Supplemental digital content for Samuel A, Cervero RM, Durning SJ, and Maggio LA. Effect of continuing professional development on health professionals' performance and patient outcomes: A scoping review of knowledge syntheses. Acad Med.

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# Supplemental Digital Appendix 1

### Search Strategies

Database	Search parameters
Initial PubMed Search Strategy	("Education, Continuing" [majr] OR "continuing medical education" [tiab] OR "continuing nursing education" [tiab] OR "continuing dental education" [tiab] OR "continuing pharmacy education" [tiab] OR "continuing professional education" [tiab] OR "continuing professional development" [tiab] OR "lifelong learning" [tiab] OR "life long learning" [tiab] OR "professional development" [tiab]) AND ("systematic review" [tiab] OR review [ti] OR "meta-analysis" [pt] OR review [pt] OR systematic [sb] OR "meta-analysis" [tiab] OR scoping [tiab] OR "meta-synthesis" [tiab] OR "narrative review" [tiab]) AND english [lang] AND ("2008/01/01" [PDAT]: "3000/12/31" [PDAT])
Updated PubMed Search Strategy	((("Education, Continuing"[majr] OR "continuing medical education"[tiab] OR "continuing nursing education"[tiab] OR "continuing dental education"[tiab] OR "continuing pharmacy education"[tiab] OR "continuing professional education"[tiab] OR "continuing professional development"[tiab] OR "lifelong learning"[tiab] OR review[ti] OR "meta-analysis"[pt] OR review[pt] OR systematic [sb] OR "meta-analysis"[tiab] OR scoping[tiab] OR "meta-analysis"[tiab] OR "narrative review"[tiab]) OR ((systematic review [ti] OR meta-analysis [pt] OR meta-analysis [ti] OR systematic literature review [ti] OR this systematic review [tw] OR (systematic review [tiab] AND review [pt]) OR meta synthesis [ti] OR meta synthesis [ti] OR integrative review [tw] OR integrative research review [tw] OR rapid review [tw] OR consensus development conference [pt] OR practice guideline [pt] OR cochrane database syst rev [ta] OR ace journal club [ta] OR health technol assess [ta] OR evide nce technol assess summ[ta] OR drug class reviews [ti]) OR (clinical guideline [tw] AND management [tw]) OR ((evidence based[ti] OR evidence-based medicine [mh] OR best practice* [ti] OR evidence synthesis [tiab]) AND (review [pt] OR diseases category[mh] OR behavior and behavior mechanisms [mh] OR therapeutics [mh] OR evaluation study[pt] OR validation study[pt] OR guideline [pt] OR purcbook)) OR ((systematic [tw] OR systematically [tw] OR critical [tiab] OR (seudy selection [tw]) OR (predetermined [tw] OR inclusion [tw] AND criteri* [tw]) OR search* [tw] OR handsearch [tw] OR analysis [ti] OR critique [tiab] OR search* [tw] OR handsearch [tw] OR analysis [ti] OR critique [tiab] OR apraisal [tw] OR (reduction[tw]AND (risk [mh] OR risk [tw]) AND (death OR recurrence))) AND (literature [tiab] OR atabase[tiab] OR pu

