

Fundamental Cause Theory as a Missing Lens in Medical Education.

La Teoría de la Causa Fundamental como una perspectiva ausente en la Educación Médica.

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Medical education increasingly incorporates social determinants of health (SDOH), yet recognizing social conditions does not necessarily equip learners to explain why health inequalities persist when risks, diseases, and interventions change. This distinction represents an important curricular gap. Fundamental Cause Theory (FCT) proposes that socioeconomic conditions influence multiple health outcomes through flexible resources (including knowledge, money, power, prestige, and social connections) that can be mobilized across changing circumstances (1-3). We argue that the educational value of FCT lies not in adding another determinant to medical curricula, but in helping learners move from recognizing social determinants to explaining persistent inequality.

This contribution can be translated into explicit educational competencies. By applying FCT, learners could be expected to distinguish proximal pathways from fundamental causes; identify how flexible resources shape exposure, protection, and access to interventions; explain why inequalities may persist despite medical progress; and critically examine whether proposed responses address downstream mechanisms or upstream conditions (1-3). These competencies would complement biomedical causal reasoning with structural analysis rather than replace it.

FCT could be incorporated without requiring a stand-alone course. Case-based learning could ask students not only to identify socioeconomic disadvantage, but also to explain how differential access to flexible resources shapes opportunities to benefit from prevention or treatment. Community-engaged learning and structural competency provide educational approaches for examining how policies, institutions, and social structures influence health (4). Experience implementing SDOH curricula further highlights the importance of curricular integration and faculty preparation (5). FCT could therefore function as an explanatory framework within existing SDOH, public health, community medicine, or clinical reasoning activities.

Assessment should reflect these proposed competencies. Rather than asking learners merely to list social determinants, educators could present a case requiring them to distinguish proximal and fundamental causes, map relevant flexible resources, explain how inequality might persist after an intervention, and differentiate downstream from upstream responses. Reflective activities could further examine how clinical decisions interact with structural conditions. The intended educational

outcome would therefore extend beyond awareness of social context toward the construction and justification of theoretically informed explanations of persistent inequality.

However, theoretical plausibility should not be confused with demonstrated educational effectiveness. Critical theoretical frameworks have been proposed to address dimensions that biomedical models and conventional SDOH curricula may insufficiently explain (6), but no direct empirical evidence identified in the available literature evaluates whether teaching FCT improves medical students' knowledge, critical thinking, structural reasoning, or understanding of health inequalities. FCT should therefore be regarded as a theoretically grounded curricular proposition rather than an evidence-established educational intervention.

This absence of direct evidence defines a testable medical education research agenda. Future studies should evaluate whether FCT-based learning produces measurable changes in learners' ability to distinguish levels of causation, explain persistent inequalities, and formulate structurally informed responses. The relevant question is no longer only whether medical students can recognize social determinants, but whether FCT can help them explain why social advantage continues to become health advantage even as medicine changes.

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