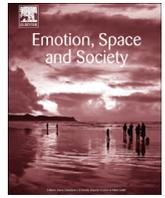




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Questioning medicine's discipline: The arts of emotions in undergraduate medical education

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ABSTRACT

This paper engages our struggles with the discipline of medicine. Specifically, and sometimes from very personal perspectives, we question if the geographies in which undergraduate medical education unfolds are healthy. As three women broadly trained as geographers who are emotionally, politically, personally, and professionally tied to the discipline of medicine, we wonder if undergraduate medical curriculum is meeting the competencies to which it aspires. Anchored in broader literatures about medical education and the potential of medical humanities, and in our own and others' observations and experiences about medicine being – at least to some degree – a discipline in crisis and in some state of ruin and disrepair, we reflect in this paper on two things. First, we consider how undergraduate medical education disciplines its students and scholars in specific ways that often sublimates emotional knowledge. Second, we reflect on how the discipline's undergraduate curricular structures might improve through creative interventions that encourage non-linear, creative, possibly emotive, ways of knowing and understanding.

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1. Introduction

Not so long ago, a 1st year undergraduate medical student unexpectedly came into my office.¹ She didn't have an appointment, nor was I teaching any class she was taking right then. Nevertheless, she sat down and asked if we could chat. As I closed my office door, she began to cry. Medical school, she said, is making me sick, tired, and crazy. While I had not, up until that point, had a student voice her struggles quite so bluntly, or in a way that highlighted with such acuity the paradoxes I witnessed as a professor in a discipline focused on training an arguably elite group of health care professionals, I had heard the sentiment, albeit in slightly different forms, from many other students in my program. Undergraduate medical students had deeply emotionally experiences during their education – and oriented to medical training in emotional ways. Yet the emotionality of medical education – and then of medical practice – was only very thinly accounted for in the curriculum I worked with. Indeed, when I first began working in a faculty of medicine, I was offered early-on by a

colleague a uniquely disturbing quote from a text about medical education: '[it is] like getting your hand caught in a meat grinder. It just keeps grinding and scooping up more of you as it goes. You gradually get bundled into a processed package and pop out as a doctor...If you don't conform you're out' (quoted in Meyer and Land, 2006: p. 22).

Navigating my way through medical school in the early 1990s in New Zealand has profoundly influenced how I know and interpret the world. My learning within hospitals – their physical spaces, corridors and unexpected places of refuge and insight – are especially memorable. Equipped with white coat and stethoscope around my neck, hospitals were the places where I could manifest being a 'real' medical student. Within hospital clinics and wards the book-work and 'clinical method' came to life – through the details and rhythms of patient histories, admissions and discharges, of diseases, diagnoses and treatments. Yet beyond this 'core curriculum', my dominant and deeply felt learning about hospitals was as places of crisis. The (under)tone of crisis was not just for patients, families and friends but, perhaps most interesting – for the doctors, nurses, physiotherapists, support staff and medical students. I came to feel that almost all the people I interacted with in hospitals were manifesting thinly veiled expressions of duress, working hardest at 'coping' with the experiences they were amidst. And perhaps most informative of all, almost no-one talked about it. The former didn't both me – I felt both privileged and humbled to bear witness to these dynamics but I remained baffled and infuriated by the lack of acknowledgement of the emotional landscapes were all

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¹ Throughout this paper, personal reflections by two of the authors are offered as grounded insights into and examples of the struggles all three of us have with the discipline of medicine.

traversing. The silence around such pervasive and ambient experiences was stunning, and made moments of respite and humanity stand out vividly. I will never forget a conversation with a grandmother outside the Paediatric Ward in front of the Royal Doulton Nursery Rhyme Tiles on display at Wellington Hospital. Recognising each other's glistening eyes, we confessed that the whimsical portrayal of youthful flourishing in contrast with the stark hospital corridors made us want to laugh and cry at the same time. We both left, wiping our eyes, feeling better. It was a long time before I shared or recognised this moment as a legitimate part of becoming a doctor.

We struggle with the discipline of medicine, with where and how it is taught. We struggle with the discursive and material spaces, the geographies, in which undergraduate medical education unfolds, in which future doctors are taught. We also struggle with the feelings and perspectives of students going through medical education, many of whom speak to us about being uncomfortable with emotions or feeling frustrated when not specifically learning biomedical science. As three women broadly trained as geographers who are emotionally, politically, personally, and professionally tied to the discipline of medicine, we wonder if the largest undergraduate medical curriculum in Canada is meeting the competencies to which it aspires, namely to produce medical experts with six competencies: advocate, collaborator, scholar, communicator, professional, and manager.

Anchored in broader literatures about medical education and the potential of medical humanities, and in our own and others' observations and experiences about medicine being – at least to some degree – a discipline in crisis and in some state of ruin and disrepair, we reflect in this paper on two things. First, we consider how undergraduate medical education disciplines² its students and scholars in specific ways that often sublimates emotional knowledge. Second, we reflect on how the discipline's curricular structures might more productively include creative interventions that encourage non-linear, possible emotive, ways of knowing and understanding. The paper dialogues especially with a growing body of literature about undergraduate medical students losing, during their pre-residency training, empathetic and emotionally attuned orientations to patients (Neumann et al., 2011) and with discussions about the potential of emotionally invested critical self-reflexivity in medical education, especially through the arts, as means to renew how students learn during their undergraduate medical training (Torppa et al., 2008).

