**Appendix A. Expert Panel Members for Review of Interventions to Improve Follow-Up of Tests Pending at Discharge**

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**Appendix B. Analytic Framework**

**Quality Issue**

Results for laboratory tests ordered for patients admitted to the hospitals or seen in the emergency rooms are not received or not acted upon by the patient’s outpatient care provider.

**Potential for Improvement**

Communication and follow-up of laboratory tests performed in the hospital or pending at discharge could potentially be improved by discharge planning or communication processes that ensure that the outpatient care provider receives the results in such a way that he or she gives it appropriate attention and follow-up.

**Intervention**

Communication processes,

Designated routing processes,

Discharge planning,

Automated reminders or flagging mechanisms

**Harms**

Deterioration in outcomes, loss of confidentiality, loss of patient trust

**Health Outcomes**

Fewer adverse events;

Fewer complications;

Fewer inaccurate diagnoses;

Fewer readmissions

**Intermediate Outcomes**

More test results received by outpatient provider;

More patients receive appropriate follow up for laboratory results

**Population**

Patients of inpatient facility or emergency department who had tests pending at their discharge to a different care setting.

**Appendix C. Description of Search Strategy**

**Databases:** PubMed, Embase, Cochrane, Web of Science, CINAHL, and PsycINFO

**Search Dates:** April and August 2015

**Included Terms:**

* Emergency Service
* Hospital or emergency room
* Hospital department\*
* Hospital Departments
* Continuity of patient care
* Continuity of Care
* Continuity of Patient Care
* Transition of Care
* Transitions of Care
* Transition to Adult Care
* Inpatient
* Discharge
* Patient Discharge
* Patient Handover
* Patient Handoff
* Patient Separation
* Diagnostic test
* Diagnostic Techniques and Procedures
* Laboratory Test\*
* Clinical Laboratory Test\*
* Laboratory procedure\*
* Communicat\*
* Reminder system\*
* Reminder Systems
* Test Result Management"
* Pending Test Result
* Result
* Results
* Missed Test Result\*
* Missed Laboratory Test Result\*
* Acknowledgement of Test Result\*

***Grey Literature***

The literature search was conducted across multiple electronic databases that provide access to both grey and peer-reviewed literature. The databases we searched were the following:

* EBSCOhost, which provides access to a variety of databases and e-journals in the areas of health, medicine, psychology, business, news, science, and technology, including MEDLINE and CINAHL Plus with Full Text;
* The Cochrane Library, which includes The Cochrane Database of Systematic Reviews (CDSR), Database of Abstracts of Reviews of Effectiveness (DARE), and the Cochrane Controlled Trials Register (CCTR); and
* EMBASE, which includes peer-reviewed journals, in-press articles, and conference abstracts.

The comprehensiveness of the databases is reflected in the types of articles retrieved, which include books, book sections, theses, electronic articles, conference presentations, and conference proceedings. We prepared a call for unpublished studies for this systematic review. This call for quality improvement project data submissions will be submitted to professional organization listservs.

