Prepared for:

The Office of the National Coordinator for Health Information Technology (ONC) and The Substance Abuse and Mental Health Services Administration (SAMHSA)

ONC-SAMHSA Behavioral Health Clinical Quality Measure Initiative

Technical Expert Panel Results for Behavioral Health Domain – *Depression*

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by The MITRE Corporation

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Executive Summary

Background

The Office of the National Coordinator for Health Information Technology (ONC) and the Substance Abuse and Mental Health Services Administration (SAMHSA) engaged The MITRE Corporation to support the development of a portfolio of Behavioral Health (BH) Clinical Quality Measures (CQMs). This portfolio of BH CQMs are under consideration for future stages of the Centers for Medicare & Medicaid Services (CMS) Incentive Program for the Meaningful Use of Health Information Technology ("Meaningful Use"), which is part of the Health Information Technology for Economic and Clinical Health (HITECH) Act of 2009. This engagement was comprised of two phases:

1. Electronic specification (eSpecification) of prioritized BH CQMs under consideration for future stages of the Meaningful Use (MU) program

2. Development and facilitation of a Technical Expert Panel (TEP) of public and private BH specialists for the purpose of identifying and prioritizing recommendations future development of BH related CQMs

This report presents results of the BH CQM Project Phase 2, in addition to the Technical Expert Panel (TEP) Phase 1 and Phase 2 efforts for the Depression BH domain.

Process

A TEP composed of public and private sector BH experts, representing the clinical domains of Alcohol Use, Autism, Depression, Drug Use, Suicide, and Trauma, was recruited, assembled, and facilitated over a 4-month period named "TEP Phase 1" from April through July 2012. Through the course of deliberations, the TEP was briefed on the MU program requirements and informed of the CQM development process, including clinical research, measure logic development, National Quality Forum (NQF) endorsement, and eSpecification creation. In a three-meeting weekly rotating cycle, each clinical domain was evaluated for the existence of CQMs included in the MU Stage 1 Final Rule, the MU Stage 2 Notice of Proposed Rulemaking (NPRM) and Final Rule, and those eSpecified as part of Project Phase 1. Additionally, the TEP reviewed results of environmental scans for the existence of measures not endorsed by the NQF and clinical literature searches for evidence warranting new measure development.

A "TEP Phase 2" focused for an additional three months from July through September 2012 on the topics of Depression Trended Outcome measurement and Drug Use/Prescription Drug Misuse measures.

Results

Table 1 provides an overview of the ONC-SAMHSA BH TEP's research activities and recommendations related to the development of one BH CQM for the Depression domain.

Table 1. Behavioral Health Domain: *Depression*

Review	Result
Domain Specific NQF endorsed measures	Six measures prioritzed from Phase 1 of BH CQM project
Meaningful Use Stage 1—Final Rule	One measure related to this clinical domain
Meaningful Use Stage 2 – Final Rule	Eight measures related to this clinical domain
NQF endorsed measures – future consideration	Two measures related to this clinical domain
Non-endorsed Measures (Agency for Healthcare Research and Quality [AHRQ] Database)	17 measures related to this clinical domain were reviewed by TEP, one measure recommended
Clinical Evidence	197 articles* covering 6 broad areas: • Electronic Health/Medical Records + Screening and Follow Up • Patient's Self-Report/Patient Recorded Outcomes (PRO) • Patient Health Questionaire-9 • Trendable/Tracking • Physician vs. Psychiatrist • Positive Screen→Referral/Treatment

* Citations were repeated when findings applied to more than one topic area.

Recommendations

Based on the TEP findings, the Depression subgroup recommends:

- Further investigation for endorsement and eSpecification of the following measure:
  - National Quality Measures Clearinghouse (NQMC) 005108 British Medical Association Depression: the percentage of patients on the diabetes register and/or coronary heart disease (CHD) register for whom case finding for depression has been undertaken on one occasion during the previous 15 months using two standard screening questions
- Future development of CQMs for trending of depression outcome variables

The following report provides details concerning the ONC-SAMHSA BH TEP activities and recommendations for the Depression BH clinical domain.

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1 Background

Through the American Recovery and Reinvestment Act of 2009 (ARRA) Health Information Technology for Economic and Clinical Health (HITECH) Act, the Centers for Medicare & Medicaid Services (CMS) is authorized to provide reimbursement incentives for eligible professionals and hospitals for the Meaningful Use (MU) of certified Electronic Health Record (EHR) technology. The Office of the National Coordinator for Health Information Technology (ONC), through an agreement with CMS, has been tasked with developing a portfolio of Clinical Quality Measures (CQM) that capitalizes on the clinical data captured through EHRs for inclusion in the CMS EHR MU Incentive Program.

The Behavioral Health Coordinating Committee at the U.S. Department of Health and Human Services (DHHS), with support from the Office of National Drug Control Policy (ONDCP) Demand Reduction Interagency Workgroup EHR subcommittee, submitted consensus recommendations to the ONC, for behavioral health-relevant clinical quality measures to be included in Stage 2 of the MU incentive program. In July 2011, the ONC Federal Advisory Health Information Technology Policy Committee (HITPC) recommended to ONC that these measures be further developed.

SAMHSA and ONC jointly sponsored this project to follow up on these recommendations by developing and electronically specifying (eSpecification) BH CQMs to be added to the current EHR CQM portfolio of measures. The principal audience for these measures is primary care MU Eligible Professionals and Eligible Hospitals, although they may also be applicable to a broader range of BH professionals. The scope of the resulting BH eMeasure (BHeM) effort included strategic, technical, facilitation, coordination, clinical, and project management support for the development of a portfolio of electronically specified BH CQMs for potential inclusion in future stages of the CMS EHR MU Incentive Program.

BH CQMs for this project are focused in the clinical domains of:

- Alcohol Use
- Autism
- Depression
- Drug Use
- Suicide
- Trauma

This report presents results of the BH CQM Project Phase 2, in addition to the Technical Expert Panel (TEP) Phase 1 and Phase 2 efforts for the Depression BH domain.

