**Appendix A. Required Readings to Validate Search Terms and Test the Search Strategy**

1. Abimanyi-Ochom J, Bohingamu Mudiyanselage S, Catchpool M, Firipis M, Wanni Arachchige Dona S, Watts JJ. Strategies to reduce diagnostic errors: A systematic review. *BMC Med Inform Decis Mak*. 2019;19(1). doi:10.1186/s12911-019-0901-1
2. Murphy DR, Meyer AND, Vaghani V, et al. Electronic Triggers to Identify Delays in Follow-Up of Mammography: Harnessing the Power of Big Data in Health Care. *J Am Coll Radiol*. 2018;15(2):287-295. doi:10.1016/j.jacr.2017.10.001
3. Murphy DR, Sittig DF, Singh H. Electronic health records quantify previously existing phenomenon-physicians spend hours coordinating care - Reply. *JAMA Intern Med*. 2016;176(8):1235-1236. doi:10.1001/jamainternmed.2016.3901
4. Murphy DR, Meyer AND, Sittig DF, Meeks DW, Thomas EJ, Singh H. Application of electronic trigger tools to identify targets for improving diagnostic safety. *BMJ Qual Saf*. 2019;28(2):151-159. doi:10.1136/bmjqs-2018-008086
5. Singh H, Graber ML, Hofer TP. Measures to Improve Diagnostic Safety in Clinical Practice. *J Patient Saf*. 2019;15(4):311-316. doi:10.1097/PTS.0000000000000338
6. Berenson R, Singh H. Payment innovations to improve diagnostic accuracy and reduce diagnostic error. *Health Aff*. 2018;37(11):1828-1835. doi:10.1377/hlthaff.2018.0714

# Appendix B. Search Strategy

**Search Strategy for Database: Ovid Medline(R) without Revisions**

1 cognitive interventions to reduce diagnostic.m\_titl.

2 system-related interventions to reduce diagnostic errors.m\_titl.

3 patient safety strategies targeted at diagnostic errors.m\_titl.

4 electronic triggers to identify delays in follow up of mammography.m\_titl.

5 recommendations for using the revised safer dx.m\_titl.

6 computerized triggers of big data to detect delays in follow up of chest imaging.m\_titl.

7 (development and validation of trigger algorithms to identify delays in diagnostic evaluation).m\_titl.

8 payment innovations to improve diagnostic accuracy.m\_titl.

9 strategies to reduce diagnostic errors.m\_titl.

10 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 (9)

11 \*Diagnostic Errors/

12 exp \*Delayed Diagnosis/

13 exp \*Defensive Medicine/

14 ("Diagnostic error$" or "Error in diagnosis" or "Delayed diagnos$" or "Diagnostic delay$" or "Late diagnos$" or "Misdiagnosis" or "Missed diagnos$" or "Wrong diagnos$" or "Diagnostic failure$" or "Missed test result$").m\_titl.

15 ("Defensive medicine" or "Diagnostic safety" or "Safe diagnos$" or "Safer DX").m\_titl.

16 (Diagnos$ adj2 error$).m\_titl.

17 (Diagnos$ adj2 delay$).m\_titl.

18 (Delay$ adj2 follow$).m\_titl.

19 ((Delay$ adj3 Follow$) or (Delay$ adj3 Diagnos$) or (Missed adj3 Diagnos$) or (Improv$ adj3 "Diagnostic Accuracy") or (Decreas$ adj3 "Diagnos$ Error$") or (Prevent$ adj3 "Diagnos$ Error") or "Reduc$ adj3 Diagnos\* Error$").m\_titl.

20 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19

21 exp Diagnostic Errors/ or Delayed diagnosis/

22 20 and 21

23 limit 22 to ("review" or "systematic review")

24 (algorithm$ or system or intervention$ or strateg$ or innovat$ or program$ or tool$ or toolkit$ or resource$ or model$ or bundle$ or "change package$" or framework$).mp.

25 ("patient clinician" or " patient provider" or "patient physician").m\_titl.

26 ("Cognitive bias$" or "Observer bias$" or "Implicit bias$" or "Hindsight bias$" or Anchoring or "Cognitive error$" or "Systems error$" or "clinical reasoning" or "decision making").mp.

27 ((Delay$ adj3 Follow$) or (Delay$ adj3 Diagnos$) or (Improv$ adj3 "Diagnostic Accuracy") or (Decreas$ adj3 "Diagnostic Error$") or (Prevent$ adj3 "Diagnostic Error$") or (Reduc$ adj3 "Diagnostic Error$")).m\_titl.

28 24 or 25 or 26 or 27

29 22 and 28

30 exp Quality Assurance, Health Care/

31 exp "Outcome Assessment (Health Care)"/

32 exp Cognition/

33 exp Quality of Health Care/

34 exp Health Services Research/

35 exp Decision making/

36 exp Medical Informatics/

37 30 or 31 or 32 or 33 or 34 or 35 or 36

38 20 and 37

39 23 or 29 or 38

40 10 and 39

41 limit 39 to yr="2013 -Current"

42 limit 41 to English language

43 41 not 42

44 limit 43 to abstracts

45 42 or 44

Appendix C: Articles in Final Analysis by Study Theme and Definition Used

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Articles** | **Study Themes** | | | | **Diagnostic Error Definitions** | | | | | |
| **Epidemiology of Diagnostic error** | **Patient focus** | **Measurement/ surveillance** | **Clinician focus** | **NAM** | **Graber** | **Singh** | **Schiff** | **Newman- Toker** | **Other/ none** |
| Newman-Toker et al21 2019 | X |  |  |  | X |  |  |  | X |  |
| Watari et al22 2020 | X |  |  |  |  | X |  |  |  |  |
| Gupta et al34 2017 | X |  |  |  |  |  |  |  |  | X |
| Lee et al23 2017 | X |  |  |  | X | X |  |  | X |  |
| Rinke et al25 2018 | X |  |  |  |  |  | X |  |  |  |
| Dadlez et al36 2020 | X |  |  |  |  |  |  |  |  | X |
| Sacco et al35 2020 |  | X |  |  | X |  |  |  |  |  |
| Aoki & Watanuki33 2020 |  | X |  |  |  |  |  |  |  | X |
| Bontempo & Mikesell30 2020 |  | X |  |  |  |  |  |  |  | X |
| Giardina et al, 201828 |  | X |  |  | X |  |  |  |  |  |
| Giardina et al, 202133 |  | X |  |  | X |  | X |  |  |  |
| Soleimani et al24 2020 |  |  | X |  |  |  |  | X |  | X |
| Jayaprakash et al32 2019 |  |  | X |  | X |  |  |  |  |  |
| Perry et al31 2020 |  |  | X |  | X |  |  |  |  |  |
| Donner-Banzhoff et al27 2020 |  |  |  | X |  |  |  |  |  | X |
| Matulis et al29 2020 |  |  |  | X | X |  |  |  |  |  |