It is precisely the role of emotion in medicine and medical training that we are most interested in. Our reflections and struggles are, for the purposes of this paper, located in relation to Canada's largest Faculty of Medicine (FOM), the FOM at the University of British Columbia (UBC). What are the material and discursive components, we wonder, of academic spaces of medical training in B.C. and where and how do emotions figure into these spaces? How are students emotionally disciplined within these academic spaces? Are there fissures or gaps that elide emotional possibilities in the academic or curricular spaces of UBC's FOM? Finally, what do we three emotionally invested geographically inclined women want to see done differently in the ways future physicians are taught, and learn, the Canada's largest faculty of medicine? These are large and complicated questions, each of which might be the genesis for a paper unto itself. Our intent in this paper is to begin a

discussion about the questions, to explore how they interface with each other. Our answers are partial and incomplete but we hope they will, in part, spur further discussions that are still in infancy about some of the crises and challenges in medical education today. Methodologically, the paper is theoretical and critically reflective: in order to tell a story about some aspects of one undergraduate medical curriculum, in which some of tomorrow's doctors are trained, we offer our reflections about our experiences with medical school and in UBC's Faculty of Medicine. We include an array of illustrative (as opposed to representative) observations by and of students learning in one facet of UBC's FOM undergraduate curricular space. We offer results – including our own field notes and participants' responses – of several professional development and research opportunities hosted to facilitate medical students and physicians exploring learning in new spaces, learning about uncertainty and emotion, and learning in arts-focused ways.

To answer our questions, and to detail our struggles with one important component of the discipline of medicine (undergraduate medical education),³ we begin by tracing some discussions about the crises facing the discipline of medicine. We follow this with a detailing of how – and importantly from a geographic perspective, *where* – undergraduate medical curriculum takes place at UBC's FOM. We highlight the ways that the very structure of the curriculum reinforces and perpetuates hierarchies of knowledge. Following this, we offer some of our experiences about learning and teaching undergraduate medical students. Here we also consider some student feedback about aspects of the curriculum that have focused on 'softer' (non-biomedical) knowledges. In the fourth section of the paper, we turn to three growing areas of evidence that we place in dialogue with each other in order to reach our conclusions. First, we consider medical humanities, including creative and artistic and self-reflective practices in medical education, especially to expand emotional learning and understandings of the world. Second, we discuss new conceptual frameworks that hold potentials to guide the training of those working in health and well-being related fields. Finally, we theorize about the potential of inter-trans-disciplinary modalities (including ones that foreground emotionality, holism, and uncertainty) in medical education. To conclude, we draw upon a small but in-depth set of fieldwork studies undertaken within UBC's FOM and its distributed program in Northern British Columbia, a landscape with particular socio-cultural contours where challenges around recruitment and retention of physicians are resulting in innovative ways of thinking about medical education and practice. We suggest, based on the results of these studies, that arts-spaces and arts-based methods might provide much needed means of teaching about the role of emotional knowledges in medicine.

2. 'All is not well' in medicine: science, emotion, and learning in spaces of undergraduate medical education

Scientific methods and methodologies have unquestionably led to remarkable medical advancements. Based on this, particular ways of thinking and doing are taught in undergraduate medical education curriculum. Despite remarkable scientific and biomedical advancements in the discipline over the last century, however,

² We use the term 'discipline' in the paper to signify that, while medicine is an academic/curricular educational 'discipline' rife with histories, entrenched norms, cultural expectations and standards that manifest in specific spaces, it is also a 'disciplinary' structure in the Foucauldian sense of the concept: it is a diffuse type of power, a modality for its exercise, comprising amorphous sets of instruments, techniques, procedures, levels of application, and targets that are a 'physics' or an 'anatomy' of power, a technology.

³ Medical education is a varied process. In UBC's FOM, students enter a four-year undergraduate medical degree with an already completed undergraduate degree, often in the sciences. The undergraduate medical degree occurs in two distinct stages: the first two years unfold in the classroom, the second two years in a clinical or hospital setting. UBC's FOM is a distributed program. The first two years of the curriculum are delivered across the province in an almost identical manner (all students, for instance, attend all the same lectures simultaneously, delivered through video).

'by the beginning of the 21st century...all is not well [in the field of medicine]' (Frenk et al., 2010). In a touchstone article published in *The Lancet* a litany of significant challenges in medical practice and education are outlined:

The problems are systemic: mismatch of competencies to patient and population needs; poor teamwork; persistent gender stratification of professional status; narrow technical focus without broader contextual understanding; episodic encounters rather than continuous care; predominant hospital orientation at the expense of primary care; quantitative and qualitative imbalances in the professional labour market; and weak leadership to improve health-system performance. (Frenk et al., 2010)

Undergraduate medical curriculum often promotes the merits of objective and positivist thought, schooling students in how to be 'detached observers' to patients and pathologies (Wilson, 2000) and in the importance of not becoming overly emotionally attached or empathetically invested in the complexity of patients' lives (Batt-Rawden et al., 2013). An important role of doctors, students learn, is to identify specific ailments through a process of differential diagnoses. This process isolates certain indicators (symptoms, signs) of an ailment from other indicators, allowing it to be solved as a decontextualized abnormality. Calman (2006) argues that, in the last century and a half, what were historically common characteristics of medicine and its practitioners (including deeply emotive experiences between subjects, uncertainty, subjectivity, the unknown, abstract philosophies, and stories or narratives) have been devalued against linear, objective, positivist, and empirical ways of orienting to patients. Relatedly, people – including medical students – who embody traits that medicine has tended to devalue (e.g. abstraction, deep emotivity, seeming non-linearity, evasion of the quantifiable and measurable, disinterest in scientific orientation, or even ill-health) are often conceptualized as pathological and in need of biomedical intervention and salvation (Davidson and Henderson, 2010). Medical students thus work hard to display traits of objectivity, emotional regulation, and distance from pathology (Coulehan and Williams, 2001). There is little space in medical education for emotional self-reflexivity or emotive non-biomedical orientations to complex problems of the human condition.