2 Project Overview

The ONC and SAMHSA engaged The MITRE Corporation to support the development of a portfolio of BH CQMs suitable for inclusion in future stages of the CMS Incentive Program for the Meaningful Use of Health Information Technology ("Meaningful Use"), which is part of the Health Information Technology for Economic and Clinical Health Act of 2009 (HITECH). This engagement included two phases:

Phase 1 - eSpecification of BH CQMs suitable for future stages of the MU program. Ten BH CQMs were eSpecified through this project and include:

- National Committee for Quality Assurance (NCQA)

  1. NQF # 0576, Follow-Up After Hospitalization for Mental Illness
  2. NQF #1401, Maternal Depression Screening
  3. NQF # 1406, Risky Behavior Assessment or Counseling by Age 13
  4. NQF # 1507, Risky Behavior Assessment or Counseling by Age 18

- The Joint Commission (TJC):

  5. NQF # 1661, SUB-1 Alcohol Use Screening
  6. NQF # 1663, SUB-2 Alcohol Use Brief Intervention Provided

- Center for Quality Assessment and Improvement in Mental Health (CQAIMH):

  7. NQF # 0109, Bipolar Disorder and Major Depression: Assessment for Manic or Hypomanic Behaviors
  8. NQF # 0110, Bipolar Disorder and Major Depression: Appraisal for Alcohol or Chemical Substance Use
  9. NQF #0111, Bipolar Disorder: Appraisal for Risk of Suicide

- Resolution Health, Inc. (RHI)

  10. NQF # 0580, Bipolar Antimanic Agent

Note: CQMs NQF #0110 and #1401 were included in MU Stage 2 Final Rule

Phase 2 - Development and facilitation of a TEP of public and private BH specialists for the purpose of identifying and prioritizing recommendations for potential new measures for future development.

2.1 Technical Expert Panel

A TEP composed of public and private sector BH experts, representing the clinical domains of Alcohol Use, Autism, Depression, Drug Use, Suicide, and Trauma, was recruited, assembled, and facilitated over a 4-month period named "TEP Phase 1" from April through July 2012. Through the course of deliberations, the TEP was briefed on the MU program requirements and informed of the CQM development process, including clinical research, measure logic development, National Quality Forum (NQF) endorsement, and eSpecification creation. In a three-meeting weekly rotating cycle, each clinical domain was evaluated for the existence of CQMs included in the MU Stage 1 Final Rule, the MU Stage 2 Notice of Proposed Rulemaking (NPRM), and those eSpecified as part of Project Phase 1. Additionally, the TEP reviewed results of environmental scans for the existence of measures not endorsed by the NQF and clinical literature searches for evidence warranting measure development.

A "TEP Phase 2" focused for an additional three months from July through September 2012 on the topics of Depression Trended Outcome and Drug Use/Prescription Drug Misuse measures.

A list of all TEP members is included in Appendix A.

2.2   Purpose and Activities of the TEP

The purpose of the ONC-SAMHSA BH TEP was to:

- Recommend BH clinical quality measures for widespread adoption and use in future stages of the EHR Meaningful Use Incentive Program
- Recommend future measure development needs by evaluating available clinical research
- Provide private sector input regarding the feasibility of measure implementation

Over the course of the project the TEP completed a comprehensive review of existing BH-relevant CQMs including measures that are NQF endorsed, community measures in the AHRQ measure clearinghouse, and measures that were under development through similar federal initiatives. In addition, for each domain, the TEP reviewed the clinical literature to evaluate the state of the field of measure development and to make recommendations on the next steps for measure development.

A list of all scheduled meetings and topics is included in Appendix B.

Copies of the environmental scans are included in Appendix C.

SAMHSA is currently developing a National Behavioral Health Quality Framework. The framework is aligned with the National Quality Strategy and will prioritize six goals; (1) evidence-based prevention, treatment and recovery, (2) person and family-centered care, (3) coordination of behavioral health and other health care, (4) health living, (5) safe care, and (6) accessible and affordable care. The recommendations from the Technical Expert Panel are focused on measure recommendations for the Meaningful Use EHR incentive program and are primarily applicable to primary care and general hospital settings. These recommendations will be considered in the broad portfolio of SAMHSA quality work, including development of the framework and future measure development activities.

2.3   Common Themes in CQM Development for Behavioral Health

Many common themes emerged in the TEP discussions across the six domains. The United States (US) healthcare system is evolving rapidly. The widespread use of standardized data captured in EHRs has profound potential to improve quality measurement of both research and healthcare contexts. Our discussions highlighted some principles related to BH quality measures development for consideration in efforts to realize this potential.

Standardized, Validated Screening and Assessment Tools

Significant discussion focused on the use of valid tools for screening, assessment, and outcome monitoring for BH diagnoses. Many standardized assessment tools exist for any given BH condition. There is often no 'gold standard' assessment tool for a given purpose. As a result, measure developers often specify the use of 'a valid instrument'. This can create complications for the e-specification of the measure and for data comparison across sites. However, while standards may be useful for exchanging data, mandating the use of a specific instrument may limit a provider's ability to select tools that they prefer, or develop new, innovative approaches to screening and assessment. Development of standards for the endorsement of validated tools, as well as standard processes for calibrating tools to a standard scale would be incredibly

valuable for improving the quality and interoperability of data while allowing the field to evolve with the state of the science.

Comprehensive Measure Sets

For each of the six domains TEP members discussed the long range goal of developing measure sets that support evidence based practices across the full continuum of care. For most BH disorders addressed in primary care settings this includes prevention, screening, follow up assessments, screening for co-morbid conditions, primary care based intervention, referral management, care coordination, and outcome tracking. For many of the domains addressed in this project the state of the research does not yet support the development of CQMs for each of these purposes. However, it was useful to consider the current state of measure development within this context to make recommendations for the next stages of measure development.

Implementation in Real World Settings

TEP discussions also highlighted the need to consider measure development in the context of real world healthcare settings. Our national healthcare system is rapidly evolving and health reform is putting significant pressure on primary care providers. The efficacy of primary care based interventions for behavioral disorders is highly dependent on implementation which can be influenced by acceptability to providers, ability to integrate best practices into their workflow, provider attitudes and comfort level with the intervention, etc. The TEP highlighted the need for additional research to address the implementation barriers that exist in busy practices, including technologies that reduce patient and provider burden, to identify methods for addressing patients with multiple behavioral health co-morbidities, and to determine how clinical decision support can be tied to CQMs in EHR systems.

3 Domain-Specific Results: *Depression*

3.1 Environmental Scan Results

MITRE engaged The Cloudburst Group as subcontractor for the clinical literature review process due to their expertise in completing and analyzing clinical literature research in the six key domains of Alcohol, Substance Abuse, Depression, Suicide, Trauma and Autism. The Cloudburst Group deliverables were aligned with the goals of each TEP meeting (see Table 2).

Table 2. TEP Goals and Literature Reviews

TEP Phase 1 – Goal (All 6 Domains)	Literature Review Deliverables
Meeting 1 – Orientation and Familiarity with Current Measures	TEP participation and orientation if available
Meeting 2 - Non-Endorsed Measures Recommendations/Lit Search Question Formation	Delivery of Phase 1 environmental scan literature review domain-specific search questions for all 6 domains and participation in weekly TEPs
Meeting 3 - Select Promising Clinical Research	Delivery of final results from Phase 1 environmental scan of all 6 domains and participation in weekly TEPs

The Cloudburst Group provided literature search questions for review with the TEP at each Phase 1, Meeting 2 discussion. These questions were based on a preliminary review of ongoing research that could inform the development or retooling of each proposed measure or the creation of new measures. The answers to these questions and additional comments from the TEP members in the Meeting 2 discussions were used to generate the search criteria for the environmental scans. The results of these scans were then summarized and presented to each TEP in an executive summary (Table 3). The most appropriate articles were then collated for each domain and presented in a literature matrix (see Appendix C).

