**Grant title**: VIP: Virtual Integrated Patient for Exploratory Learning (2TRP01)
**Grantor**: Ministry of Education Tertiary Research Fund
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**Amount obtained**: $481,325
**Duration**: 3 years
**Start date**: 1st March 2017
**End date:** 29 Feb 2020

Globally, many universities have been compelled to make changes to the way education is delivered because of the explosive growth in information coupled to increasing student enrolments and the associated demands on relevance, skills and competency training. At the YLL School of Medicine, massive changes are underway to rationalize the curriculum and to re-strategize the way doctors are trained. One important strategy in healthcare education is the use of computer-based simulation. In the Centre for Healthcare Simulation (CHS) at NUS, medical education is enhanced through simulation technology, innovation and research. Since the establishment of CHS, simulation teaching is embedded into all 5 years of medical school using both mannequin-based and the standardized patient simulation. However, the limitations of these two simulation are that they can only involve a small number of students at one time, and faculty have to conduct repeated sessions. In this study, we propose to develop and implement a **V**irtual **I**ntegrated **P**atient (VIP) simulator, that consists of short segments of videographed simulated patients (SP)s with alternative branching scenarios and choices that can be interrogated primarily by text, such that the choices made by the student can interfere with the outcome or well-being of a patient. The video will be interjected with formative assessments for the student to gauge their level of understanding. This, in totality, allows self-exploratory learning by the students in any of healthcare profession. Virtual patient simulation has fewer of these resource constraints compared to mannequin-based simulation. It is capable of creating relatively high-fidelity simulation of patients according to scenarios designed for specific learning objectives. With the capacity for exhibiting a high level of interactivity and realism, a wide range of clinical scenarios with guided reflection can be designed into the virtual patient simulation. In addition, it can cater to a large number of learners simultaneously and be used by learners repeatedly as and when needed. Being accessible anytime and anywhere, it can also be integrated into curricula in a more flexible manner. Although the use of virtual patient simulations have been widely adopted for training health professionals, more research is required to inform how to effectively design and integrate them into curricula. We aim to design an algorithm that will allow a natural and realistic way of interaction between student and this virtual integrated patient model and ask if using this VIP can improve clinical reasoning skills. We believe, with a well-designed VIP, it will help students remained engaged with exploratory learning, and will eventually improve clinical reasoning skills. This proposal will also allow for evaluation of the model with respect to usability and effectiveness in meeting educational needs.