**April Search Combinations/Statements for PubMed Searches**

| **Search #** | **Search Terms and Criteria Using Boolean Operators** |
| --- | --- |
| #1 | Search (#1) ("Emergency Service, Hospital"[Mesh] OR emergency room\*[Text Word] OR hospital department\*[Text Word] OR "Hospital Departments"[Mesh] OR "continuity of patient care"[Text Word] OR "continuity of care"[Text Word] OR "Continuity of Patient Care"[Mesh] OR "transition of care"[Text Word] OR "transitions of care"[Text Word] OR "Transition to Adult Care"[Mesh]) AND (discharg\*[Text Word] OR "Patient Discharge"[Mesh] OR patient handover\*[Text Word] OR "Patient Handoff"[Mesh] OR "patient separation"[Text Word]) AND (diagnostic test\*[Text Word] OR "Diagnostic Techniques and Procedures"[Mesh] OR laboratory test\*[Text Word] OR clinical laboratory test\*[Text Word] OR laboratory procedure\*[Text Word] OR communicat\*[Text Word] OR reminder system\*[Text Word] OR "Reminder Systems"[Mesh] OR "test result management"[Text Word] OR pending test result\*[Text Word] OR "result"[Text Word] OR "results"[Text Word] OR missed test result\*[Text Word] OR missed laboratory test result\*[Text Word] OR acknowledgement of test result\*[Text Word] OR (acknowledg\*[Title] AND test result\*[Title])) Filters: Publication date from 2005/01/01; English 4,420 |
| #2 | Search (#2) "Animals"[Mesh] NOT "Humans"[Mesh] Filters: Publication date from 2005/01/01; English 1,022,777 |
| #3 | Search (#3) "Comment"[Publication Type] OR "Letter"[Publication Type] OR "Editorial"[Publication Type] Filters: Publication date from 2005/01/01; English 607,121 |
| #4 | Search (#4) #1 NOT (#2 OR #3) Filters: Publication date from 2005/01/01; English 4,389 |

**August Search Combinations/Statements for PubMed Searches**

| **Search #** | **Search Terms and Criteria Using Boolean Operators** |
| --- | --- |
| #1 | Search (#1) ("Emergency Service, Hospital"[Mesh] OR emergency room\*[Text Word] OR hospital department\*[Text Word] OR "Hospital Departments"[Mesh] OR "continuity of patient care"[Text Word] OR "continuity of care"[Text Word] OR "Continuity of Patient Care"[Mesh] OR "transition of care"[Text Word] OR "transitions of care"[Text Word] OR "Transition to Adult Care"[Mesh] OR (inpatient\*[Text Word] AND discharg\*[Text Word] AND (test\*[Text Word] OR "tests"[Text Word] OR technique\*[Text Word]))) AND (discharg\*[Text Word] OR "Patient Discharge"[Mesh] OR patient handover\*[Text Word] OR "Patient Handoff"[Mesh] OR "patient separation"[Text Word]) AND (diagnostic test\*[Text Word] OR "Diagnostic Techniques and Procedures"[Mesh] OR laboratory test\*[Text Word] OR clinical laboratory test\*[Text Word] OR laboratory procedure\*[Text Word] OR communicat\*[Text Word] OR reminder system\*[Text Word] OR "Reminder Systems"[Mesh] OR "test result management"[Text Word] OR pending test result\*[Text Word] OR "result"[Text Word] OR "results"[Text Word] OR missed test result\*[Text Word] OR missed laboratory test result\*[Text Word] OR acknowledgement of test result\*[Text Word] OR (acknowledg\*[Title] AND test result\*[Title]) OR rating scale\*[Text Word]) Filters: Publication date from 2005/01/01; English 5841 |
| #2 | Search (#2) "Animals"[Mesh] NOT "Humans"[Mesh] Filters: Publication date from 2005/01/01; English 1,057,704 |
| #3 | Search (#3) "Comment"[Publication Type] OR "Letter"[Publication Type] OR "Editorial"[Publication Type] Filters: Publication date from 2005/01/01; English 631,494 |
| #4 | Search (#4) #1 NOT (#2 OR #3) Filters: Publication date from 2005/01/01; English; Eliminate duplicates from April search: 5,203 |

