

# Defining and unpacking the core concepts of pharmacology: a global initiative

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## Abstract

**Background and Purpose** Development of core concepts in disciplines such as biochemistry, microbiology, and physiology transformed teaching. They provided the foundation for the development of teaching resources for global educators, as well as valid and reliable approaches to assessment. An international research consensus recently identified 25 core concepts of pharmacology. The current study aimed to define and unpack these concepts. **Experimental approach** A two-phase, iterative approach, involving 60 international pharmacology education experts was used. The first phase involved drafting definitions for the core concepts and identifying key sub-concepts via a series of online meetings and asynchronous work. These were refined in the second phase, through a two-day hybrid workshop followed by a further series of online meetings and asynchronous work. **Key Results** The project produced consensus definitions for a final list of 24 core concepts and 103 sub-concepts of pharmacology. The iterative, discursive methodology resulted in the modification concepts from the original study, including the change of 'drug-receptor interaction' to 'drug-target interaction' and the change of the core concept 'agonists and antagonists' to sub-concepts of drug-target interaction. **Conclusion and Implications** The definitions and sub-concepts of the 24 core concepts provide an evidence-based foundation for pharmacology curricula development and evaluation. The next steps for this

project include the development of a concept inventory to assess acquisition of the concepts, as well as the development of cases studies and educational resources to support teaching by the global pharmacology community, and student learning of the most critical and fundamental concepts of the discipline.

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