

SUSTAINABLE AND HEALTHY HOSPITALS

HOW TO MEASURE PHYSICAL QUALITIES ?



MArch Andrea Brambilla¹; MArch PhD Andrea Rebecchi¹; Prof MArch PhD Stefano Capolongo¹; Prof MD PhD Marija Jevtic^{2,3}

¹Politecnico di Milano Design & Health Lab DABC Department Architecture Built Environment Construction Engineering, Milano, Italy | andrea1.brambilla@polimi.it, andrea.rebecchi@polimi.it, stefano.capolongo@polimi.it

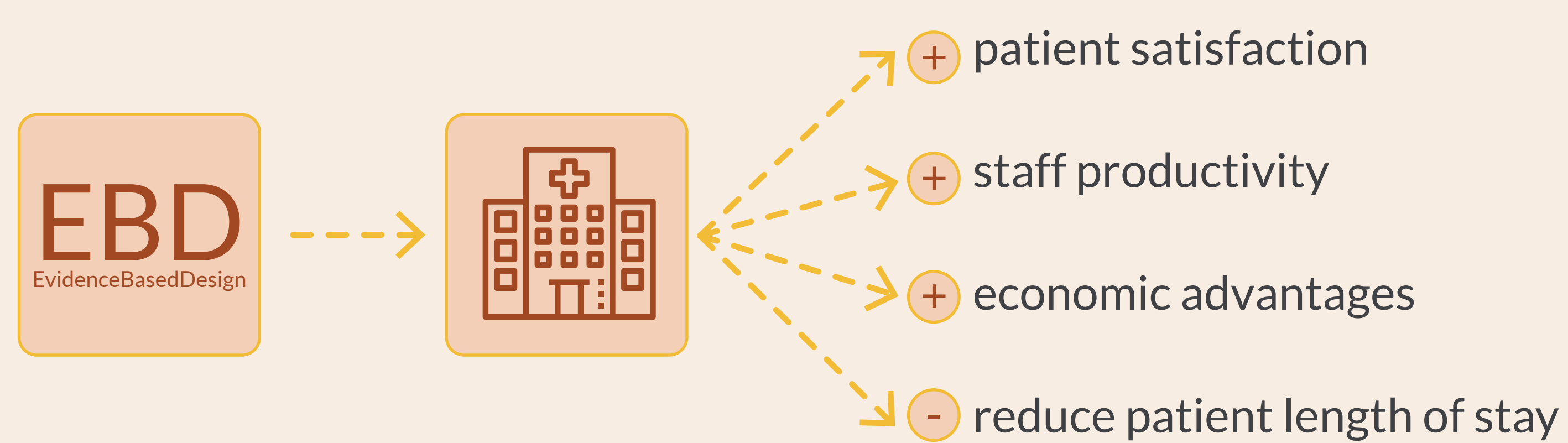
²University of Novi Sad, Faculty of Medicine, Institute of Public Health of Vojvodina Serbia, Novi Sad, Serbia | marija.jevtic@uns.ac.rs

³Université Libre de Bruxelles (ULB), Research Centre on Environmental and Occupational Health, School of Public Health, Bruxelles, Belgium

1. Context & Research Gap

Healthcare facilities are **energy** demanding systems active **24 h per day** seven days per week. These kind of facilities have the objective of decreasing building energy use, providing a comfortable and **healthy environment**, and increasing productivity for occupants. Great importance is given to organizational performances or clinical outcomes but very few actions are available to hospital managers for understanding and improving the physical assets also in terms of **sustainability**.