The undergraduate curriculum renewal process in British Columbia, which is still unfolding and not set to wrap up until 2015, recently found that medical students are selected, tested, and measured (often more than any other student cohort at a university) as succeeding or failing based primarily on standardized exams that privilege objective knowledge and/or on carefully monitored clinical interactions where deviations from strict codes of behaviour are harshly critiqued (Dean's Task Force, 2010; see also Gough, 2004). Assessing and valuing emotionality in medical students, or promoting the role of emotion in future clinical practice, is virtually impossible. Students are only subtly encouraged to become fluent in complexity, uncertainly, human improbability and the constant high risks (e.g. life and death) of failure (Association of Faculties of Medicine, 2010; Dean's Task Force, 2010). They are rarely offered clear skills in these areas. Hughes (2005), like many others, identifies tense debates amongst medical educators and medical education administrators, in Canada and the US, about how to test 'softer' skill sets while not comprising the 'core' medical values and skill sets that students need to be taught before becoming practicing physicians. These pedagogic clashes, within what maintains itself as a rarefied educational geography, are ultimately felt and embodied by the students who learn within, by, and through them.

The material, experiential, and discursive spaces of undergraduate medical education are still, consequently and as personally reflected on in the opening sections this paper, often experienced by students as simultaneously confusing, deeply transformative and violently disciplining – with little concrete or formal pedagogical emphasis on the emotions of medicine or medical education. Students often feel gutted and 'emptied' as they train to become doctors (Coulehan and Williams, 2001). Are these, we wonder, the best ways to train those tasked with ensuring appropriate diagnosis, treatment and care of people who are ill or dispossessed of health, who are in acute need of people to assist them in becoming whole and healthy? And how have we ended up in an academic milieu where this is the case?

In Canada, the aim of a four-year undergraduate degree in medicine is to graduate medical doctors (MDs) who will then be placed in residency programs, a requirement of becoming registered to practice in an area of speciality (as a surgeon, physician, radiologist, paediatrician, etc.). An undergraduate medical degree is one of the most costly degrees in Canada for a university to offer and for students to complete. Perhaps because of the expenses incurred by undergraduate medical programs, in the opening years of the 21st century significant scrutiny has been levied against medical education and its students. Much of the criticism focuses on growing doctor shortages in Canada and a sense that physicians are not meeting the needs of patients, something often covered in mainstream media (Luk, 2013). Increasing numbers of Canadians are turning to alternative or complementary health care providers, asserting their emotional well-being is not fully attended to in clinical encounters with traditionally or formally trained doctors (e.g. with a university undergraduate medical degree) (McFarland et al., 2002). As a consequence of this, undergraduate medical education is trying to encourage softer, more affective/emotional aspects of medicine. These disciplinary transformations, however, do not come easily.

Partly in response to critiques levied against undergraduate medical education, and the types of professionals being produced by faculties of medicine, the University of British Columbia's Faculty of Medicine has documented a desire to address the pedagogical devaluations of sociocultural elements of health, of empathy, ethics, philosophical enquiry and innovation, the illness experience (as opposed to human pathology), of humane and emotionally complex practices and relationships, and of 'grey or non-medicalized' communications with patients (Dean's Task Force, 2010). Furthermore, the Association of Faculties of Medicine of Canada (AFMC) recently released a report responding, in part, to standardized bio-medically oriented medical education and the promotion of modern science. The report foregrounds the need for medical education to 'respond to society's evolving needs [and is]...rooted in the AFMC's...mission for medical schools' (Association of Faculties of Medicine, 2010: p. 3). The AFMC report reinforces that teaching social accountability – which is unquestionably an emotional terrain – should be important, if not primary, mission of medical education. While one of AFMC's recommendations for undergraduate medical education in Canada is to 'build on the scientific basis of medicine,' three of the other ten recommendations are to 'promote prevention and public health, diversify learning contexts, and value generalism' (3). The report stresses that undergraduate medical students will need to become clinicians with skills to balance individual and community needs while fostering medical leadership. Such goals suggest a need to teach and value emotional knowledge and understandings, to include into undergraduate medical curriculum ways of perceiving the world that do not rest solely on bioscientific or objective orientations. We wonder what this might look like, and how we might arrive at a place where emotional

knowledges and understandings can be safely taught and learned as part of the aspirations of, and attention, to social accountability within medical schools (Woollard, 2006; GCSAMS, 2010; Boelen and Woollard, 2011). We are also conscious that demanding BOTH social accountability and biomedical fluency in undergraduate medical students – who are not being formally schooled in how to deal with the stresses and tensions they encounter as learners – can make pedagogical landscapes even more fraught, even more ruinous and emotionally difficult.

3. 'A long haul': how and where students are learning in undergraduate medical degrees

Since 2005, an average of almost 1700 students have applied annually for admission to study medicine at UBC. Strict screening processes, including standardized exams, panel interviews, ranking of previous academic achievements, personal essays about character and personality, and letters of reference are all compiled to assess the validity and worth of a student's entrance eligibility. The FOM seeks 'well-rounded students with excellent cognitive and non-cognitive abilities from a variety of backgrounds, who are motivated, mature, and have a genuine concern for human welfare' (UBC Faculty of Medicine, 2012, n.p.). In 2012, 288 new students were admitted. Admission guidelines note that '[b]ecoming a physician is no small undertaking. The education program is rigorous, it is expensive and when you tack on post-graduate education (residency and fellowship) it is a long haul. There also are huge societal expectations and responsibilities when you graduate. Nevertheless, it is still a rewarding profession' (UBC Faculty of Medicine, 2012, n.p.). Those people who are accepted into the provinces' single undergraduate medical education program absorb both ambient/diffuse and eminently ontological/overt messaging that, by becoming a medical student they have 'made the cut,' are to a significant extent rarefied, and are embarking on a privileged educational journey that begins the process of being a 'life-long-learning' physician tasked with unique social expectations (Dean's Task Force, 2010).

