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## **Pre-prescribing: changing the object of prescribing education**

Eleanor McCrystal, Hannah Gillespie, Helen Reid, Neil Kennedy, Tim Dornan

### **Introduction**

Improving prescribing safety is a challenge for undergraduate medical education. Foundation trainees (FTs), who write most prescriptions, too often make errors. Presuming that preparing students for practice can make FTs safer practitioners, medical schools have intensified their teaching and skills training. They have tended to defer, even reduce, students' involvement in practice. There is a lack of evidence that this improves prescribing safety. We know that the chaotic conditions in which doctors often practise are a prime cause of errors so it is logical to strengthen practice-based patient safety education. We followed an approach pioneered in Edinburgh and Keele Medical Schools, where students write medication orders for real patients, in context, using coloured labels or ink to identify these as 'pre-prescriptions', which must not be enacted until countersigned by a qualified prescriber. Our research question is: how does pre-prescribing affect the system of prescribing education?

### **Methods**

The conceptual orientation was towards activity theory and experience-based learning, the methodology was design-based research, and the methods were qualitative. During pre-qualification assistantships in 2019, 80 students pre-prescribed in four Northern Irish hospitals. With ethics approval, the first author recruited a purposive sample of key stakeholders: 3 senior doctors, 1 allied health professional, 2 administrators, and 2 students. She conducted minimally structured telephone interviews, asking participants to describe their experiences of changes that resulted from the intervention. She recorded interviews, transcribed them verbatim, re-read them in their entirety, and then coded them thematically. She used three levels of activity theory (actions, goals, and the object) to organise the findings. Her co-authors helped her respond reflexively to the data.

### **Results**

Participants reported strongly positive experiences of the intervention, which created tangible changes at all three levels of activity. At the action level, students had opportunities to participate actively, not just observe or rehearse authentic patient care. Clinicians facilitated students' learning by supervising and supporting them, not just 'teaching' them. At the goals level, students aimed to become skilled and knowledgeable, not just be signed off. At the object level, students described being intrinsically motivated to become doctors who could care safely for patients, not just successful students who fulfilled curriculum requirements. Participants had negative experiences too: these were mostly related to implementing curriculum change rather than pre-prescribing per se.

### **Conclusions**

This analysis shows how a relatively simple intervention, implemented without new funding by motivated researchers and teachers, expanded the object of prescribing education from meeting curriculum requirements to caring safely for patients. All stakeholder groups want the intervention to be repeated on a larger scale in 2020, which shows how activity theory can help educators design curriculum interventions that have impact and are sustainable. It did this by identifying contradictions inherent in a curriculum design that presupposes students can be prepared for work without contributing to work. Pre-prescribing released stakeholders' intrinsic motivation to meet an important social need, as opposed to the extrinsic motivation of satisfying regulators. Pre-prescribing, on this evidence, is a pedagogy that makes students' and teachers' motivations, associated goals, and actions more likely to educate safer, more independent prescribers.