**Final Search Combinations/Statements for Embase Searches**

|  |  |
| --- | --- |
| **Search #** | **Search terms and criteria using Boolean operators** |
| #1 | Search (#1) (('emergency ward'/exp/mj AND (emergency NEXT/1 room\*):ti,ab,de) OR (emergency NEXT/1 room\*):ti OR (hospital NEXT/1 department\*):ti,ab,de OR 'hospital department'/exp OR 'continuity of patient care':ti,ab,de OR 'continuity of care':ti,ab,de OR 'transition of care':ti,ab,de OR 'transitions of care':ti,ab,de OR 'transition to adult care'/exp) AND (discharg\*:ti,ab,de OR 'hospital discharge'/exp OR (patient NEXT/1 handover\*):ti,ab,de OR 'clinical handover'/de OR "patient separation":ti,ab,de) AND ((diagnostic NEXT/1 test\*):ti,ab,de OR 'diagnostic procedure'/exp OR 'diagnostic test'/exp OR (laboratory NEXT/1 test\*):ti,ab,de OR ('clinical laboratory' NEXT/1 test\*):ti,ab,de OR (laboratory NEXT/1 procedure\*):ti,ab,de OR communicat\*:ti,ab,de OR (reminder NEXT/1 system\*):ti,ab,de OR 'reminder system'/exp OR 'test result management':ti,ab,de OR ('pending test' NEXT/1 result\*):ti,ab,de OR result:ti,ab,de OR results:ti,ab,de OR ('missed test' NEXT/1 result\*):ti,ab,de OR ('missed laboratory test' NEXT/1 result\*):ti,ab,de OR ('acknowledgement of test' NEXT/1 result\*):ti,ab,de OR (acknowledg\*:ti AND (test NEXT/1 result\*):ti)) AND [english]/lim AND [2005-2015]/py 1,235 |
| #2 | Search (#2) 'animal'/exp NOT 'human'/exp AND [english]/lim AND [2005-2015]/py 1,050,928 |
| #3 | Search (#3) Comment\*:ti OR Letter:it OR Editorial:it AND [english]/lim AND [2005-2015]/py 545,269 |
| #4 | Search (#4) #1 NOT (#2 OR #3) AND [english]/lim AND [2005-2015]/py 1,216 |

**Final Search Combinations/Statements for Cochrane Searches**

| **Search #** | **Search Terms and Criteria Using Boolean Operators** |
| --- | --- |
| #1 | Search (#1 MeSH descriptor) [Hospital Departments] explode all trees 3058 |
| #2 | Search (#2 MeSH descriptor) [Continuity of Patient Care] explode all trees 556 |
| #3 | Search (#3 MeSH descriptor) [Transition to Adult Care] explode all trees 4 |
| #4 | Search (#4) hospital next department\* or "continuity of patient care" or "continuity of care" or "transition of care" or "transitions of care":ti,ab,kw (Word variations have been searched) 960 |
| #5 | Search (#1) or (#2) or (#3) or (#4) 3878 |
| #6 | Search (#6 MeSH descriptor) [Patient Discharge] explode all trees 1103 |
| #7 | Search (#7 MeSH descriptor) [Patient Handoff] explode all trees 6 |
| #8 | Search (#8) discharg\* or patient next handover\* or "patient separation":ti,ab,kw (Word variations have been searched) 13002 |
| #9 | Search (#6) or (#7) or (#8) 13005 |
| #10 | Search (#10 MeSH descriptor) [Diagnostic Techniques and Procedures] explode all trees 183987 |
| #11 | Search (#11 MeSH descriptor) [Reminder Systems] explode all trees 621 |
| #12 | Search (#12) diagnostic next test\* or laboratory next test\* or "clinical laboratory" next test\* or laboratory next procedure\* or communicat\* or reminder next system\* or "test result management" or "pending test" next result\* or result or results or "missed test" next result\* or "missed laboratory test" next result\*:ti,ab,kw (Word variations have been searched) 421128 |
| #13 | Search (#10) or (#11) or (#12) 495977 |
| #14 | Search (#5) and (#9) and (#13) 478 |
| #15 | Search (#15 MeSH descriptor) [Animals] explode all trees 6926 |
| #16 | Search (#16 MeSH descriptor) [Humans] explode all trees 1223 |
| #17 | Search (#15) not (#16) 5703 |
| #18 | Search (#18) Comment\* or Letter or Editorial:pt (Word variations have been searched) 7130 |
| #19 | Search (#14) not (#17 or #18) Publication Year from 2005 to 2015 298 |
| #20 | Search (#20 MeSH descriptor) [Emergency Service, Hospital] explode all trees 1836 |
| #21 | Search (#21) emergency next room\*:ti,ab,kw (Word variations have been searched) 748 |
| #22 | Search (#22) "acknowledgement of test" next result\*:ti,ab,kw or acknowledg\* and test next result\*:ti (Word variations have been searched) 0 |
| #23 | Search (#5 or #20 or #21) and #9 and (#13 or #22) 531 |
| #24 | Search #23 not (#17 or #18) Publication Year from 2005 to 2015 323 |