Recommended Search Terms for Depression Literature Scan:

- Depression, meta analysis, adult
- Depression, electronic health record
- Depression, electronic medical record
- Depression, screening
- Depression, positive screen
- Depression, self-report
- Depression, patient reported or recorded outcomes
- Depression, follow-up
- Depression, referral, treatment
- PHQ-9, treatment
- PHQ-9, treatment outcomes
- PHQ-9,screening

Table 3 is a high-level summary of the 197 total results divided under 6 broad areas. The full matrix including summaries of each of the citations is available in Appendix C of this paper.

Table 3. Literature Search Results and Findings

Topics/Search Focus Area	Summary of Findings
EHR +Screening and Follow Up	• Majority of studies recommend using EHR for screening, assessment and treatment • EHR has been shown to be successful in screening for depression in general populations • Patients with depression and 3 or more chronic conditions were less likely to receive treatment when an EHR was used
Patient's Self Report/Patient Recorded Outcomes (PRO)	• Literature generally supports use of PROs and finds them to be reliable and precise • Providing PROs has a positive impact on processes of care (patient-provider communication, diagnosis, and treatment) • Paper vs. computer/internet administration equivalent
PHQ-9	• Literature supports use of PHQ-9 for screening, diagnosis and follow-up • Useful for both general populations and high risk populations • Often positive screen does not result in referral or proper treatment • Mixed results on use for measuring severity
Trending/Tracking	• Majority of studies use PHQ-9 as their sole source for tracking measure • Response and remission defined differently across studies (e.g., a minimum score or reduction in a patients' scores on PHQ-9, MADRS, QIDS-SR, CGI, HAM-D)

Topics/Search Focus Area	Summary of Findings
Primary care/Specialty Care	• Research suggests that Primary Care providers are capable of screening and basic treatment for depression • Up to 50% of depressed patients go unrecognized in primary care settings; yet literature shows that there are more false positives than missed or identified cases in primary care settings • Screening in geriatric populations extremely difficult, under diagnosis is prevalent in primary care
Positive Screen →Referral/Treatment	• Studies conclude that referral or treatment after a positive screen does not occur as much as it should • Often 50% or fewer patients are receiving practices consistent with guidelines or accessing treatment

3.2 Measure Recommendations

Tables 4 and 5 provide an overview of current regulatory measures, the ONC-SAMHSA BH TEP's research activities, and recommendations related to developing a BH CQM for the Depression domain.

Table 4. Behavioral Health Domain: Depression CURRENT POLICY

Review	Result
Meaningful Use Stage 1—Final Rule	One measure related to this clinical domain • NQF 0105—Antidepressant Medication Management: (a) Effective Acute Phase Treatment, (b) Effective Continuation Phase Treatment
Meaningful Use Stage 2—Final Rule	Eight measures related to this clinical domain were included: • NQF 0104—Major Depressive Disorder: Suicide Risk Assessment • NQF 0105—Antidepressant Medication Management: (a) Effective Acute Phase Treatment, (b) Effective Continuation Phase Treatment • NQF 0110—Bipolar Disorder and Major Depression: Appraisal for Alcohol or Chemical Substance Use • NQF 0418—Depression Screening (Patient Health Questionnaire [PHQ]-2 and PHQ-9) for Primary Care > Age 13 • NQF 0710—Depression Remission at Twelve Months • NQF 0712—Depression Utilization of the PHQ-Tool • NQF 1365—Child and Adolescent Major Depressive Disorder: Suicide Risk Assessment • NQF 1401—Maternal Depression Screening Three proposed measures related to this clinical domain in the NPRM were not selected for the final rule: • NQF 0103—Major Depressive Disorder: Diagnostic Evaluation • NQF 0112—Bipolar Disorder: Monitoring Change in Level-of-Functioning • NQF 0711—Depression Remission at Six Months

Table 5. Behavioral Health Domain: Depression– FUTURE RECOMMENDATIONS

Source	Recommendations
NQF Endorsed measures – future consideration	Two related to this clinical domain recommended for inclusion in future stages of MU • NQF 0109—Bipolar Disorder and Major Depression: Assessment for Manic or Hypomanic Behaviors • NQF 0576—Follow Up After Hospitalization for Mental Illness
Non-endorsed Measures (AHRQ Database)	One measure related to this clinical domain recommended for potential inclusion in future stages of MU: • NQMC Measure 005108 (British Medical Association)- The percentage of patients on the diabetes register and/or coronary heart disease (CHD) register for whom case finding for depression has been undertaken on one occasion during the previous 15 months using two standard screening questions.
Clinical Evidence	Recommendations for additional research focused on: • Development of a trended outcome measure for primary care based depression treatment • Development of measures for referral management • Consideration of quality of life and functional status outcome measurement

* Citations were repeated when findings applied to more than one topic area.

In addition to the recommendations shared in this table, several TEP discussions should be highlighted:

- The United States Preventive Services Task Force (USPSTF) recommends population based screening of adults for depression in clinical practices that have systems in place to assure accurate diagnosis, effective treatment, and followup. The depression domain is one of the most advanced with a comprehensive NQF endorsed measure set (table 4) already developed including depression screening, diagnostic evaluation, suicide risk assessment, medication management, appraisal for substance use, treatment progress and remission monitoring/outcome assessment. The TEP members, recognizing the prevalence and impact the depression condition on the overall patient population, strongly supported the use of these measures in primary care settings.

- The TEP also expressed support for inclusion of NQF Measure 0109—Bipolar Disorder and Major Depression: Assessment for Manic or Hypomanic Behaviors, in future stages of MU. Depressive episodes are frequently the presenting problem for patients with bipolar disorder and as a result they are often misdiagnosed with unipolar depression. Since anti-depressants can trigger manic episodes, and are therefore contra-indicated for patients with bipolar disorder, it is important to assess patients who screen positive for depression for manic behaviors indicative of bipolar disorder.

4 Future Recommendations

While the focus of this project is to recommend CQMs for the HITECH MU program, the TEP was also asked to make recommendations for additional research and development needed to support the next phases of measure development for this domain. These recommendations include:

- **Development of a Referral Tracking Measure.** One gap area identified is for development of measures that track completion of referrals to specialty care. Ensuring that patients do not fall through the cracks in the transition of care from primary care to specialty care is critical. Measures that address completion of referrals would be useful for tracking care coordination, access to care, and adherence to a treatment plan.
- **Development of a Trended Outcome Measure.** The TEP recognized that depression is a well-developed area of quality measurement and that the MU Stage 2 Final Rule currently includes two outcome measures for depression treatment. NQF measures 0710 and 0711 calculate the percent of patients with a diagnosis of major depression who achieve remission at six and twelve months, respectively, as demonstrated by a PHQ-9 score of less than 5. These measures are useful for determining the number of patients who achieve remission but they do not provide a sensitive measure of treatment efficacy or patient progress. TEP members strongly agreed that a trended measure of depression scores over time is the next high priority step in the evolution of quality measurement for this domain.
- **Additional Research.** Further consideration of the inclusion of variables related to quality of life surveys and/or functional status evaluations (work/school participation, social engagement, etc.) as other priority areas that should be addressed when evaluating a patient for depression. In addition, Reduction in suicidal thoughts and behavior is an important area for future development as an outcome measure for depression.