A culture of pressure, performance anxiety, acute fear of failure, together with a sense of singularity and deservedness upon meeting success, is thus palpable in the spaces of undergraduate medical education (Enns et al., 2001). Just over 1000 undergraduate medical students are studying through the FOM at UBC in any year, each of whom is following a standardized curriculum which, with some very minor pedagogic tweaking, has been in place for several decades (Dean's Task Force, 2010). First and second year undergraduate medical education is comprised almost entirely of classroom learning that is divided in 'foundations of medicine blocks' (75% of their time) and 'longitudinal courses' (25% of their time). After a brief orientation to medical school, during which students are taught about the 'beliefs and values embedded within the curriculum' (UBC Faculty of Medicine, 2012, n.p.), students spend the majority of their time attending lectures and labs that begin with the principles of human biology as an entry to foundations of medicine courses. The goals of the foundational courses, which are augmented with labs, are 'set so that the student acquires the *basics of medicine* upon a foundation that analyzes illness at the level of its biological, behavioural and population components. The guiding philosophy of this part [of the curriculum] is the integration of normal with abnormal structure and function, and subsequent clinical correlations and options for intervention' (UBC Faculty of Medicine, 2012, n.p., emphasis added).

In their second year, students again spend the majority of their time immersed in classrooms during which time the curricula again focuses on *foundations* of medicine, including: blood and

lymphatics; gastrointestinal; musculoskeletal and locomotor and; endocrine and metabolism. Running longitudinally to the foundations of medicine curriculum, and comprising a little less than 25% of their educational space and time, are the Doctor Patient and Society (DPAS 420), Clinical Skills (INDE 420), Family Practice Continuum (FMPR 420) courses. In the spatial and temporal layout and delivery of medical curriculum, these courses are presented as lesser components of the curriculum in a variety of ways, including being placed below and taking place after the foundation of medicine. Together DPAS420, INDE420 and FMPR 420, aim to examine

critical issues in health care...[including] themes such as the social determinants of health, health care systems, evidence-based medicine, epidemiology, prevention, ethics and law, multiculturalism and marginalized populations [and develop in students] general and specific communication skills, while [student learn] to elicit symptoms, additional history and physical examination skills. (UBC Faculty of Medicine, 2012, n.p.)

The courses are not named or demarcated as foundational to medical education. Until 2011, students were not rigorously tested in the DPAS course and, consequently, it had the highest rate of non-attendance of any FOM course.

During their third and fourth years, undergraduate medical students move from classrooms to spaces outside the classroom, space of non-book but embodied learning and what many students refer to as 'real medicine'. For more than 75% of third year medical students, this means working in (primarily urban) hospital spaces wherein 'students act as Clinical Clerks in Anaesthesia, Dermatology, Emergency Medicine, Internal Medicine, Obstetrics and Gynaecology, Orthopaedics, Ophthalmology, Pediatrics, Psychiatry and Surgery. During basic clerkships, students perform histories, physical examinations, identification and work-up of patient problems, using the biological-behavioural-population paradigm' (UBC Faculty of Medicine, 2012, n.p.). The curriculum for fourth year undergraduate medical students in UBC's FOM is again centred on clinical immersion, and unfolds around blocks (e.g. paediatrics, surgery, etc.) designed to 'prepare students to achieve exit competencies, graduate an undifferentiated physician, allow the exploration of career choices, and to nurture readiness for the next steps in a medical career' (UBC Faculty of Medicine, 2012, n.p.). As in years 1–3, there is a longitudinal course running concurrently to their senior clerkships: the goal of the Preparation for Medical Practice (PMP) course is to ensure student can

effectively prevent disease at the primary, secondary, and tertiary levels, as well as provide rehabilitation and palliative care when indicated. The themes include preventative medicine, patient safety, evidence-based medicine, informatics, electronic health technologies, communication, ethics, professionalism, and diagnostics with a focus on laboratory and imaging, therapeutics with a focus on pharmacological but also exposure to physiotherapy and counselling, and palliative care (UBC Faculty of Medicine, 2012, n.p.).

By their fourth year, however, students are keenly focused on the 4th Year Objective Structured Clinical Examination (OSCE), which is 'based on the MD Undergraduate Programme outcome objectives [and] administered as an exit examination for fourth year medical students. Achieving a numeric score in the OSCE of less than 60% will result in a failure. All students must pass the OSCE in order to graduate' (UBC Faculty of Medicine, 2012, n.p.). The exams take place over two days in 16 'stations' that students cycle

through and where they are tested with written and practical assignments, interviews, clinical scenarios, and scientific exams. Once a student passes the requirements of their fourth year, they enter two years (at minimum) of residency prior to being licenced as a physician with the right to practice medicine or surgery in the area of speciality their residency focused on.

Amidst all of this, there is growing evidence that undergraduate students are at least equally if not more significantly shaped by a 'hidden curriculum' of their undergraduate and postgraduate education and that many students are not graduating with the professional values (ethical thinking, accountability, compassion) lauded as those cherished by the medical profession and society more broadly (Association of Faculties of Medicine, 2010; Stern, 1997). The hidden curriculum can be understood as a set of influences that function structurally and culturally to shape students' learning, including implicit rules about customs, rituals, and taken for granted aspects required to survive within institutional or educational spaces (Lempp and Seale, 2004).

Such a hidden curriculum is delivered spatially, through and by examples and modeling of people's behaviours in place, and socially through the actions and words of other medical professionals and peers, often with deeply affecting emotional drivers as the force behind the unofficial lessons. For instance, in a recent study of undergraduate medical students in the UK, 'fear and humiliation' were cited as a powerful forces that imparted lessons about acceptable and unacceptable behaviours, irrespective of whether or not those behaviours were condoned in official curriculum (Lempp and Seale, 2004; Sincliar, 1997). Students repeatedly noted they learned their 'proper place' in a hierarchy, their inability to question or critique, and the authority of 'experts' through fear and humiliation.

