

Healthcare industry BW

Doctor's rounds with virtual patients

The medical online learning programme by the Tübingen-based E-learning publisher INMEDEA GmbH simulates procedures and situations in different departments of a hospital with their respective typical patient groups – without students, doctors or nursing staff even having to set foot in a clinic. Simulations are not intended to replace real practical training, but to optimise it with a targeted approach to everyday clinical occurrences. One of the first to benefit is the German army, which will shortly be using the programme for the remote training of army doctors.

The specialisation of university hospitals, shortened bed times of patients and rapid changes in the health service are making the training of young doctors more difficult, so that they often lack clinical know-how. The E-learning platform by INMEDEA GmbH, which is based in the STERN BioRegion, supports student doctors with an interactive hospital simulation that allows realistic insights into the different departments of a hospital. Supported by a virtual multimedia library, the virtual surgeons, orthopaedic specialists, neurologists, ENT specialists or paediatricians practise typical procedures with respectively typical patients. "Young doctors often find it difficult to make a medical decision when a real patient is sitting in front of them," explains Dr. Franz Gerstheimer, Executive Manager of INMEDEA GmbH. "With our virtual learning environment we prepare them for real clinical situations and convey valuable know-how and efficient procedures."

E-learning programme for medical education

All of the rooms in the virtual hospital are uniformly designed and more than 200 virtual patients appear as individual characters with different symptoms. The user can perform anamneses and examinations, request laboratory findings, make diagnoses and decide on therapies. Each step is recorded in the digital patient's record and checked. If young doctors are at a loss as to what to do next, they can get help from experts or obtain information from the library.



Example for a virtual hospital (Photo: INMEDEA GmbH)

The 'illness cases' are based partly on real cases and partly on fictitious cases from the text book; integrated summaries of time and costs make the treatments even more realistic. Up to 3500 parameters are available for each virtual patient and various levels of difficulty can be selected for case histories. "Our system offers the world's most convincing solution to 'game-based learning' in medicine today," says Dr. Franz Gerstheimer. "The doctor identifies with his simulated patients, is emotionally involved with the case and really immerses himself in the virtual world of clinical thinking." In the next step, it is intended to expand the E-learning platform to other areas of application, such as job interviews or the training of sales representatives.



Parameters for virtual patients (Photo: INMEDEA GmbH)

Besides students and doctors, who represent the actual target group of the INMEDEA programme, nurses and carers could also benefit along with pharmaceutical and biotech companies. In addition to first universities, which already use INMEDEA GmbH's virtual hospital for regular teaching, a cooperation exists with a webshop operator, where student doctors can download illness cases for their own studies at a set fee. In addition, the German army will use the programme for the remote training of army doctors following completion of the pilot phase.

INMEDEA GmbH's plans for the future are ambitious. "We want to become the leading learning programme for medical education and further training," says the Executive Manager.

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