5 TEP Phase 2 – Depression Trended Outcome Measure

5.1 Goals/Outcomes for Phase 2

On August 8, 2012, an in-person meeting of the TEP was held at the HHS Headquarters, Hubert H. Humphrey Building in Washington, D.C. Two breakout sessions were devoted to the discussion and consensus-building on recommendations towards the development of a Trended Depression Outcomes Measure.

5.2 Proposed Measure

Significant discussions focused on selection of the assessment tool to be used in the measure. Considerations included psychometric properties, patient and provider burden, format (i.e., interview vs. self-report), and whether the tool was in the public domain. See appendix C.5 for an overview of available scales. The TEP recommends the use of the PHQ-9 because it is a brief, publicly available scale that can be self-administered, it is already widely used in the primary care environment, and it is currently used in other NQF endorsed measures that are included in the MU Stage 2 final rule. In addition, the scale has strong psychometric properties and has been validated in a wide range of populations for tracking depression severity across time.

The TEP engaged in detailed discussions related to measure layout and the most valid and reliable metrics to evaluate treatment outcomes. Topics included:

- Frequency of assessments in practice and the measurement period to be evaluated
  - Calculating trends since treatment initiation vs. over a fixed period
- Methods of calculating change

– Delta score
– Rate of change
– Reliable change index
– Time to reach 50% reduction in score

In addition, the TEP discussed the research related to monitoring change in depression severity across time. A significant body of research has focused on the use of the PHQ-9 to assess treatment progress. These data will be useful for determining thresholds for clinically significant change (Table 6 below).

Discussions also highlighted a number of measure development issues. The TEP stressed the need to weight/risk adjust the measure to account for variations in the presenting severity and complexity of the patient population. In addition, the measure needs to take into account that many patients will stay in treatment for a period of time after achieving remission. Depending on how the measure is constructed these patients may need to be excluded from the calculation.

Proposed measurement strategies were then discussed with technical measure development experts in order to determine feasibility for electronic specification and measure calculation within an EHR. This processed helped to refine potential strategies which are proposed in Section 5.4.

5.3 Technical Assessment

The TEP leadership reviewed the measure options with the MITRE project team, including a systems engineer with clinical quality eMeasure expertise and identified a number of obstacles for measure calculation.

- **Initiation of a new episode** is surprisingly tricky to capture in an eMeasure. Circuitous specifications were used in development of a similar measure, NQF0110. 'New episode' was defined as an encounter where a diagnosis was captured where there were no active diagnoses or mediations/treatments related to depression in the record for the past 6 months. Implementation of this measure is still pending to determine feasibility and reliability.

- **Difficulty in defining appropriate time frames:** We may be able to define treatment initiation; however, patient appointments and treatment schedules vary greatly. The measure must also explicitly define the other time frames in a way that maintains the validity of the comparison across patients.

- **Delta Measurement:** CQM e-specifications do not currently have the capacity to include even simple calculations. To collect delta scores or rates of change the measurement would need to occur in the EHR to be reported in the measure. The only current Meaningful Use measure which uses a delta measurement is a Blood Pressure (BP) measure, where the EHR is expected to produce the delta BP, and the measure logic assesses whether it is large enough. It is uncertain whether the capability exists within EHRs to assess change in PHQ-9 score.

- **Reliable Change Index:** There are some pilot measures that are currently being developed to start to address more complex calculations such as statistical control charts and reliable change index but this is a new area of development and the methods are not well defined.

- **Risk Adjustment:** The eMeasure framework currently doesn't incorporate weighting. Measures can perform stratification or define distinct populations to bring out these differences.

5.4 Potential Measurement Strategies

A variety of measure calculation options were considered for development of the proposed measure. Based on the current state of the field of measure development the TEP recommended additional research to determine the feasibility and validity of the proposed measurement strategies listed below. The TEP suggested that evaluating existing large data sets from healthcare systems that already routinely capture PHQ-9 scores would be useful for this purpose. As measurement strategies become more complex this type of preliminary validation, focused on electronic implementation, will be a valuable tool in the measure development and e-specification process.

Potential measurement strategies for assessing change in depression score and questions to be addressed include:

1. Average change (delta or change index) in PHQ-9 score of patients with clinically significant depression (CSD, score $\geq$ 9) after 6 or 12 months

2. Average change in 4-6 month PHQ-9 score of patients with CSD (paired change, most recent score vs. 4-6 months prior)

3. Percent of patients with CSD who show a 50% reduction in PHQ-9 score from initiation of diagnosis or new episode within 1 year

4. Percent of patients with CSD who achieve a 5 point drop in PHQ-9 score within 6 months of diagnosis or new episode

5. Percent of patients with CSD who achieve a 5 point drop in PHQ-9 score over 4-6 months (paired change, most recent score vs. 4-6 months prior)

Evaluations should assess:

1. Which calculations are most clinically meaningful

2. Barriers to capturing delta scores in the EHR and how they can be overcome

3. Barriers to using reliable change index, how they can be overcome, and minimum number of data points needed.

4. What is the most appropriate and clinically useful measurement period to assess

5. Evaluate strategies for risk adjustment and stratification based on:

   a. Presenting severity

   b. History of suicide attempts

   c. Post-partum status

   d. First episode vs. recurrent

   e. Co-morbidities

   f. Participation in specialty care

5.5 Clinical Support

The Cloudburst Group performed an environmental scan focused on supporting the parameters of the proposed measure. Table 6 highlights particular evidence in support of the proposed measure numerator concepts outlined in Section 6.3. A detailed matrix of all potential supporting clinical evidence is attached in Appendix C.6.

