People often raise their eyes to the heavens for inspiration, but looking up was literally the solution for Jozef Kesecioglu from the Netherlands when designing a new ICU. The roof of the hospital was the ideal location for the new facility. Kesecioglu shared the lessons his hospital learned from building a new ICU at the European Society of Intensive Medicine congress in Barcelona today. First, he emphasised the long process involved, right back to defining the vision. Halpern in a series on innovative designs for the smart ICU, published in Chest:

- successful design balances innovation with functionality, space availability, physical limitations and cost.
- design should combine a healing environment with security for patients, staff, visitors, and all ICU equipment and supplies.

Planning requires several elements:

1. Work with the organisation and build the ICU design team.
2. Interview former patients and their family members
3. Determine the needs of patients and family members
4. Determine needs of the team
5. Develop a vision.

Patient-centred care dictates the architecture and interior. Functionality and safety define concepts. Kesecioglu explained that equipment should only be selected that fits to the concepts developed. You cannot develop concepts after selection of equipment. For example, choose monitors where can control parameters from outside the room to avoid disturbing the patient.

Testing is crucial, he said. Mock up the patient room setting, involve the team, test the concepts, test the functionality of devices. During the building phase it is important to develop standard operating procedures.

Training should take place before the new facility opens for use.

Kesecioglu reminded delegates that an organisation structured on the needs of the patient and the family is mandatory in designing a new ICU. Patient-centred care, safety, functionality, innovation and future proof concepts should be the main aims in the design of the new department. Key to the concept’s success is testing beforehand using full-scale models, so that staff know what to expect when they move into the new facility. In Utrecht, they had their first interview with architects in May 2005, and before moving in in March 2010 spent 9 months testing the changes.

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