Evidence Based Design (EBD)

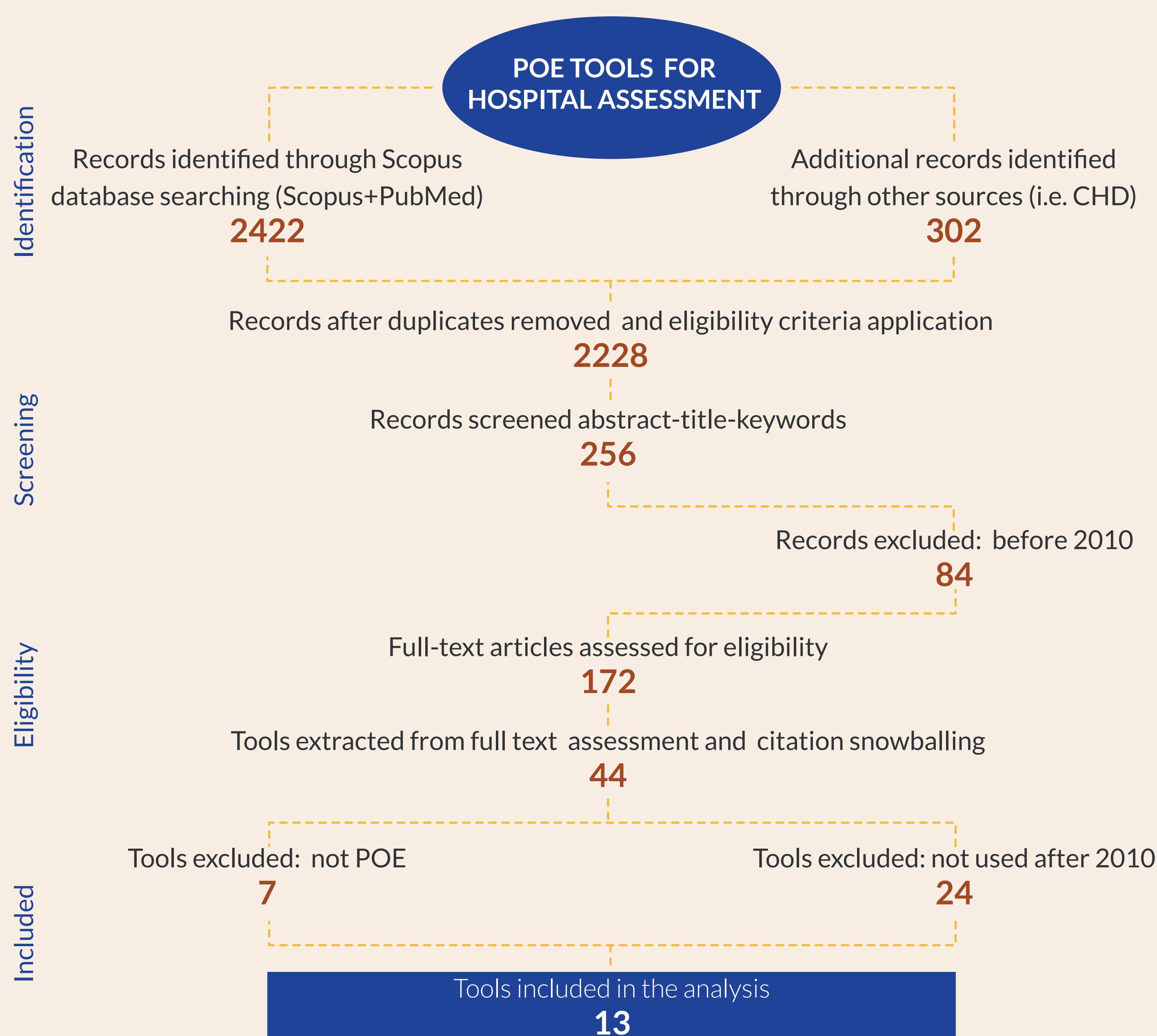


2. Objective

The aim is to **critically review the existing assessment tools** that evaluate hospital facilities and critically identify in which terms they are able to measure health or sustainability outcomes.