4. Voices from the frontlines: student and reseracher voices about experiencing medical school

One of the things I do is travel with undergraduate medical students into small northern Indigenous communities. The travel back and forth to these communities affords me time to get to know some of my students in unique ways. Once, during a long summer evening drive home from a community, the conversation turned to undergraduate medical education. I remember being so taken aback with the honesty of one of my students who told me, frankly, that she, like every student she knew, felt that any creative or emotional skills she entered medical school with were 'beaten out' of her as she progressed towards graduating. I asked her why that was, and if she had any ideas about how to change it. She just sighed and said part of the problem was that she didn't even have the time or energy to think about the 'why's' of what she was learning. She just knew that if she didn't learn 'the right things in the right ways' she'd fail. Plain and simple.

Throughout my years at medical school I found myself on the 'other side' of medical care on several occasions. These experiences provoked and demanded new levels of appreciation and respect for the uncharted and personal landscapes involved with becoming a doctor. One of the more dramatic and amusing examples was when I was admitted to the surgical ward where I had - the day before - been interviewing women, 30 years my senior, about their gallstones. I had been hit by a car (yes, reading about gallstones as I walked to my day at 'school'...!), and found myself an 'inpatient' in the bed opposite them. The grace by which these women 'welcomed' me into their shared space (a room of six beds, separated by curtains), subtly shared insights about the art of being a patient, and the deep humor and humility invoked when I was visited by my clinical professor and fellow-medical students on their 'rounds', offered profound glimpses into our collective humanity that may have taken me years to learn. These were lessons that left me feeling both ruined and re-humanised.

Not surprisingly, the only space to legitimately discuss this extraordinary experience with my colleagues was in an 'elective' Balint Group⁴ – established by a small, self-selected group of my medical class with the support of a professor. Although deeply relevant for me, I was saddened that these experiences and insights were considered extra-curricula and sidelined as atypical. Twenty years later, it is remarkable that explicit reflective practice along these lines is still considered innovative and at the fringe.

Undergraduate medical education unfolds through more than just formalized curricular structures. Medical practices and medical education both take place in regimented, monitored, and prescriptive places like labs, hospitals, and clinic offices, all of which spatially enforce expectations about what is acceptable behaviour in or out of such places (Cribb and Bignold, 1999; Cresswell 1996, 2006). Dress codes, which can mark undergraduate medical students as different (if not 'above') their colleagues in other disciplines, are enforced in UBC's FOM and during clinical interactions during which undergraduate students are attired (white coats, stethoscopes) in ways that mark them both as a specific kind of professional and as a subject separated from the patients with whom they interact. The 'hidden curriculum' is credited with further embedding a hierarchy of medical specialities, resulting in a reinforced idea that generalist and holistic practices (e.g. family medicine or, to a less extent, psychiatry) are the 'poorer cousins' to specialities like surgery (Association of Faculties of Medicine, 2010).

Ultimately, all aspects of the curriculum are felt, and lived, by those who interact with them. One important aspect of the curriculum is to promote certain forms of knowledge and ways of understanding over others, something about which students have offered feedback. Belief that biomedical, scientific, objectivist approaches to human well-being are privileged over any other perspective is reported as a common, and often stressful feeling, of undergraduate medical students. For instance, one student wrote in a course evaluation that 'I am sometimes overwhelmed...[the questions I'm asked in relationship to the course] involve deep thought and consideration. These questions are more philosophical or revolve around [broad] concepts ... and although very important, they are hard to address.' In our experiences of teaching in and being schooled in faculties of medicine, 'philosophically' demanding concepts are outside the comfort zone of many undergraduate medical students. For instance, another student noted, 'many medical students have primarily science based backgrounds and do not understand the subtleties of the written word [and other forms of non-scientific communication].'

Some students feel that having non-biomedical or non-clinical faculty is unique but challenging, writing that '[working with people who have] social sciences backgrounds is a huge asset to [students] and encourages us to address concepts from different angles that [we] don't think we would normally cover.' Although some students note the importance of creating a 'safe and comfortable learning environment [that] encouraged critical thinking about both medical and ethical issues,' others acknowledged that such thinking is, in actual practice, neither valued in medical school nor foregrounded as applicable in future clinical practice: these are 'topics which we may not have been comfortable with.' In general, the topics that students voice feeling most uncomfortable with are categorized as 'psychosocial,' topics and concepts that do not fit within the 'foundational blocks' of medicine. One student, for instance, notes acute discomfort when s/he

⁴ Established in the 1950's, Balint Groups encourage case-discussion, reflection and awareness of the complex psychological and psychosocial dynamics of the medical practice, for trainees and established physicians (see Torppa et al., 2008; Roberts, 2012).

felt materials are discussed with too 'heavy [an emphasis] on the psychosocial aspects...;[while] I think psychosocial considerations are essential to our education, and am glad [they are] pushed...sometimes I feel like we are spinning our wheels [on these topics].'

Too much emotionality, complexity, or critical and self-reflective focus is viewed, by some students, as detracting from what they were meant to learn in medicine, particularly in the 'practical and applied/clinical' realm. In response to learning about history and Indigenous medical/health realities, one student observes: 'from a practical standpoint there was nothing useful in this session. When asked how we should approach a patient to achieve a 'post-colonial' relationship...[we were told], to paraphrase, to 'listen more and keep an open mind'. This is an entirely unhelpful answer. Perhaps there is no answer to these questions but then what was the point...[?]' These responses underscore how deeply students feel they must achieve a clear 'answer' to questions that arise, that it is emotionally daunting to exist in a liminal space of experiencing and listening. Similarly, another student notes 'as per usual [with DPAS topics], I found the topic to be somewhat interesting but don't feel I explicitly know how this will relate to me and my future practice' while another simply states that 'Sometimes a passionate tone [in learning environments] is less than credible.' Emotion, in other words, has no space in undergraduate medical education. Another student's perspective is perhaps the most summative of the anxiety undergraduate medical students feel with reference to grappling with complex, emotional, open-ended, or subjective issues: '[i]n medical school students are often so worried about giving offense that they are unwilling to ask questions they fear will be misinterpreted. This is particularly true with [complex social issues]. [While we are told] that all doctors need to do is ask...in my personal experience knowing how to ask is as important as asking. I have often felt that my curiosity was not welcome, and often said the wrong thing in trying to understand a complex topic... It is soooo hard to ask.' It seems to us that learning to become physicians in an educational environment wherein posing questions is feared ought itself to be questioned.

