Table B.6: Diagnostic Errors, Education and Training—Systematic Reviews and Meta-Analyses

Note: Full references are available in the [Section 1.3 reference list](#Section1point3refs).

| **Author, Year** | **Description of Patient Safety Practice** | **Settings and Population** | **Summary of Findings** |
| --- | --- | --- | --- |
| **Cook et al., 20107** | Virtual patients | Studies published in any language that investigated use of a virtual patient to teach health professions learners. Virtual patient is “a specific type of computer program that simulates real-life clinical scenarios; learners emulate the roles of healthcare providers to obtain a history, conduct a physical exam, and make diagnostic and therapeutic decisions.” No beginning date cutoff, and the last date of search was February 16, 2009. | Systematic review and meta-analyses. Included 4 qualitative studies, 18 no-intervention controlled studies, 21 noncomputer instruction comparative studies, and 11 computer-assisted instruction comparative studies. Use of virtual patients was associated with large positive effects compared with no intervention. |
| **Graber et al., 20128** | Various interventions, including educational interventions | Articles and books that contained results from an intervention trial or suggested an intervention to reduce cognitive-related diagnostic error. | Review included 141 sources (42 empirical studies; 100 contained suggestions for interventions; and 1 had both). The review focused on three areas to reduce diagnostic errors: increase knowledge and experience, improve clinical reasoning, and get help. |
| **McDonald and Matesic, 201336** | Patient safety strategies targeting diagnostic errors, including educational interventions | Studies that evaluated any intervention to decrease diagnostic errors (incorrect diagnoses or missed diagnoses) in any clinical setting and with any study design and patient outcomes. | Eleven studies used educational interventions aimed at various populations. Strategies targeted at clinicians produced improvements, but the studies were nonrandomized. Two randomized trials that targeted consumers in the diagnostic process found improvements. |