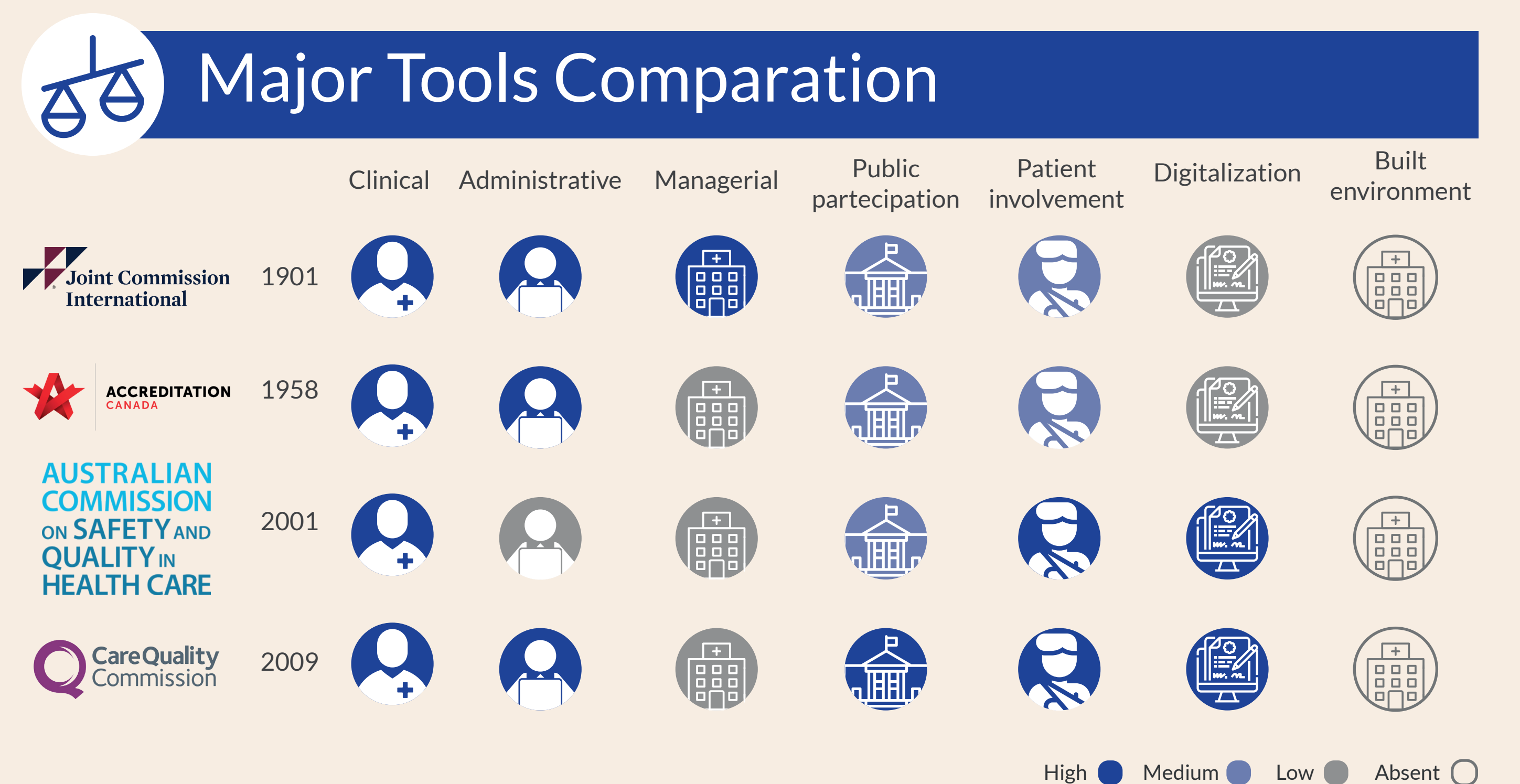
3. Methods

A **literature** search has been conducted within relevant scientific databases using keywords “HOSPITAL” or “HEALTHCARE ENVIRONMENT” or “HEALTHCARE BUILDING” or “HEALTHCARE FACILITIES” and “QUALITY” and “DESIGN” or “ARCHITECTURE” or “BUILT ENVIRONMENT” or “PHYSICAL SPACE”

