmedicine/Fulltext/2020/05000/How\\_Consistent\\_Is\\_Compent\\_Examining\\_Variance\\_in.33.aspx](https://journals-lww-com.ezproxy.library.ubc.ca/academicmedicine/Fulltext/2020/05000/How_Consistent_Is_Compent_Examining_Variance_in.33.aspx)