**Final Search Combinations/Statements for Web of Science Searches**

|  |  |
| --- | --- |
| **Search #** | **Search Terms and Criteria Using Boolean Operators** |
| #5 | Search (#5) #5 689 (#1 AND #2 AND #3) AND LANGUAGE: (English) Refined by: [excluding] DOCUMENT TYPES: ( EDITORIAL MATERIAL OR REPRINT ) Indexes=SCI-EXPANDED, SSCI, CPCI-S, CPCI-SSH Timespan=2005-2015 |
| #2 | Search (#4) 697 (#1 AND #2 AND #3) AND LANGUAGE: (English) Indexes=SCI-EXPANDED, SSCI, CPCI-S, CPCI-SSH Timespan=2005-2015 |
| #3 | Search (#3) 6,788,370 TOPIC: ("diagnostic test\*" OR "laboratory test\*" OR "clinical laboratory test\*" OR "laboratory procedure\*" OR communicat\* OR "reminder system\*" OR "test result management" OR "pending test result\*" OR result OR results OR "missed test result\*" OR "missed laboratory test result\*" OR "acknowledgement of test result\*") OR TITLE: (acknowledg\* AND "test result\*") Indexes=SCI-EXPANDED, SSCI, CPCI-S, CPCI-SSH Timespan=2005-2015 |
| #2 | Search (#2) 184,280 TOPIC: (discharg\* OR "patient handover\*" OR "patient separation") AND LANGUAGE: (English) Indexes=SCI-EXPANDED, SSCI, CPCI-S, CPCI-SSH Timespan=2005-2015 |
| #1 | Search (#1) 8,716 TOPIC: ("emergency room\*" OR "hospital department\*" OR "continuity of patient care" OR "continuity of care" OR "transition of care" OR "transitions of care") AND LANGUAGE: (English) Indexes=SCI-EXPANDED, SSCI, CPCI-S, CPCI-SSH Timespan=2005-2015 |

**Final Search Combinations/Statements for CINAHL Searches**

|  |  |
| --- | --- |
| **Search #** | **Search Terms & Criteria** |
| #1 | (MH "Emergency Service+" OR "emergency room\*" OR "hospital department\*" OR MH "Health Facility Departments+" OR "continuity of patient care" OR "continuity of care" OR MH "Continuity of Patient Care+" OR "transition of care" OR "transitions of care") AND (discharg\* OR MH "Patient Discharge+" OR "patient handover\*" OR MH "Hand Off (Patient Safety)+" OR "patient separation") AND ("diagnostic test\*" OR MH "Diagnostic Tests, Routine" OR "laboratory test\*" OR "clinical laboratory test\*" OR "laboratory procedure\*" OR communicat\* OR "reminder system\*" OR MH "Reminder Systems" OR "test result management" OR "pending test result\*" OR result OR results OR "missed test result\*" OR "missed laboratory test result\*" OR "acknowledgement of test result\*" OR (TI acknowledg\* AND TI "test result\*")) Limiters - Published Date: 20050101-20151231; English Language; Exclude MEDLINE records 448 |
| #2 | MH "Animals+" NOT MH "Human" Limiters - Published Date: 20050101-20151231; English Language; Exclude MEDLINE records 2,122 |
| #3 | ZT "commentary" OR ZT "editorial" OR ZT "letter" Limiters - Published Date: 20050101-20151231; English Language; Exclude MEDLINE records 121,103 |
| #4 (#1NOT (#2 0r #3) | Limiters - Published Date: 20050101-20151231; English Language; Exclude MEDLINE records 437  |