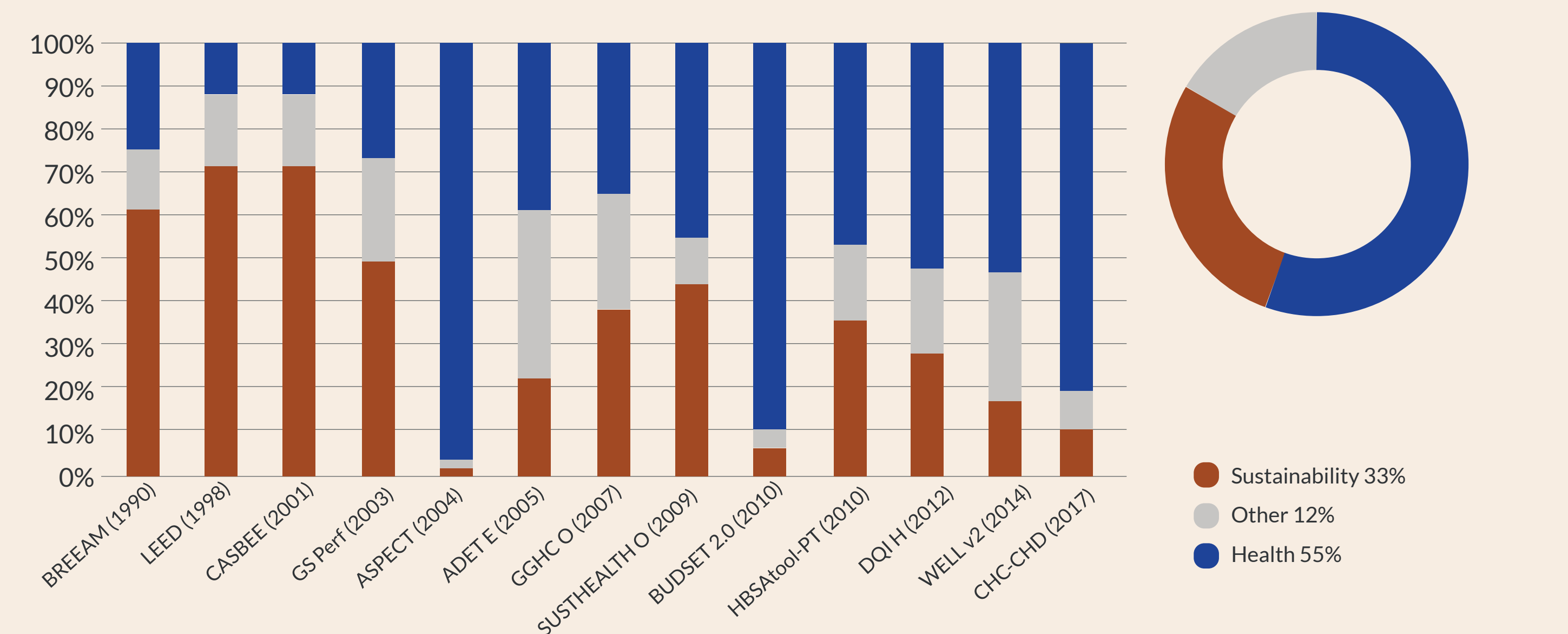


The percentage and the content of health or sustainability-related criteria have been compared and further discussed.

