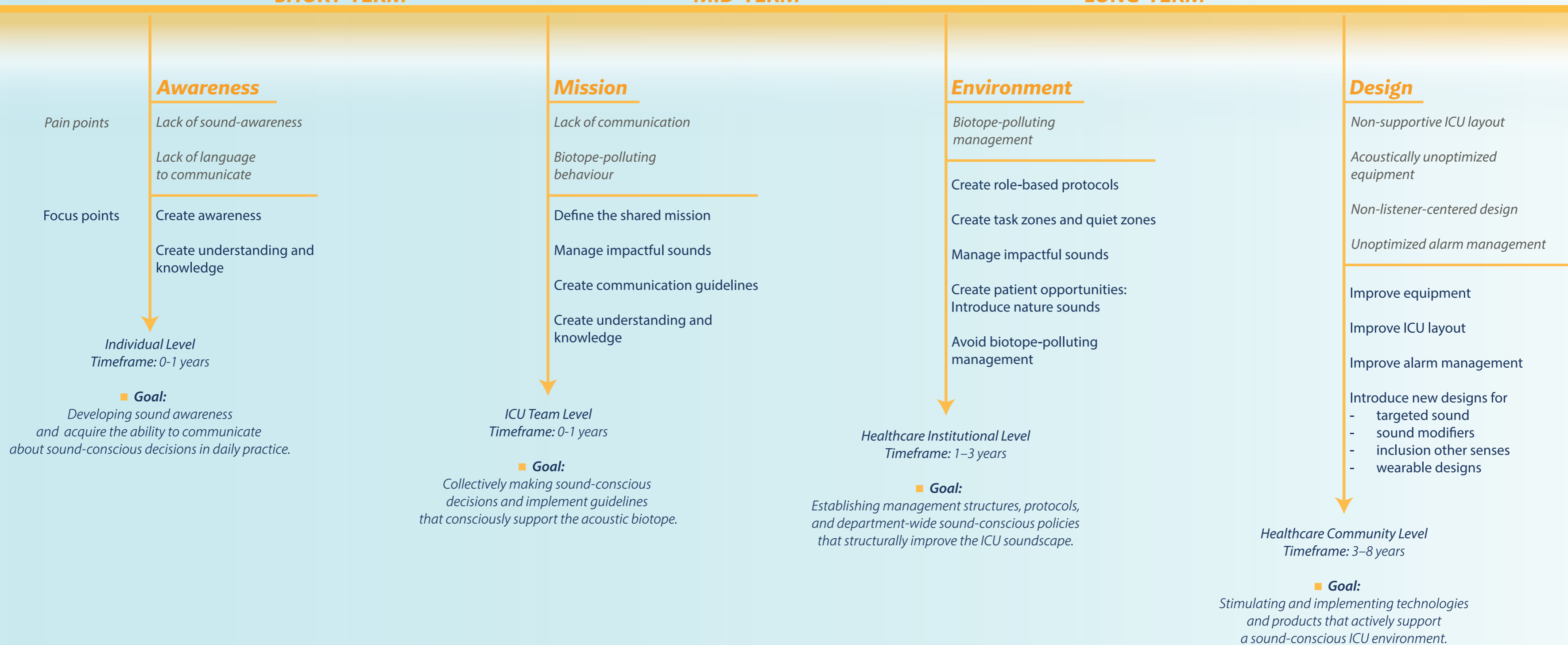
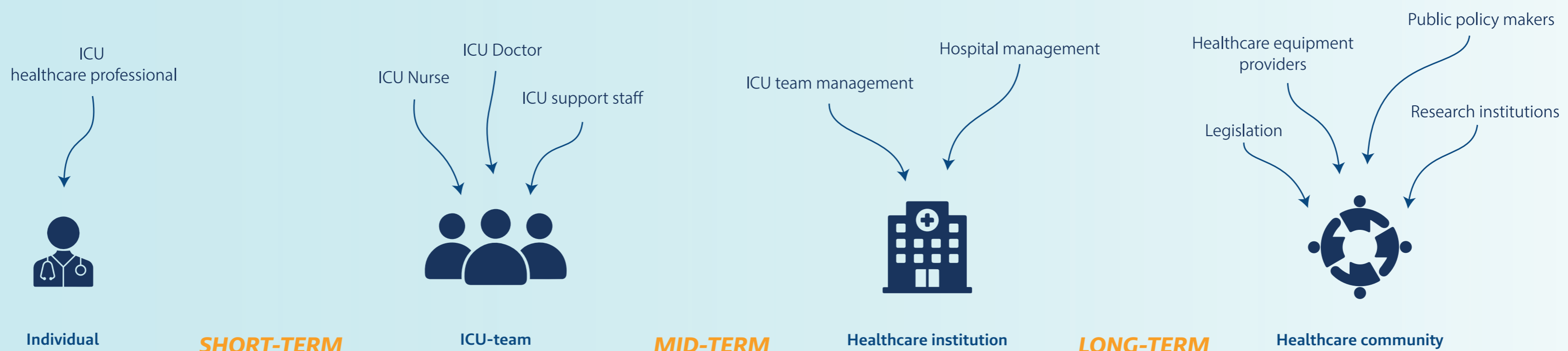
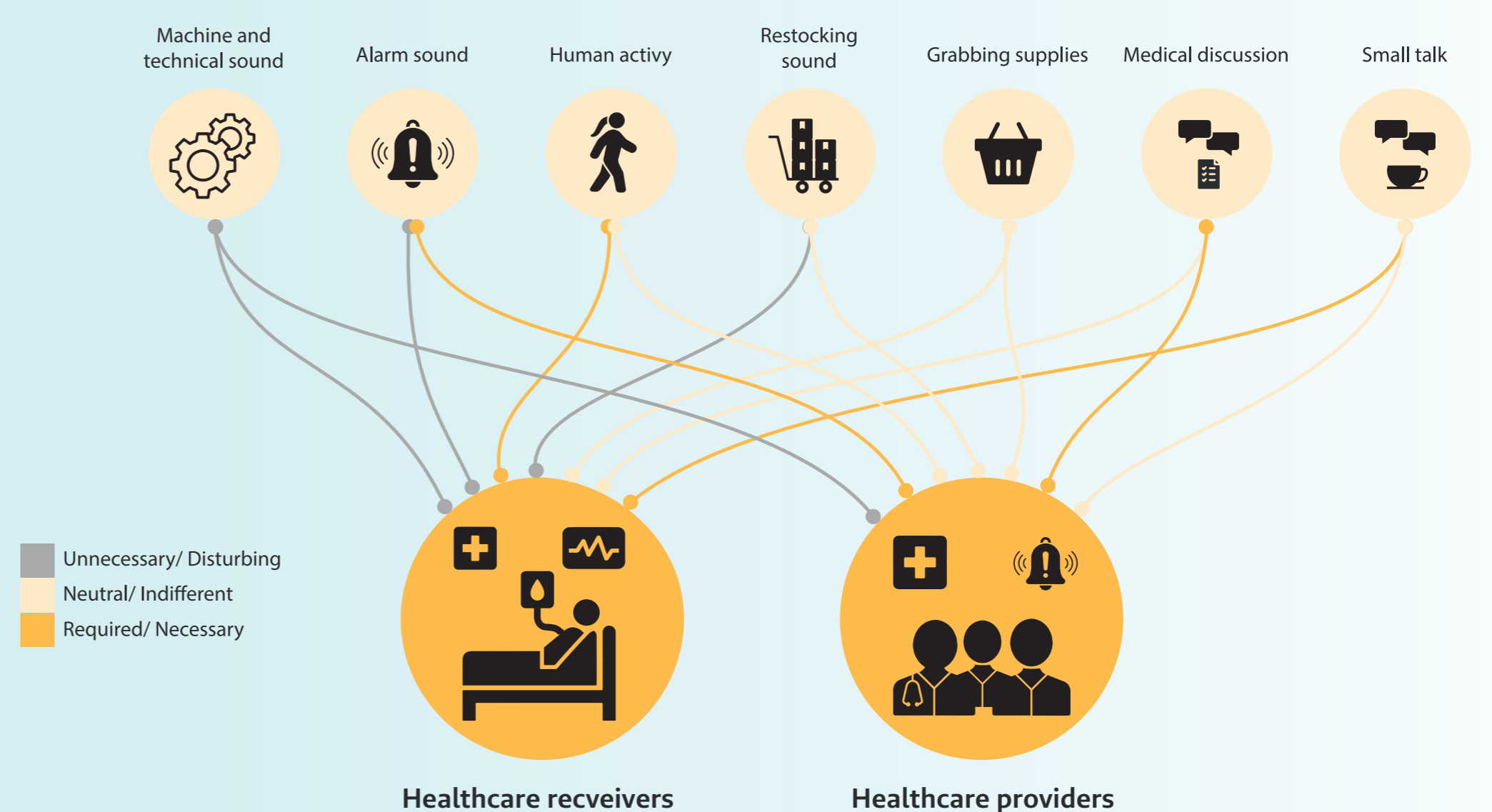


- Intensive Care Units are complex socio-technical environments in which sound plays a crucial role in monitoring, communication and clinical workflows. However, excessive and poorly structured sound environments can contribute to alarm fatigue, concentration issues and stress among ICU users.
- The ICU soundscape is shared by multiple user groups, including healthcare professionals, patients and relatives. Improving soundscape quality therefore requires a holistic and user-centred approach.

# Towards the Ideal ICU Soundscape

## A listener-centric design approach at the LUMC

- The acoustic environment was analysed through observations, sound measurements, and environmental mapping in order to structure the sonic environment and identify sound categories. Subsequently, the ICU was examined as an acoustic biotope, analysing relationships between sound functions, user roles, and user needs. These insights formed the basis for a problem analysis and sound-driven design exploration.
- The research resulted in the development of "The Roadmap towards the Ideal Soundscape", a strategic design tool that visualises the current ICU soundscape and identifies opportunities for soundscape improvement. The roadmap integrates both short- and long-term design opportunities and supports stakeholders in developing awareness and making sound-conscious decisions. It therefore provides a tailored design strategy for the LUMC to improve the quality of the ICU soundscape.



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Integrated product design

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