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Embase Search Strategy	('continuing education'/exp OR (continuing-medical-education OR continuing-nursing-education OR continuing-dental-education OR continuing-pharmacy-education OR continuing-professional-education OR continuing-professional-development OR lifelong-learning OR life-long-learning OR professional-development):ab,ti) AND ('meta analysis'/exp OR 'review'/exp OR [systematic review]/lim OR [meta analysis]/limOR (systematic-review OR scoping OR meta-synthesis OR narrative-review):ab,ti OR (review):ti) AND [english]/limAND [2008-2018]/py
CINAHL Search Strategy	(MM "Education, Continuing (Credit)" OR MM "Education, Continuing+" OR continuing-medical- education OR continuing-nursing-education OR continuing-dental-education OR continuing- pharmacy-education OR continuing-professional-education OR continuing-professional-development OR lifelong-learning OR life-long-learning OR professional-development) AND (MH "Literature Review+" OR MH "Meta Synthesis" OR MH "Meta Analysis" OR systematic-review OR scoping OR meta-synthesis OR narrative-review OR TI review)
Scopus Search Strategy	(TITLE-ABS-KEY(continuing W/3 (education OR professional)) OR TITLE-ABS- KEY(professional-development OR lifelong-learning OR life-long-learning)) AND TITLE-ABS- KEY(medical OR dental OR pharmacy OR nursing) AND (TITLE-ABS(systematic-review OR meta- analysis OR scoping OR meta-synthesis OR narrative-review) OR TITLE(review)) AND PUBYEAR > 2007 AND (LIMIT-TO (LANGUAGE, "English")) AND (LIMIT-TO (SRCTYPE, "j"))
Eric Search Strategy	("continuing-medical-education" OR "continuing-nursing-education" OR "continuing-dental- education" OR "continuing-pharmacy-education" OR "continuing-professional-education" OR "continuing-professional-development" OR "lifelong-learning" OR "life-long-learning" OR "professional-development") AND (nursing OR medical OR dental OR pharmacy) AND ("systematic review" OR "meta-analysis" OR "meta-synthesis" OR "literature review" OR "narrative review" OR "literature review")
PsycINFO Search Strategy	(exp continuing education/OR (continuing-medical-education OR continuing-nursing-education OR continuing-dental-education OR continuing-pharmacy-education OR continuing-professional-education OR continuing-professional-development OR lifelong-learning OR life-long-learning OR professional-development).ab,ti.) AND (exp Meta Analysis/OR "literature review"/ OR (systematic-review OR scoping OR meta-synthesis OR narrative-review).ab,ti. OR (review).ti.)

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# Supplemental Digital Appendix 2

#### **Data Charting Tool**

Article ID	Study Aims
Author	Level of learners
Name of article	Study Findings
Publication Year	Interventions mentioned
Type of Review	Explicitly stated theories used in the design of the primary studies
Date of last study included	CPD materials available
Number of primary studies included	Strengths of the article
Country of first author	Limitations of the article
Content focus	Interesting points from the article
Audience	General notes

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### Supplemental Digital Appendix 3

#### Descriptions of Knowledge Synthesis Types Observed

Type of Review	Description
Scoping review	Aims to provide a preliminary assessment of the potential size and
	scope of available research literature. It follows a specific
	methodological framework. <sup>1</sup>
Systematic Review	Seeks to systematically search for, appraise and synthesize research
	evidence, often adhering to guidelines on the conduct of a review. <sup>1</sup>
Narrative review	Attempts to summarize or synthesize what has been written on a
	particular topic but does not seek generalization or cumulative
	knowledge from what is reviewed. <sup>2</sup>
Integrative review	A comprehensive methodological approach of reviews, it allows
	including experimental and non-experimental studies to fully
	understand the phenomenon analyzed. <sup>3</sup>
Meta-analyses	Technique that statistically combines the results of quantitative studies
	to provide a more precise effect of the results. <sup>1</sup>
Review of reviews	Analyzes other reviews to arrive at findings rather than looking at
	primary studies.
Literature review	Critiques and summarizes literature related to a specific topic. Can
	cover wide range of subjects at various levels of completeness and
	comprehensiveness and may include research findings. <sup>1</sup>

1. Grant MJ, Booth A. A typology of reviews: an analysis of 14 review types and associated methodologies. Health Information & Libraries Journal. 2009 Jun;26(2):91-108.

2. Paré G, Kitsiou S. Methods for literature reviews. In Handbook of eHealth Evaluation: An Evidence-based Approach [Internet]. University of Victoria; 2017.

3. Souza MT, Silva MD, Carvalho RD. Integrative review: what is it? How to do it?. Einstein (São Paulo). 2010 Mar;8(1):102-106.