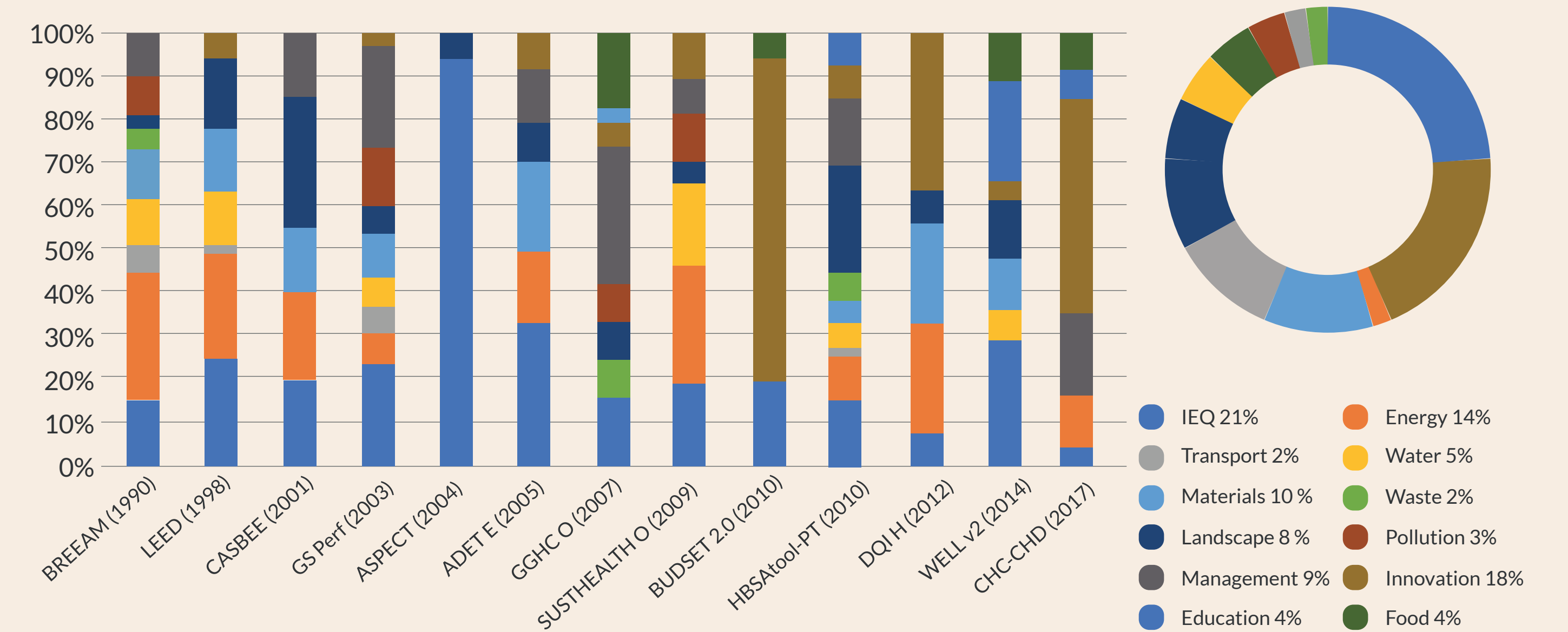
4. Results



Health and Sustainability Variation



Topic Distribution



Although **sustainability** remains a relevant issue to achieve, today it cannot be tackled without considering the **impact of built environment on occupant's health**.

5. Discussion & Conclusion

The results are a first step for the dissemination of the value of sustainable and healthy built environmental qualities within hospital organization. **Hospital strategic management should base decisions about physical settings on the best available evidence through the support of assessment tools for social, environmental and organizational qualities.** Healthcare facilities and especially hospitals environment is important not only for patient's and visitors comfort, as well as essential for health professional's **working efficiency**, their motivation and final results in healthcare deliveries.

References

Brambilla, A.; Capolongo, S.; Healthy and Sustainable Hospital Evaluation—A Review of POE Tools for Hospital Assessment in an Evidence-Based Design Framework, 2019
 Brambilla, A.; Buffoli, M.; Capolongo, S.; Measuring hospital qualities. A preliminary investigation on Health Impact Assessment possibilities for evaluating complex buildings, 2019