Transforming Medical Education with Immersive, Virtual Clinical Environments

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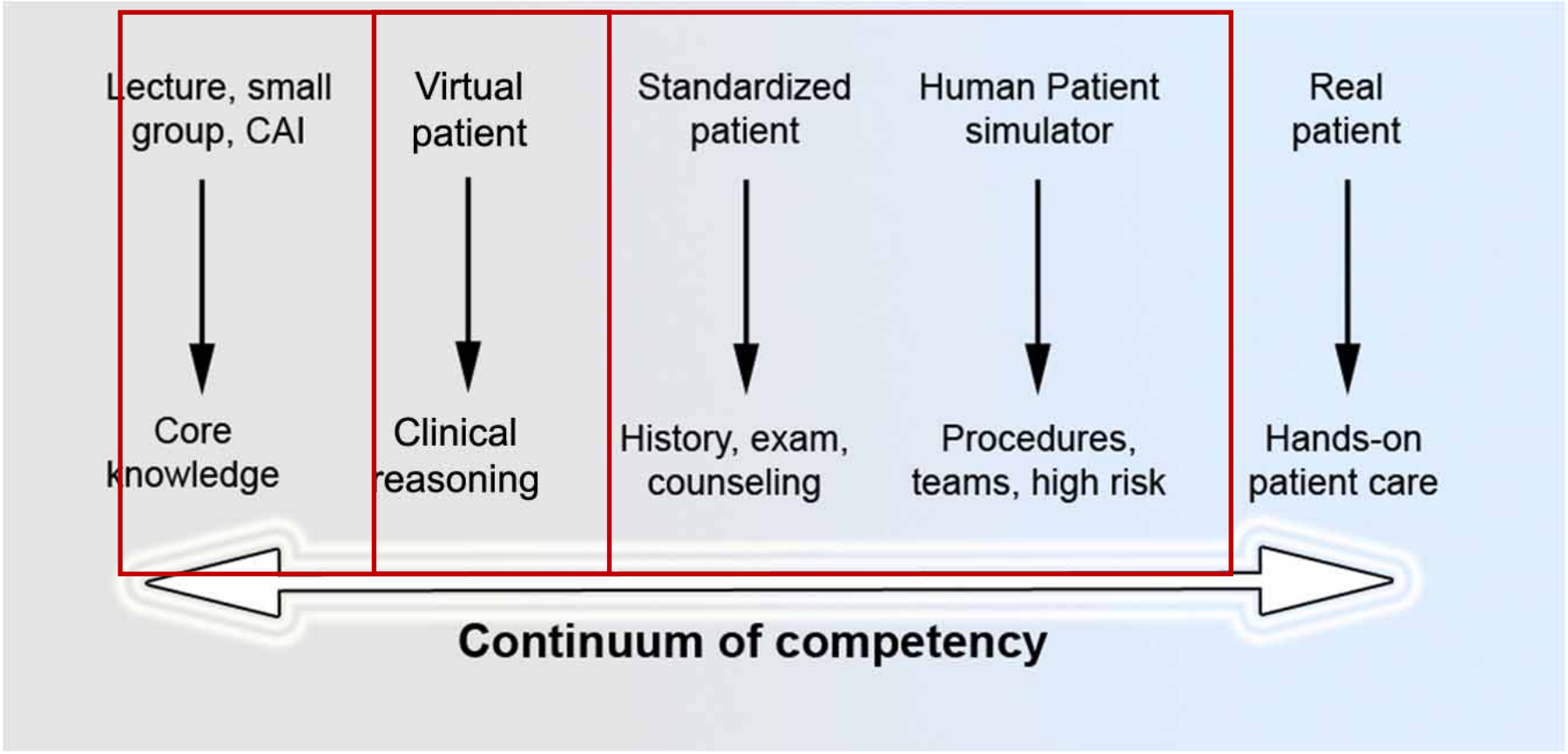
TRANSFORM MEDICAL EDUCATION

- Develop Immersive Patient Simulations in **Virtual Clinical**



Ambition

- 2020 – “major societal goal is to **live longer in better health**” – ISTAG (ICT Advisory Group), July 2009.
- **Health is the major determinant of well being and life satisfaction**. It is key to economic productivity and competitiveness.
- The medical profession faces **challenges of accountability and scrutiny of competency** whilst suffering increasing **training constraints**: budget, reduced student-patient contact, decreased patient time in hospital.
- Pedagogically training needs to **mimic as closely as possible the role of the practitioner** and provide students with self-directed personalised learning opportunities.
- High demand for medical education that is **community- and patient-centred.**

Intention: Provide a **realistic immersive working environment for confident and safe practice** with virtual patient encounters and management.

Integration

Four inter-disciplinary strands to create and evaluate curriculum transformation:

- **Clinical**
- **Educational**
- **ICT**
- **Professionalism/Social studies**

Several universities are already beginning to adopt virtual patients and e-simulations and integrate them into the heart of curriculum (e.g. the G4 project http://www.elu.sgul.ac.uk/g4/).

Impact

- Revolutionise medical training by **placing the patient at the centre** of the educational process.
- **Provide safe practice** to protect against reducing opportunity for students to rehearse their future competencies.
- Take forward existing **national and European initiatives**
- Move towards **unified EU curriculum** for medical education.
- Provide a new **control mechanism for the cost** of medical and healthcare education.
- Create a **research environment** for evaluation of both medical training and treatment procedures.
- **Transfer beyond medical education** – other competency- based disciplines.

Plausibility

- The various **tools needed to construct future developments** are in the **early stages of development**, some have been fully implemented in the curriculum.
- **Future-proof solutions** can be delivered by building on the **evidence base from recent projects** in curriculum development and **cross–cultural sharing of resource**.
  - EC: **eViP and mEducator (eContentplus), VPH (FP7), Tuning**
  - National and international: **Medbiquitous, G4 project, REViP**
- **A long-term approach can be applied**, **to assess clinical outcomes of medical educational innovations.** Students subject to baseline assessments, follow up of academic, clinical performance.
- Unified approach can be applied, **relating ICT innovation to educational, clinical and social outcomes**

Support

Existing networks to build on for support:

- **MedBiquitous Europe** (healthcare standards), linked to pan-European projects in health.
- **AMEE, MedEdWorld** and other medical educator networks.
- **Virtual Physiological Human, NOE**.
- **MedEdPortal, MedTing,** and other medical repositories.

Existing and related projects:

- EC health projects: **eViP, mEducator, Tuning**, **INMEDEA**

Further support exists at many different levels: National departments of health and universities; in subject specific, technical, and administrative areas, as well as in humanities depts.