 **Final Search Combinations/Statements For Psycinfo Searches**

|  |  |
| --- | --- |
| **Search #** | **Search Terms & Criteria** |
| #1 | ("emergency room\*" OR "hospital department\*" OR "continuity of patient care" OR "continuity of care" OR DE "Continuum of Care" OR "transition of care" OR "transitions of care") AND (discharg\* OR DE "Hospital Discharge" OR DE "Psychiatric Hospital Discharge" OR "patient handover\*" OR "patient separation") AND ("diagnostic test\*" OR "laboratory test\*" OR "clinical laboratory test\*" OR "laboratory procedure\*" OR communicat\* OR "reminder system\*" OR "test result management" OR "pending test result\*" OR result OR results OR "missed test result\*" OR "missed laboratory test result\*" OR "acknowledgement of test result\*" OR (TI acknowledg\* AND TI "test result\*"))  |
| #2 | ZP "animal" NOT ZP "human" Limiters - Publication Year: 2005-2015; English 122,167  |
| #3 | ZZ "comment/reply" OR ZZ "editorial" OR ZZ "letter" Limiters - Publication Year: 2005-2015; English 85,803  |
| #4 (#1 NOT (#2 or #3) | Limiters - Publication Year: 2005-2015; English 214  |

**Appendix D. Data Abstraction Elements**

We abstracted the following data from each included article:

*Citation*: Pubmed ID, first author, year, title. Full citation imported into Endnote bibliographic database.

*Study characteristics*: Design, setting, population, sample recruitment methods, sample size, description of intervention, outcome description, outcome measures.

*Evidence tables:*

*Comparison group results*: Total number, number of events, mean or percent, standard deviation.

*Intervention group results*: Total number, number of events, mean or percent, standard deviation.

*Effect estimate*: method of adjustment and confounders adjusted for (if applicable), effect estimate (odds ratio, risk ratio, risk difference), standard error, confidence intervals.

**Appendix E
Study Characteristics**

| **Author (Year)** | **Study Design** | **Setting** | **Population** | **Sample Selection** | **Sample Size** | **Intervention(s)** | **Outcomes** | **Quality Appraisal Score** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Dalal (2014)24 | Cluster Randomized Trial | Hospital System | Hospital to Community | Randomized (Attending Physicians) | Attending physicians: 83PCPs: 112;Patients: 152 | Automated e-mail notification of TPAD results | Awareness of TPAD by attending;Awareness of TPAD by PCP;Awareness of actionable TPAD by PCP;Provider satisfaction | 7 |
| Dinescu (2011)16 | Pre-Post | Inpatient / Hospital | Hospital to Community  | Total cohort | Fellows: 5Pre: 89 summariesPost: 79 summaries | Educational intervention to improve quality of discharge summaries | Documentation of TPAD in discharge summary | 7 |
| El-Kareh (2012)25 | Cluster Randomized Trial | Inpatient / Hospital | Hospital to Community  | Randomized (Attending Physicians) | Attending physicians: 121 | E-mail notification of final results that may change therapy | Documented follow-up of test results;Physician awareness | 9 |
| Gandara (2010)18 | Pre-post | Inpatient/ Hospital | Hospital to Skilled Nursing Facility | Random sample | 3,101 discharges | Educational/IT interventions to improve quality of discharge summaries | Defect-free rate; Complete follow up information (includes TPAD) | 7 |
| Goldman (2005)30 | Cross-Sectional | Emergency Department | ED to Community | Consecutive | 306 families | Web-based report of final TPAD results to parent | Retrieval of results;Reported results to physician;Changes in treatment based on results  | 8 |
| Kantor (2014)20 | Pre-Post | Inpatient / Hospital | Hospital to Community, general medicine | Consecutive | Total: 260Pre-intervention: 108;Post-intervention: 152 | EMR-generated list of TPAD | Documentation of Pending Tests in Discharge Summary | 7 |
| Key-Solle (2010)17 | Pre-Post | Inpatient / Hospital | Hospital to Community | Systematic | Total: 477Pre-intervention: 250;Post-intervention: 227 | Education on preparing high quality discharge summaries | Documentation of Pending Tests in Discharge Summary | 7 |
| O’Leary (2009)21 | Pre-Post | Inpatient / Hospital | Hospital to Community  | Random | Discharge summaries: 196Baseline survey: 226Post-implementation survey: 256 | Electronic discharge summary template | Documentation of Pending Tests in Discharge Summary | 8 |