Table 6. Proposed Trended Depression Measure – Relevant Clinical Citations

Numerator Concept	Relevant Citations
50% reduction in PHQ-9 score from diagnosis/new episode to follow-up measurement timeframes	• Bergus, G.R., Hartz, A.J., Noyes R. Jr., Ward, M.M., James, P.A., Vaughn T., Kelley, P.L., Sinift, S.D., Bentler S., Tilman, E. (2005). The limited effect of screening for depressive symptoms with the PHQ-9 in rural family practices J Rural Health, 21(4):303-9 . (Note: timeframes - 4, 10, and 24 weeks) • Ell, K., Unutzer, J., Aranda, M., Gibbs, N.E., Lee, P.J., Xie, B. (2007). Managing depression in home health care: A randomized clinical trial. Home Health Care Serv Q., 26:81-104. (Note: timeframes - 4, 8, and 12 months) • Katzelnick, D.J., Duffy, F.F., Chung, H., et al. (2011). Depression outcomes in psychiatric clinical practice: Using a self-rated measure of depression severity. Psychiatr Serv, 62:929. (Note: timeframes - 3 and 6 months)
Five point reduction or change in PHQ-9 score from diagnosis/new episode to follow-up measurement timeframes	• Kroenke, K. & Spitzer, R.L. (2002). The PHQ-9: A New Depression Diagnostic and Severity Measure. Psychiatric Annals, 32:9. (Note: timeframe - 3 months) • Lowe, B. et al. (2004). Monitoring depression treatment outcomes with the patient health questionnaire-9. Med Care, 42(12):1194-201. (Note: timeframe - 3 months)
Sustained Remission within 1 year of treatment initiation (PHQ<5 for over 3 months)	• Bergus, G.R., Hartz, A.J., Noyes, R. Jr., Ward, M.M., James, P.A., Vaughn, T., Kelley, P.L., Sinift, S.D., Bentler, S., Tilman, E. (2005). The limited effect of screening for depressive symptoms with the PHQ-9 in rural family practices J Rural Health, 21(4):303-9 . (Note: timeframes - 4, 10, and 24 weeks) • Katzelnick, D.J., Duffy, F.F., Chung, H., et al. (2011). Depression outcomes in psychiatric clinical practice: Using a self-rated measure of depression severity. Psychiatr Serv, 62:929. (Note: timeframes - 3 and 6 months)

5.6 TEP Phase 2 Conclusion

The TEP finds that the clinical evidence and technical feasibility reviews support further research to refine measurement strategies for development of a Depression Screening Trended Outcome measure with the PHQ-9 screening instrument. The results of this analysis will determine whether new measure development is appropriate. NQF measures 0710 and 0711, Depression Remission at 6 and 12 months, are valuable measurement tools for assessing outcomes. The justification for new measure development should clearly articulate how their measurement will address clinical quality above and beyond existing measures.

Appendix A   TEP Member List

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Appendix B   Meeting Schedule

BH CQM TEP Schedule and Topics – Revised 7/6/12		
Week #	Week of:	Topic
1	4/9-4/13	KICK-OFF – OPTION 1: 4/9: 1:00P-3:00P OPTION 2: 4/12: 12:30P–2:30P
2	4/16 3-4:30pm Eastern	Suicide/Trauma – Week 1
3	4/23 3-4:30pm Eastern	Autism – Week 1
4	4/30 3-4:30pm Eastern	Depression – Week 1
5	5/7 3-4:30pm Eastern	Drugs/Alcohol – Week 1
6	5/14 3-4:30pm Eastern	Suicide/Trauma – Week 2
7	5/21 3-4:30pm Eastern	Autism – Week 2
8	5/29 3-4:30pm Eastern	Depression – Week 2
9	6/4 3-4:30pm Eastern	Drugs/Alcohol – Week 2
10	6/11 3-4:30pm Eastern	Suicide/Trauma – Week 3
11	6/22 3-4:30pm Eastern	Autism – Week 3
12	6/25 3-4:30pm Eastern	Depression – Week 3
13	7/2 3-4:30pm Eastern	CANCELLED
14	7/9 3-4:30pm Eastern	Drugs/Alcohol – Week 3
	TEP PHASE II	
15	7/16 3-4:30pm Eastern	Depression – Week 1
16	7/23 3-4:30pm Eastern	Drug Use/PDM – Week 1
17	7/30 3-4:30pm Eastern	Depression – Week 2 *
18	8/6 3-4:30pm Eastern	Drug Use/PDM – Week 2 *
ADDED	8/9 All day event	In person and Webinar
19	8/13 3-4:30pm Eastern	Depression – Week 3 *
20	8/20 3-4:30pm Eastern	Drug Use/PDM – Week 3 *
21	8/27 3-4:30pm Eastern	Depression – Week 4 *
22	9/3 3-4:30pm Eastern	Drug Use/PDM – Week 4 *
23	9/10 3-4:30pm Eastern	Depression – Week 5 *
24	9/17 3-4:30pm Eastern	Drug Use/PDM – Week 5 *
		*if needed

Appendix C   Environmental Scans

C.1   NQF-Endorsed Measures

C.2   AHRQ Measures (non-NQF-Endorsed)

C.3   Clinical Literature Search Matrix

C.4   Clinical Literature Search Summary Document

C.5   Depression Instrument Psychometric Table

C.6   Proposed Measure Supporting Evidence Matrix

High Priority DEPRESSION Clinical Quality Measures for Meaningful Use (Federal Subgroup – 12/15/11)

NQF #	Measure Title	Measure Description	Numerator Statement	Denominator Statement	Measure Steward	Link to NQF website
0109	Bipolar Disorder and Major Depression: Assessment for Manic or hypomanic behaviors	Percentage of patients treated for depression who were assessed, prior to treatment, for the presence of current and/or prior manic or hypomanic behaviors.	Documentation of an assessment that considers the presence or absence of current and/or prior symptoms or behaviors of mania or hypomania. Sources of documentation may include the following: Documentation of presence or absence of the symptoms/behaviors associated with mania/hypomania (Reference List of Symptoms/Behaviors of Mania or Hypomania included in data collection form-will be available to TAP review) Or	Patients 18 years of age or older with an initial diagnosis or new presentation/episode of depression AND Documentation of a diagnosis of depression; to include at least one of the following: • Codes 296.2x; 296.3x. 300.4 or 311 (ICD9CM or DSM-IV-TR) documented in body of chart, such as a pre-printed form completed by a clinician and/or codes documented in chart notes/forms • Diagnosis or	Center for Quality Assessment and Improvement in Mental Health	http://www.qualityforum.org/MeasureDetails.aspx?actid=0&SubmissionId=1240#k=0109&e=1&st=&sd=&mt=&cs=&ss=&sn&so=a&p=1

NQF #	Measure Title	Measure Description	Numerator Statement	Denominator Statement	Measure Steward	Link to NQF website
			Use of a bipolar disorder screening or assessment tool :	Impression or "working diagnosis" documented in chart indicating depression		
			Clinical Global Impression - Bipolar	• Use of a screening/assessment tool for depression with a score or conclusion that patient is depressed and documentation that this information is used to establish or substantiate the diagnosis		
			MDQ: Mood Disorder Questionnaire			
			BSDS: Bipolar Spectrum Diagnostic Scale			
			YMRS: Young Mania Rating Scale			
			BDSS: Brief Bipolar disorder Symptom Scale			
			Hypomanic Personality Scale			
			Self Report Mania Inventory	AND		
			Altman Self Report Mania Scale	Documentation of treatment for depression; to include at least one of the following:		
			Bech-Rafaelsen Mania Rating Scale			
			Or, Other scale used & documented at site	Antidepressant pharmacotherapy		

NQF #	Measure Title	Measure Description	Numerator Statement	Denominator Statement	Measure Steward	Link to NQF website
			AND Timeframe for chart documentation of the assessment for mania/hypomania must be present prior to, or concurrent with, the visit where the treatment plan is documented as being initiated	(Reference List of Antidepressant Medications included in data collection form) AND/OR Psychotherapy for depression; provided at practice site or through referral New diagnosis" or a "new episode," is defined as cases where the patient has not been involved in active treatment for 6 months. Active treatment includes being hospitalized or under the out-patient care of a physician.		

