Introduction: Multimorbidity is associated with increased mortality, reduced physical functioning and quality of life, and increased healthcare utilization. Organizational models for providing integrated care in multimorbidity exist, but evidence on the effectiveness of specific interventions is limited. Previous systematic reviews have only considered interventions in the primary care sector. We examined the effectiveness of interventions with an organizational or patient-oriented focus designed to improve outcomes for people with multimorbidity in general practices, communities, and hospitals. Multimorbidity was defined according to the WHO definition of two or more chronic conditions in the same individual.

Methods: We systematically searched PubMed, EMBASE, and CENTRAL in November 2018, supplementing two earlier systematic reviews in terms of time periods and data-bases. We also searched for interventions in the hospital sector. We included randomized controlled trials reporting outcomes of organizational and/or patient-oriented interventions with the purpose of supporting clinical care provision for patients with multimorbidity. We applied the risk of bias criteria developed by the Cochrane group, Effective Practice and Organization of Care. We extracted data on study participants; duration, and follow-up; intervention elements; primary outcome(s); and results. Finally, we undertook a narrative synthesis, grouping findings by sector and primary outcome measure(s). (PROSPERO registration number: CRD42019119490.)

Results: Forty articles were included, covering a total study population of 11,713 participants. Thirteen studies took place in general practice settings, 19 in community settings, and eight in hospital settings. The overall risk of bias was acceptable, with the studies in general practice and hospital settings generally having a lower risk than the community-based studies. Findings are inconsistent, and the outcomes assessed are too heterogeneous to draw clear conclusions. However, some tendencies emerge from our synthesis. In general practice settings, organizational interventions could potentially improve outcomes for mental health, selected clinical parameters, and mortality, while patient-oriented interventions could potentially improve outcomes for mental health. In community settings, organizational interventions appear effective in improving mental health outcomes, and patient-oriented interventions could potentially improve health-related quality of life and reduce mortality. Organizational interventions based in hospital settings could...
potentially reduce mortality, and improve mental health, selected clinical parameters, and treatment. Overall, the potentially effective intervention elements in the organizational interventions are team-based care, care managers, and telemedicine, while it in the patient-oriented interventions is to target the self-management capacities of patients.

**Discussions/Limitations:** Interventions targeting multimorbidity hold promise in improving various outcome measures. By including the hospital sector, we have provided a comprehensive overview of the evidence-base existing on interventions for multimorbidity. However, the inconsistency in the outcome measures used makes it difficult to draw firm conclusions, and the complexity of the interventions does not allow for isolation of the effective components.

**Conclusions/Lessons learned:** We see potentially clinically relevant effects of patient-oriented and, especially, organizational interventions. Also, we identified promising results of interventions taking place in hospital settings.

**Suggestions for future research:** To streamline the outcome measures used, future research should apply the core outcome set developed for interventions targeting multimorbidity.