**Appendix F. Description Of Interventions To Improve Follow-Up Of Tests Pending At Discharge**

The following is a list of interventions included in the review to improve follow-up of laboratory tests pending at discharge.

**Educational Interventions to Improve Discharge Summaries**

* Intervention to improve the quality of discharge summaries completed by first year geriatric medicine fellows. Used standardized chart or case review with recommendations for improvement.16
* Multihospital, multi-intervention study to improve the quality of discharge summaries for discharges to subacute facilities (nursing homes and rehabilitation facilities). Identified 12 required data elements for all discharges. Quality improvement interventions included education of physicians and nurses, improvements in information technology, creation of or improvements in discharge documentation templates, training of hospitalists to serve as role models, feedback to physicians and their service chiefs regarding reviewed cases, and case manager review of documentation before discharge.18
* Educational intervention to improve the quality of discharge summaries. Group class on the components of a high-quality discharge summary with a subsequent reminder session and the distribution of a reminder card.17

**Electronic Tools for Preparation of Discharge Summaries**

* Electronic medical record–based tool that automatically generates a list of tests pending at discharge.20
* An electronic discharge summary template that included elements ranked as highly important by outpatient physicians was created and incorporated into the electronic medical record.21

**Electronic Notifications to Physicians**

* Automated e-mail notification to inpatient physicians of final results of tests pending at discharge. The system included tests ordered during the entire episode of care, including any emergency or intensive care stays. It sent separate notifications for chemistry and hematology, radiology, pathology, and microbiology results. Affiliated primary care physicians were copied on the notifications but the designated discharge physician was responsible for results of TPAD.9, 24
* E-mail-based alerts to inpatient physicians of microbiology results returned postdischarge that likely required a change in antibiotic therapy based on aggregated patient-specific data. The notifications provided physicians with information to triage postdischarge microbiology results.25

**Notification to Patients or Parents**

* A web application e-mailed patient’s parents of the final results of cultures pending at discharge. The culture type, interpretation of the culture results, the organism identified, and the telephone number to call in case the parents had any questions were posted online. An e-mail was sent to the parents alerting them of the posting. When a “positive” result was posted, parents were informed that they would receive a telephone call from the ED physician.30

**Appendix G.
Evidence Tables**

**Evidence Table: Interventions to Improve Documentation or Communication of Tests Pending at Discharge—
Effect of Educational Interventions to Improve Documentation of Tests Pending at Discharge in Discharge Summaries**

| **Author (Year)** | **Outcome** | **Sample Size** | **Percent of Patients with TPAD** | **Pre-intervention / Control Cohort** | **Post-intervention / Study Cohort** | **Effect** | **p-value** | **Quality Appraisal Score** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Dinescu (2011)16 | Documentation of hospital procedures and tests | Fellows: 5Pre: 89 summariesPost: 79 summaries | NA | 70 | 90 | 20% | <0.001 | 7 |
| Dinescu (2011)16 | Documentation of follow-up results | Fellows: 5Pre: 89 summariesPost: 79 summaries | NA | 42 | 81 | 39% | 0.02 | 7 |
| Gandara (2010)18 | Complete follow-up information (includes TPAD) | 3101 discharges |  | Range by quarter: 78% - 91% | Range by quarter: 90% - 97% | Difference in lowest quarter: 12% | Trend: < 0.001 | 7 |