NQF #	Measure Title	Measure Description	Numerator Statement	Denominator Statement	Measure Steward	Link to NQF website
576 CANDI DATE	Follow-Up After Hospitalization for Mental Illness	This measure assesses the percentage of discharges for members 6 years of age and older who were hospitalized for treatment of selected mental health disorders and who had an outpatient visit, an intensive outpatient encounter or partial hospitalization with a mental health practitioner. Two rates are reported.Rate 1. The percentage of members who received follow-up within 30 days of discharge Rate 2. The percentage of members who received follow-up within 7 days of discharge.	Rate 1: An outpatient visit, intensive outpatient encounter or partial hospitalization with a mental health practitioner within 30 days after discharge. Rate 2: An outpatient visit, intensive outpatient encounter or partial hospitalization with a mental health practitioner within 7 days after discharge. Time Window: Date of discharge through 30 days after discharge	Members 6 years and older as of the date of discharge who were discharged alive from an acute inpatient setting (including acute care psychiatric facilities) with a principal mental health diagnosis on or between January 1 and December 1 of the measurement year. The denominator for this measure is based on discharges, not members. Include all discharges for members who have more than one discharge on or between January 1 and December 1 of the measurement	NCQA	http://www.qualityforum.org/MeasureDetails.aspx?actid=0&SubmissionId=946#k=0576&e=1&st=&sd=&s=n&so=a&p=1&mt=&cs=&ss=

NQF #	Measure Title	Measure Description	Numerator Statement	Denominator Statement	Measure Steward	Link to NQF website
				year.		
				Mental health readmission or direct transfer: If the discharge is followed by readmission or direct transfer to an acute facility for any mental health principal diagnosis within the 30-day follow-up period, count only the readmission discharge or the discharge from the facility to which the member was transferred. Although rehospitalization might not be for a selected mental health disorder, it is probably for a		

NQF #	Measure Title	Measure Description	Numerator Statement	Denominator Statement	Measure Steward	Link to NQF website
				related condition.		
0711 MUC96 NOT MITRE	Depression Remission at Six Months	Adult patients age 18 and older with major depression or dysthymia and an initial PHQ-9 score > 9 who demonstrate remission at six months defined as a PHQ-9 score less than 5. This measure applies to both patients with newly diagnosed and existing depression whose current PHQ-9 score indicates a need for treatment. The Patient Health Questionnaire (PHQ-9) tool is a widely accepted, standardized tool [Copyright © 2005 Pfizer, Inc. All rights reserved] that is completed by the patient, ideally at each visit, and utilized by the provider to monitor treatment progress. ⬜This measure additionally promotes ongoing contact between the patient and provider as patients who do not have a follow-up PHQ-9 score at six	Adults age 18 and older with a diagnosis of major depression or dysthymia and an initial PHQ-9 score greater than nine who achieve remission at six months as demonstrated by a six month (+/- 30 days) PHQ-9 score of less than five.	Adults age 18 and older with a diagnosis of major depression or dysthymia and an initial PHQ-9 score greater than nine.	MN Community Measurement	http://www.qualityforum.org/Measures_List.aspx#k=0711&e=1&st=&sd=&s=n&so=a&p=1&mt=&cs=&ss=

NQF #	Measure Title	Measure Description	Numerator Statement	Denominator Statement	Measure Steward	Link to NQF website
		months (+/- 30 days) are also included in the denominator.				
0710 MUC97 NOT MITRE	Depression Remission at Twelve Months	Adult patients age 18 and older with major depression or dysthymia and an initial PHQ-9 score > 9 who demonstrate remission at twelve months defined as a PHQ-9 score less than 5. This measure applies to both patients with newly diagnosed and existing depression whose current PHQ-9 score indicates a need for treatment. The Patient Health Questionnaire (PHQ-9) tool is a widely accepted, standardized tool [Copyright © 2005 Pfizer, Inc. All rights reserved] that is completed by the patient, ideally at each visit, and utilized by the provider to monitor treatment progress. This measure additionally promotes ongoing contact between the patient and	Adults age 18 and older with a diagnosis of major depression or dysthymia and an initial PHQ-9 score greater than nine who achieve remission at twelve months as demonstrated by a twelve month (+/- 30 days) PHQ-9 score of less than five.	Adults age 18 and older with a diagnosis of major depression or dysthymia and an initial PHQ-9 score greater than nine.	MN Community Measurement	http://www.qualityforum.org/MeasureDetails.aspx?actid=0&SubmissionId=55#k=0710&e=1&st=&sd=&s=n&so=a&p=1&mt=&cs=&ss=

NQF #	Measure Title	Measure Description	Numerator Statement	Denominator Statement	Measure Steward	Link to NQF website
		provider as patients who do not have a follow-up PHQ-9 score at twelve months (+/-30 days) are also included in the denominator				
0712 MUC99 NOT MITRE	Depression Utilization of the PHQ-9 Tool	Adult patients age 18 and older with the diagnosis of major depression or dysthymia (ICD-9 296.2x, 296.3x or 300.4) who have a PHQ-9 tool administered at least once during the four month measurement period. The Patient Health Questionnaire (PHQ-9) tool is a widely accepted, standardized tool [Copyright © 2005 Pfizer, Inc. All rights reserved] that is completed by the patient, ideally at each visit, and utilized by the provider to monitor treatment progress. This process measure is related to the outcome measures of "Depression Remission at Six Months" and "Depression Remission at Twelve Months". This measure was selected by	Adult patients age 18 and older with the diagnosis of major depression or dysthymia (ICD-9 296.2x, 296.3x or 300.4) who have a PHQ-9 tool administered at least once during the four month measurement period.	Adult patients age 18 and older with the diagnosis of major depression or dysthymia (ICD-9 296.2x, 296.3x or 300.4	MN Community Measurement	http://www.qualityforum.org/MeasureDetails.aspx?actid=0&SubmissionId=56#k=0712&e=1&st=&sd=&s=n&so=a&p=1&mt=&cs=&ss=