Other students spoke to us about non-delineated, but very powerful, pressures pertaining to use of time, behaviour, and expectations for success. They were able to reflect on this when offered learning opportunities that took them outside the spaces, classrooms, and curricular expectations around which the majority of their undergraduate medical education occurred. With reference to a humanities and social science based research project wherein they worked in an isolated First Nations community, undergraduate medical students observed that

[s]ince our acceptance into the UBC Medical Program, our brains have been bombarded with everything from heart rhythms to microscopic images of liver cells. The only art mentioned in our schooling thus far is the apparent 'art' of medical practice itself. Medical students are often thought to be of a similar mould, the type of people who are accustomed to a schedule that does not permit much spontaneity nor flexibility...It is one thing to sit in a didactic lecture setting and hear about the marginalization of certain populations...It is another to...experience first-hand the differences and similarities in culture, while working together with the community to promote health and well-being. Arguably our first lesson learned; we cannot always expect others to adhere to our schedule. (quoted in de Leeuw, 2011a,b)

Despite internal and external critiques about how undergraduate medical education is failing to produce physicians fully suited to 21st century needs and visions, despite a solid evidence base documenting that undergraduate medical students are not provided

with the education spaces needed to consider complex ethical and human dilemmas, and despite provincial and national agreement about the need for work towards curriculum renewal/transformation, students continue to experience their medical education as predominantly focused upon and rewarding of traits in line with historical biomedical scientific ways of thinking and being. The body as purely material, that can be empirically parsed for effective understanding is the dominant discourse in medical education curriculum; this is demonstrated plainly in western Canada's largest Faculty of Medicine wherein this mode of learning is designated as 'the foundations of medicine'. Students disciplined in more traditional modes of thinking, behaving, and practicing note their resistance to open-ended emotional thinking – but they are increasingly being called upon to demonstrate such skills. It is little wonder that undergraduate medical students feel as though they are being run through a meat grinder and 'popped out' as physicians. It is to the potentials for ameliorating this situation that we now turn our attentions.

5. Beyond the disciplinary strictures of traditional undergraduate medical curriculum: lessons from other places

Undergraduate medical education programs in Canada have a wide variety of creative arts upon which to draw and can reference a rich history of the humanities productively intersecting with medicine. The outcomes of such interdisciplinary endeavours have proven effective across other medical programs in other countries (Cox et al., 2010) and there is mounting evidence about how transformative to physicians' practices a solid grounding in the arts and humanities can be during undergraduate medical education (Calman, 2006). Connections between creative art and medicine (and health more broadly) are 'embryonic' in Canada, but governments, universities, and private organizations in England, the United States and Australia have supported cross-pollinations between creative arts and health for several decades (Cox et al., 2010: p. 109). Specific examples of the creative arts cross-pollinating with health and medical programs in Canada include artists-in-residence at faculties of medicine; hospitals and residency programs partnering with arts institutions like art galleries in order to immerse medical students in creative expression; and creative arts being deployed in health promotion programs (Cox et al., 2010).

Broadly speaking, the humanities and creative arts are thought to develop in medical students and practicing physicians an array of traits, including strengthened observational and communication skills, enhanced empathy and understanding about the human condition, improved capacities to think in nimble, nuanced and creative ways about complex problems, and more socially-just orientations to the world (Greenhalgh and Hurwitz, 1999; Donohoe, 2010; McClean, 2010). Concepts, methods, and content from humanities disciplines are being used in medical curricula to consider healing, pain, suffering, or therapeutic relationships in addition to encouraging students and practicing physicians to become more self-aware, humane, and professional (Shapiro et al., 2009). Some of the best documented benefits that arise from a cross-pollinated relationship between medicine, the humanities, and creative arts are occurring in the growing, and increasingly well-regarded, fields of narrative medicine, ecohealth, and relationship based care (see for instance Brody, 2002; Charon, 2004, 2006; Beach et al., 2006; Scott et al., 2008; Waltner-Toews, 2009; Webb et al., 2010; Parkes, 2011).

Narrative medicine, which is concerned with both clinical practice and theories of care, is informed by concepts common in literary studies and the literary arts (Charon, 2004, 2006). Narrative medicine moves away from a biomedical paradigm that frames human ailments primarily as problems that need to be and can be solved in

clear and evidenced-based ways. Instead, narrative medicine works towards conceptualizing illness and wellness as experiential in nature, thus requiring patient narratives to be expressed, understood, and therapeutically addressed. Narratives capture our interest, encourage readers and viewers to look at the world in new ways, and often compel us to think along lines and about topics we could not have imagined prior to entering the story. Scholars of narrative medicine argue that these traits of narratives are precisely what make them potentially so valuable to medical theorists and clinicians (see Greenhalgh and Hurwitz, 1999; Donohoe, 2010).

