supports and developing culturally capable and safe working and learning environments. Meaningfully addressing the layers of racism is also crucial.[8]

This calls to action all members of the medical academy to think deeply about their role in shaping and enacting the structures that create medical education. As outlined by Chelsea Watego (Bond), we as living ancestors have a role and responsibility in determining the medical education legacy we leave behind, not just for our community members of tomorrow, but for many generations to come.

> The latest living Ancestor, here, now, carries a responsibility not just of living, but to think deeply about what legacy will be left in that living.[9]

We as living ancestors have a role and responsibility in determining the medical education legacy we leave behind.

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Cultural historical activity and the complexity of health professions education

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Life is messy. While we can set out with one intent, who knows where we will end up. Undertaking something inherently complex—like a medical student-led, community-based learning initiative with multiple students and community participants, conducted over a number of years—seems particularly susceptible to the unexpected. How then can we seek to form an understanding of the educational or other

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outcomes of such an initiative, and in a way that anticipates and accommodates the likely complexity? In their study in this issue of Medical Education, Hu et al. have used Cultural Historical Activity Theory (CHAT) as the theoretical basis of their qualitative study to do just that.[1]

Life is messy. While we can set out with one intent, who knows where we will end up.

CHAT was developed from Vygotsky's concept of activity-oriented actions, with Engeström formalising the activity system as the unit of analysis to explore the multiple interactions in a complex system.[2] CHAT has a constructivist basis but importantly it equally emphasises that knowledge is developed by interactions between people (drawing from sociocultural theory) and that these interactions and people are situated within a defined space where tools are manipulated and rules exist (sociomaterial theory); both influence the activities that lead to particular outcomes.[3] With this approach, CHAT can be used to make sense of complex situations by approaching them without pre-determining all the activities, tools and outcomes and is particularly useful for identifying tensions within a system. As such, CHAT is an underpinning theory that is particularly well suited to understanding learning in health care settings, where the goals of patient care and student learning may be at odds.[4]

In the study described by Hu et al., the initial learning initiative of student consultations, which aimed to provide some care to an underserved rural population while also enhancing the population's health literacy, was disrupted by the arrival of formal primary health care. The tensions created changed the object of the activities from a focus on the development of student-centred technical and professional skills to a community-centred focus on the aspirations and goals of the community, where students worked in collaboration with the community. Like life, health professions education is often messy and complex. CHAT can help to make sense of the complexities of health professions education, identifying the tensions when they arise and identifying solutions that may have already arisen organically. These solutions may become the stimulus for transformative learning.

While the use of CHAT in health professional education research remains relatively recent and infrequent, scholarship using CHAT as a theoretical basis stands out for its elegant ability to make sense of complex systemic activities with multifaceted goals. For example, using CHAT Varpio and Tuneissen explored the relationships between leadership and followership in the interprofessional context to examine how patient outcomes can be improved when health professionals are able to fluidly move between the roles of leader and follower as the context demands.[5]

Scholarship using CHAT as a theoretical basis stands out for its elegant ability to make sense of complex systemic activities.

CHAT has been proposed as a preferable approach to understanding the challenge of resolving the tensions created by health professions student placements in clinical environments.[4] Rather than considering the tensions arising between patient care and student education as a simple problem that can be 'solved', applying CHAT leads to understanding the complexities of these tensions and enables re-conceptualisation of the relationship between the health care system and the health education system. Although we have not yet seen it applied, CHAT may provide a basis on which to enhance understanding of other wicked problems in health professions education such as technology adoption,[6] the hidden curriculum[7] and systemic racism and decolonisation.[8] We would encourage more scholars in medical education research to consider CHAT as an underpinning theory suitable to enhancing our collective understanding of many complex issues.

CHAT may provide a basis on which to enhance understanding of other wicked problems in health professions education.

While using an underpinning theory such as CHAT—which somewhat ironically has considerable complexity in itself—has great potential in health professions education scholarship, it is likely to require considerable effort to develop sufficient understanding and expertise to apply CHAT. We cannot delay engaging in this effort, as medical education research does not have a great track record on conceptualising and addressing complexity.[9] Fortunately, there are some simpler rubrics and structures which may be an easier entry for the scholar or which could be adopted and used by any reflective educational practitioner to enhance their understanding of complex clinical learning settings.[3]

CHAT—which somewhat ironically has considerable complexity in itself—has great potential in health professions education scholarship.

Whether for scholarship or practice, we would be well served by the application of theories to enhance our understanding of complex systems and the tensions that arise within them. By using a CHAT framework, we may be able to anticipate how changes in systems, both planned and unplanned, may affect outcomes. Or, probably more realistically, CHAT may help us understand that intended outcomes may not always be achieved, and better anticipate unintended consequences. Since we are trying to undertake health professions education and scholarship in a volatile, uncertain, complex and ambiguous (VUCA,[10]) world, any concepts or theories that support an enhanced understanding of this increasing complexity are probably necessary for us to survive and hopefully thrive.

CHAT may help us understand that intended outcomes may not always be achieved, and better anticipate unintended consequences.

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The many spaces of psychological safety in health professions education

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