NQF #	Measure Title	Measure Description	Numerator Statement	Denominator Statement	Measure Steward	Link to NQF website
		stakeholders for public reporting to promote the implementation of processes within the provider's office to insure that the patient is being assessed on a routine basis with a standardized tool that supports the outcome measures for depression. Currently, only about 20% of the patients eligible for the denominator of remission at 6 or 12 months actually have a follow-up PHQ-9 score for calculating remission (PHQ-9 score < 5).				
0418 MU153 NOT MITRE	Screening for Clinical Depression	Percentage of patients aged 18 years and older screened for clinical depression using a standardized tool and follow up plan documented.	Patient's screening for clinical depression is documented and follow up plan is documented.	Patient 18 years of age and older [NON-PUBLIC INFO THAT AGE NOW 13]	Centers for Medicare & Medicaid Services	http://www.qualityforum.org/MeasureDetails.aspx?actid=0&SubmissionId=522#k=0418&e=1&st=&sd=&s=n&so=a&p=1&mt=&cs=&ss=

Domain: Depression (Keyword: Depression Screening) – Environmental Scan

Search Criteria: Depression Screening

- **60 results initially identified**
  - 19 removed (NQF endorsed)
- **Final pool = 41 results for review**

Full List of Original Results*
(*includes NQF endorsed measures)

Click Here

Search Criteria: Depression Screening and Hospitals

- **17 results initially identified**
  - 0 removed (NQF endorsed)
- **Final pool = 17 results for review**

Full List of Original Results*
(*includes NQF endorsed measures)

Click Here

MITRE

Domain: Depression (Keyword: Depression Screening) – Top Results

Measure Review (M= Maybe, X=No, Y = yes)	Prioritized Result Summary
1 [X]	**Depression: percent of Veterans with a positive score on the PHQ-2, PHQ-9 or affirmative answer to Question 9 of the PHQ-9 during their annual depression screening, who have a disposition that is timely.** 2010 Oct. NQMC:006059 Veterans Health Administration - Federal Government Agency [U.S.]
2 [M]	**Behavioral health: percent of eligible patients screened annually for depression.** 2010 Oct. NQMC:006011 Veterans Health Administration - Federal Government Agency
3 [Y]	**Depression: the percentage of patients on the diabetes register and/or coronary heart disease (CHD) register for whom case finding for depression has been undertaken on one occasion during the previous 15 months using two standard screening questions.** 2009 Mar. **[NQMC Update Pending]** NQMC:005108 British Medical Association - Medical Specialty Society; National Health Service (NHS) Confederation - National Government Agency [Non-U.S.]
4 [X]	**Depression: percent of Veterans with a positive score on the PHQ-2, PHQ-9 or affirmative answer to Question 9 of the PHQ-9 during their annual depression screening, who have a disposition.** 2010 Oct. NQMC:006058 Veterans Health Administration - Federal Government Agency [U.S.].
5 [Y]	**Major depression in adults in primary care: percentage of patients with diabetes with documentation of screening for depression.** 2010 May. **[NQMC Update Pending]** NQMC:006171 Institute for Clinical Systems Improvement - Nonprofit Organization
6 [X]	**Cardiac rehabilitation: percentage of patients in the healthcare system's cardiac rehabilitation program(s) who meet the specified performance measure criteria for depression.** 2007 Sep. NQMC:003782 American Association of Cardiovascular and Pulmonary Rehabilitation/American College of Cardiology Foundation/American Heart Association.

September 26, 2012

Domain: Depression (Keyword: Depression Screening and Hospitals) – Top Results

	Measure Review (M= Maybe, X=No, Y = yes)	Prioritized Result Summary
1	**[X]**	**Depression: percent of Veterans with a positive score on the PHQ-2, PHQ-9 or affirmative answer to Question 9 of the PHQ-9 during their annual depression screening, who have a disposition that is timely.** 2010 Oct. NQMC:006059 Veterans Health Administration - Federal Government Agency [U.S.].
2	[ ]	**Behavioral health: percent of eligible patients screened annually for depression.** 2010 Oct. NQMC:006011 Veterans Health Administration - Federal Government Agency [U.S.]
3	**[M]**	**Behavioral health: percent of eligible patients screened annually for depression AND if positive PHQ-2 or PHQ-9 result or affirmative response to Q9 of the PHQ-9 and percent of eligible patients screened at required intervals for PTSD AND if positive PC-PTSD result, have suicide risk evaluation completed within 24 hours.** 2010 Oct. NQMC:006013 Veterans Health Administration - Federal Government Agency [U.S.].
4	**[X]**	**Cardiac rehabilitation: percentage of patients in the healthcare system's cardiac rehabilitation program(s) who meet the specified performance measure criteria for depression.** 2007 Sep. NQMC:003782 American Association of Cardiovascular and Pulmonary Rehabilitation/American College of Cardiology Foundation/American Heart Association.

*Note: Results are duplicative. Abstracts state also appropriate for care setting of hospitals.

MITRE

Domain: Depression (Keyword: Depression Risk Assessment and Ambulatory) – Environmental Scan

Search Criteria: Depression Risk Assessment and Ambulatory

- **58 results initially identified**
  - **32 removed (NQF endorsed)**
- **Final pool = 26 results for review**

Full List of Original Results*
(*includes NQF endorsed measures)

Click Here

Search Criteria: Depression Risk Assessment and Hospitals

- **10 results initially identified**
  - **0 removed (NQF endorsed)**
- **Final pool = 10 results for review**

Full List of Original Results*
(*includes NQF endorsed measures)

Click Here

MITRE

Domain: Depression (Keyword: Depression Risk Assessment and Ambulatory) – Top Results

Measure Review (M= Maybe, X=No, Y = yes)	Prioritized Result Summary
1 [Y]	**Major depression in adults in primary care: percentage of patients whose symptoms are reassessed by the use of a quantitative symptom assessment tool (such as Patient Health Questionnaire [PHQ-9]) within three months of initiating treatment.** 2010 May. **[NQMC Update Pending]** NQMC:006168 Institute for Clinical Systems Improvement - Nonprofit Organization.
2 [Y]	**Major depression in adults in primary care: percentage of patients who have had a response to treatment at six months (+/- 30 days) after initiating treatment, e.g., have had a Patient Health Questionnaire (PHQ-9) score decreased by 50% from initial score at six months (+/- 30 days).** 2010 May. **[NQMC Update Pending]** NQMC:006169 Institute for Clinical Systems Improvement - Nonprofit Organization.
3 [Y]	**Major depression in adults in primary care: percentage of patients who have reached remission at six months (+/- 30 days) after initiating treatment, e.g., have any PHQ-9 score less than five after six months (+/- 30 days).** 2010 May. **[NQMC Update Pending]** NQMC:006170 Institute for Clinical Systems Improvement - Nonprofit Organization.
4 [Y]	**Major depression in adults in primary care: percentage of patients who have a depression follow-up contact within three months of initiating treatment.** 2010 May. **[NQMC Update Pending]** NQMC:006167 Institute for Clinical Systems Improvement - Nonprofit Organization.
5 [M]	**Preventive screening and counseling on emotional health and relationship issues: average proportion saying "yes" to six items about whether provider(s) discussed/screened for feeling sad or depressed, school performance, friends, suicide and sexual orientation.** 2002 Jan. NQMC:000227 Child and Adolescent Health Measurement Initiative - Nonprofit Organization.