Other areas of innovation and integration that engage explicitly with the transdisciplinary, integrative and complex challenges captured in calls for a more humane and artistic approaches to health can be found in the complementary and emerging fields of relationship-based care (Brody, 2002; Beach et al., 2005; Scott et al., 2008) and ecohealth (Waltner-Toews, 2009; Webb et al., 2010; Parkes, 2011; Charron, 2012). Both fields exemplify the value of understanding reciprocal, inter-dependent and non-linear relationships within health pedagogy and practice, and the applicability of these insights from the level of individual doctor-patient relationships (Brody, 2002), through to the relationships among health, community and ecosystems (see Parkes et al., 2009). Relationship-centred care recognizes that relationships in health care ought to include the personhood of the participants, that affect and emotion are important components of these relationships, that the formation and maintenance of genuine relationships in health care is morally valuable and that all health care relationships occur in the context of reciprocal influence (Beach et al., 2006). Therapeutic relationships are also discussed in the context of joint construction of narratives (Brody, 2002), highlighting challenges of reciprocity, divergence and emergence that are readily evoked by literary accounts of health and illness. Situated in a wider contextual framework, Waltner-Toews (2009) describes ecohealth as offering 'systemic, participatory approaches to understanding and promoting human health and wellbeing in the context of complex social and ecological interactions.' In Canada, particular attention has been given to 'ecosystem approaches to health,' where researchers and practitioners are challenged to consider the principles of transdisciplinary, participatory and equity-oriented approaches to their work (Webb et al., 2009). Of note, this emerging field is explicitly engaged with cross-fertilization and cross-pollination across the health, social and natural sciences, as well as the arts and humanities. Canada's founding 'community of practice' in ecohealth embodies this orientation, explicitly including creative arts and processes as integral to their training and education programming (CoPEH-Canada, 2012; McCullagh et al., 2012).

Such orientations to health, medicine, and human well-being require theorists, educators and practitioners willing to engage with open-ended uncertainty and who are comfortable drawing abstract and creative linkages across various scales from, for instance, the cellular to the global and environmental. The burgeoning and complementary research in fields such as ecohealth and relationship-centred care, with their emphasis on interconnectedness and complexity, has an important place in discussions about the role of creative arts and humanities in medical and health theory, education, and practice. The potential benefits of such approaches have particular relevance to people living and working in Canada's northern geographies (see for example Parkes et al., 2010).

6. Medicine in a Northern art gallery: emotional spaces outside the formal undergraduate curriculum

There is, in northern British Columbia, a widely recognized dearth of health care professionals – particularly specialized physicians – in part because of recruitment challenges that centre

upon negative perceptions about the north being an unwelcoming landscape for the social echelon of doctors (de Leeuw, 2011a,b). Many doctors voice worries about feeling 'out of place' in rural northern places. Doctors who are successfully recruited often find themselves overwhelmed with the depth of psychosocial challenges they face upon starting practice, challenges that can lead to feelings of frustration towards patients suffering from acute illnesses that, some professionals feel, physicians in urban areas would not be subjected to with the same regularity. Preventative care is thin, at best, in northern B.C. These rifts and fissures all lead to retention challenges, physician burn out, unproductive doctor-patient relationships, and the perpetuation of mistrust between physicians and patients (de Leeuw et al., 2012). Undergraduate medical curricula in the Northern Medical Program are being designed to address these deficits by looking at new pedagogies and the integration of more transdisciplinary and creatively focused learning. Educational practices in northern B.C. are thus offering new insights into medical education more broadly, particularly in areas like social responsibility, creative response to patient needs, and empathetic orientation to populations with which many medical students and practicing physicians may have little direct knowledge. If one of the lessons being learned by the presence of a northern medical program is that medical students need tools to more fully and specifically engage with the people, in place, with whom they practice, then the lessons of the northern medical program may be set to inform a national medical curriculum broadly.

Between 2009 and 2011, in the context of these concerns and evolving pedagogical strategies, a group comprised of doctors, staff from a northern art gallery, two university faculty and researchers, and a practicing artist and university professor, partnered to develop and deliver three professional development courses – one with a focus on Visual Art, and two with a focus on Narrative Medicine. The first courses took place in Two Rivers Gallery, the largest art gallery in northern BC, during two exhibitions, one entitled 'Flights' and comprised of works the gallery's permanent collections, and one entitled 'I love Prince George and Prince George Loves Me'. A total of 17 medical students and practicing/clerking physicians attended the professional development course, a fully CFP (College of Canadian Family Physicians of Canada) accredited course. The evening began by participants placing ourselves upon an 'art continuum' – do we see ourselves at the artists' end of the spectrum, or at the far end, as in far from art? Responses span a gamut from 'I adore art' to a feeling of 'art as alienation.' Others mentioned the emotion, beauty, and the deep emotional impression that art makes. One person noted the 'therapeutic' value of art as a 'window for creativity.' The physician in our research team drew explicit links between the course and medical practice, discussing concrete examples about clinical acuity and working in an improvised setting such as 'third-world' places or, in the case of this course, isolated rural northern geographies. S/he discussed how doctors tend to ask the same questions due to a reliance on scientific method, inviting all participants to consider the pitfalls of such a practice. One participant noted that in such a framework, the person (patient) becomes an object, not a person. There was also a discussion about how gathering detailed observational data is at odds with the push for doctors to narrow down their allotted time and as such, observation is 'clinically a nightmare.' Some concluded that taking a detailed 'narrative history' can be done in 5 minutes but that doctors are trained to focus on disease not illness, and therefore privilege is placed on the pathological/physiological and not on personal experience of illness.