**Evidence Table: Interventions to Improve Documentation or Communication of Tests Pending at Discharge—
Effect of Electronic Tools to Improve Documentation of Tests Pending at Discharge in Discharge Summaries**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Author (Year)** | **Outcome** | **Sample Size** | **Percent of Patients with TPAD** | **Pre-intervention / Control Cohort** | **Post-intervention / Study Cohort** | **Effect** | **p-value** | **Quality Appraisal Score** |
| Kantor (2014)20 | Percent of TPAD documented in discharge summary | Total: 260Pre-intervention: 108;Post-intervention: 152 | Pre: 70%Post: 76% | 18% | 43% | 25%  | < 0.001 | 7 |
| Kantor (2014)20 | 100% of TPAD documented | Total: 260Pre-intervention: 108;Post-intervention: 152 | Pre: 70%Post: 76% | 7.6% | 26% | 18.4 | 0.002 | 7 |
| Kantor (2014)20 | 100% of TPAD documented | Total: 260Pre-intervention: 108;Post-intervention: 152 | Pre: 70%Post: 76% | Summaries for which tool was not used: 6% | Summaries for which tool was used: 74% | Use of tool on documentation of TPAD: 68%  | <0.001 | 7 |
| Key-Solle (2010)17 | Documentation of TPAD | Total: 477Pre-intervention: 250;Post-intervention: 227 |  | Group Session: 24.5Individual Reminder: 25.0 | Group Session: 29.8Individual Reminder: 41.4 | Group Session: 5.3Individual Reminder: 16.4 | Group Session: .403Individual Reminder: 0.004Improvement across time: 0.75 | 7 |
| O’Leary (2009)21 | Documentation of TPAD | Discharge summaries: 196Baseline survey: 226Post-implementation survey: 256 |  | 13.9% (14) | 46.3 (44) | 32.4 | <0.001 | 8 |
| O’Leary (2009)28 | Documentation of significant lab results | Discharge summaries: 196Baseline survey: 226Post-implementation survey: 256 |  | 66% | 51% | –15% | 0.04 | 8 |

**Evidence Table: Effect of Automated Notifications to Physicians on Awareness of Tests Pending at Discharge**

| **Author (Year)** | **Outcome** | **Sample Size** | **Percent of Patients with TPAD** | **Pre-intervention / Control Cohort** | **Post-intervention / Study Cohort** | **Effect** | **p-value** | **Quality Appraisal Score** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Dalal (2014)24 | Awareness of TPAD (attending physician) | 83 attendings with 275 patients |  | 38% | 76% | OR 6.30, 95% CI 3.02 to 13.16 | p<0.001 | 7 |
| Dalal (2014)24 | Awareness of TPAD (PCP) | 112 PCPs with 152 patients  |  | 33% | 57% | OR 3.08, 95% CI 1.43 to 6.66 | P = 0.004 | 7 |
| Dalal (2014)24 | Awareness of actionable TPAD (attending) | 83 attendings with 275 patients |  | 29% | 59% | 30% OR not estimated  | P = 0.02 (unadjusted) | 7 |
| Dalal (2014)24 | Awareness of actionable TPADs (PCP) | 112 PCPs with 152 patients |  | 48% | 65% | 17% OR not estimated | 0.25 | 7 |
| El-Kareh25 | Awareness of TPAD result (attending) | 48 |  | 32% | 44% | 12% | 0.36 | 9 |
| El-Kareh25 | Awareness of TPAD result (PCP) | 13 |  | 17% | 38% | 21% | 0.60 | 9 |
| Goldman30 | TPAD reported to physician | 306 families |  |  | 36 (12%) | 12% | NA | 8 |