After an introductory 'framing' of the first professional development course in Visual Art, which ultimately turned on a purposeful and directed merging of physicians, residents and medical

students with visual art objects, the group moved into the galleries and into the spaces of visual art objects. Participants were invited to find stools for a directed art experience and the head of public outreach at the gallery led participants through a visual analysis exercise, encouraging participants to spend time looking, to consider what we see and how it made us feel (for example, comfortable or uncomfortable). First impressions of the art works were invited: 'very nice' 'fun' 'helpful' 'uncomfortable' were some of the initial responses. One physician noted a tendency of 'squishing down what is uncomfortable' in clinical work. That is, if s/he sensed a potentially awkward encounter with or difficult revelations from a patient, s/he might seek to avoid that line of conversation through reverting to an objective diagnostic evaluation. Based on this comment, the participants were invited to consider an alternative: how does one connect in/through discomfort? The answer arrived at was that we connect through our own experience, our embodied experience, and further, that accessing one's personal experience was sometimes difficult and/or awkward too. After passing through several levels of engaged and guided 'looking', participants moved into a discussion of context – how the social and the spatial surroundings of subjects inform our gazes, what we see, and what we conclude. This, in turn, spurred more discussion about doctors' working circumstances, whether clinical, academic, or therapeutic. Participants shared reflections about processes of listening to other's interpretations and considered on what might be gained or lost (personal power, sense of professional competency) by hearing a different diagnosis, a different point of view. One doctor was moved to suggest that every interaction, including clinical and therapeutic, is comprised of different perspectives, views, and spatial backgrounds. Finally, participants noted a commonality between their art experience and medical practice: in art galleries, most people devote more time to the 'labels' on artwork than to the art itself. Doctors too are (educated to be) drawn to labels (diagnosis) but (learn to) avoid the picture (patient).

Following on similar lines, two other CFP (College of Canadian Family Physicians of Canada) accredited professional development courses have also taken place in Prince George. These focused on narrative medicine and interactions between literary and narrative arts and the work of physicians, undergraduate and graduate medical students, and health care professionals (including nurses and midwives) in northern B.C. Held above a local bookstore, and with the intent of building narrative competence while encouraging the production of creative writing, the two narrative medicine workshops attracted a total of 18 participants. The format for these two courses was once again straightforward: participants were introduced to preliminary concepts of narrative medicine, exposed to examples of creative writing about health care or by health care professionals, and then asked to produce their own creative writings about a series of topics (see too [Hatem and Ferrara, 2001](#)). Finally, if comfortable doing so, participants read their work aloud and contemplated the relationships between medical practices, medical education, and what was learned in the workshop or by producing literary art.

What are the preliminary lessons we learned from the project(s) of merging physicians, medical students, and health care professionals with visual art objects and literary narratives? First, this method of learning was thought by the majority of participants to be mostly safe (non-threatening), comfortable and enjoyable. The results, based on evaluations and follow-up questionnaires, were overwhelmingly positive. Over 85% of respondents rated the courses as above satisfactory or exceptional and noted they learned a great deal. One participant in the narrative course noted 'I am an advocate [now] for integrating narrative medicine into medical school curriculum. Narrative medicine is a great tool to build

empathy and awareness of oneself and others' while another observed that after attending the course they would 'listen more carefully.' It is also very different from what physicians are used to, but positively so: one participant in the visual course noted 'It was pleasurable and enjoyable to learn in this manner. The information seeped in effortlessly and gently. It was refreshing...'. Yet, as noted in the discussion of managing awkwardness and discomfort, above, these different modes of engagement were not uncomplicated. Another participant, a doctor and educator, recognized that doctors are 'taught in certainty, but practice in ambiguity'. In many ways, these professional development courses highlighted (we think, productively) the ambiguous aspects of medical practice and raised as many uncomfortable questions as insights for the participants.

The decidedly non-clinical spaces of art galleries, bookstores, and performance stages allowed for physicians and medical students to generatively learn from each other in contrast to usual, more hierarchical encounters: one participant reported, 'I loved the ability to interact and chat and share.' Finally, the effects of immersion in a professional development course predicated on transdisciplinary pedagogy, on cross-pollination of the medical profession with the creative arts, bore immediate results. A doctor illustrated the effects of such cross-pollination when s/he said 'I love the auditory poetry which made me visualize a painting in my imagination and made me feel sorrow at the death of the woman with breast cancer'; another noted s/he had learned that there must always be an 'attempt to be compassionate towards each other and towards patients.' Lastly, and tellingly, one participant wrote: 'it brings to mind, again, that we need art and we need science...like the body and the mind, the two should be considered inseparable'.

7. Conclusions: some personal reflections about undergraduate medical education and where emotional knowledge might enter the picture

When I first took up a position with a faculty of medicine, I was asked, all the time, why a faculty of medicine would hire a creative writer and social science researcher. My pat answer was: well, you know, medicine is both a science and an art. Invariably, people would agree, promptly switching into storytelling mode about personal experiences they'd had with health care professionals in which the emotional content of the interaction was, from their perspective, lacking. I still have no clear solutions or responses to these stories – what I feel, however, is that undergraduate medical curriculum needs to somehow value and promote creative and emotional knowledges – right alongside biomedical ways of understanding illness and health. I suspect that just hiring non-medical doctors to teach future physicians is one step towards doing this, but I think there are still many more steps that need to be taken.

Living as a non-practicing physician, someone who was trained to be a doctor but now accesses the medial system as anyone else would, I worry that the status quo of medical education is neither improving patient care nor increasing practitioner satisfaction. In the case of northern communities, where I now find myself living and working, I think innovative approaches have been necessitated by the perceptions and the experiences of healthcare issues faced by northern residents and their doctors, leading to the support of non-traditional professional development course offerings we described here. I am encouraged by ways that quite different, but complementary developments in narrative medicine, relationship-based medicine, and the emerging field of ecohealth, offer informative and integrative trajectories to follow. With emphases on complex stories and contextualised, relational experiences of health, these areas offering glimpses of a future where foundational and continuing medical education are better suited to the complex realities that determine their success. Sometimes I ponder what would have happened if I had been trained to be doctor

with these possibilities more explicitly on the horizon. I suspect it would have been a more emotionally fulfilling experience.

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