MITRE

Domain: Depression (Keyword: Depression Risk Assessment and Hospitals) – Top Results

	Measure Review (M= Maybe, X=No, Y = yes)	Prioritized Result Summary
1	X	**Cardiac rehabilitation: percentage of patients in the healthcare system's cardiac rehabilitation program(s) who meet the specified performance measure criteria for depression.** 2007 Sep. NQMC:003782 American Association of Cardiovascular and Pulmonary Rehabilitation/American College of Cardiology Foundation/American Heart Association
2	M	**Depression: percent of eligible patients screened annually for depression and if positive PHQ-2 or PHQ-9 result or affirmative response to Question 9 of the PHQ-9, who have suicide risk evaluation completed within 24 hours.** 2010 Oct. NQMC:006053 Veterans Health Administration - Federal Government Agency [U.S.].

*Note: Results are duplicative of results from previous searches. Abstracts state also appropriate for care setting of hospitals.

C.2 - AHRQ Measures Non NQF-Endorsed
ONC SAMSHA TEP Results for Behavioral Health Domain – Depression

September 26, 2012

MITRE

#	Citation	Year	Type: Topic	Population/Subpopulations		Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	Weighted Relevance			TEP Review
				Age Range	Patient Type					High	Med	Low	H/M/L
EMR- Recommendations on Use of EMR													
1	Rollman, BL et al. (2002). "A Randomized Trial Using Computerized Decision Support to Improve Teatment of Major Depression in Primary Care." J GEN INTERN MED 17:493±503.	2002	Single Study	adults (18-64)	p.c. patients with major depression on the PRIME-MD	p.c	PRIME-MD; 3 mo, 6 mo. HRS-D; 3 mo. 6 mo. chart review of primary care physician (PCP) reports	CPs were randomly assigned to 1 of 3 levels of exposure to EMR feedback of guideline-based treatment advice for depression: ``active care'' (AC), ``passive care'' (PC), or ``usual care'' (UC).	Only 22%of patients recovered from their depressive episode at 6 months (HRS-D).Patients' mean HRS-D score decreased regardless of their PCPs' guideline-exposure condition. However, neither continuous nor categorical measures of recovery differed by EMR exposure condition upon follow-up. Care processes for depression were also similar by PCP assignment despite exposure to repeated reminders of the depression diagnosis and treatment advice (e.g., depression mentioned in 3 contacts with usual PCP at 6 months and antidepressant medication suggested/prescribed or baseline regimen modified at 6 months: . Screening for major depression, electronically informing PCPs of the diagnosis, and then exposing them to evidence-based treatment recommendations for depression via EMR has little differential impact on patients' 3- or 6-month clinical outcomes or on process measures consistent with high-quality depression care.		M2		
2	Anand, V., Carroll, A.E., Downs, S. M. (2012). "Automated Primary Care Screening in Pediatric Wating Rooms"Pediatrics 129;e1275	2012	Single Study: Screening	0-21 yrs		p.c		CHICA integrates well into the high volume workflow of pediatric practices by implementing age-appropriate screening of patients in the waiting room, and then combining this information with EMR data to generate patient-specific recommendations and reminders for the physician	automating the process of screening and alerting the physician to those who screened positive significantly decreased the burden of identifying relevant guidelines and screening of patient families in clinics	H2			
3	Klein, E.W., Hunt, J.S, LeBlanc, B.H (2006). Depression Screening Interfaced With an Electronic Health Record: A Feasibility Study in a Primary Care Clinic Using Optical Mark Reader Technology" Prim Care Companion J Clin Psychiatry 8(6)	2006	Single Study: Screening	18 and older		p.c	Using Optical Mark Reader technology (PatientLink), patient responses were interfaced into the electronic health record (EHR), where the responses and score were available to practitioners at the time of the visit	all consenting patients, 18 and older, who arrived for any type of visit during a 1 week at a family practice clinic; outcome measure was the proportion of patients successfully screened for depression by the front desk personnel using PatientLink	89.4% were successfully screened for depression; depression screening using a Scantron-based PHQ-9 questionnaire completed by patients in the waiting room and uploaded into an EHR is technically feasible and resource efficient		M2		

#	Citation	Year	Type: Topic	Population/ Subpopulations Age Range	Population/ Subpopulations Patient Type	Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	Weighted Relevance High	Weighted Relevance Med	Weighted Relevance Low	TEP Review H/M/L
4	Trinh N.T., et al. (2011). Using electronic medical records to determine the diagnosis of clinical depression. International Journal of Medical Informatics 80. 533-540	2011	Single Study			p.c		investigate the validity of using electronic medical records (EMR) database in a large health organization for identifying patients with clinical depression; validity of using certain fields in the EMR database (i.e., billing diagnosis, problem list, and medication list) to identify patients with clinical depression was compared to primary care physician (PCP) assessment by a written questionnaire	EMR fields "billing diagnosis", "problem list" and antidepressant in "medication list", were all able to identify patients' diagnosis of depression by their PCPs; Having one or more "billing diagnosis" of depression had the highest sensitivity and highest AUC (77% sensitivity, 76% specificity, AUC 0.77); demonstrates that specific EMR fields can be used as a proxy for PCP assessment of depression for this EMR system	H2			
5	Harman, J.S, Rost, K.M., Harle, C.A., & Cook, R.L. (2012). Electronic Medical Record Availability and Primary Care Depression Treatment/ J Gen Intern Med	2012	Single Study	adults (18 and older)	physician identified depression		depression treatment-defined as receipt or ordering of antidepressant medication and/or mental health counseling	examine how chronic conditions impact the odds that depressed patients receive depression treatment in primary care practices with EMRs compared to practices without EMRs	EMRs associated with significantly lowered odds that depressed patients received depression treatment- however when stratified by the number of chronic conditions, this association was observed only in patients with three or more chronic conditions; EMRs did not have a significant association with depression treatment for patients with two or fewer chronic conditions. CONCLUSION: EMRs appear to have an unintended negative association with depression care provided during visits made by primary care patients with multiple chronic conditions.	H2			
6	Beckjord, E. B., et al. (2011). Potential benefits of health information technology for integrating physical and behavioral health care: perinatal depression as a case-in-point. TBM; 1:89-92	2011	Single Study		target population for perinatal depression	physical and behavioral health care	screening rate; the prevalence of high-risk screens; % of high-risk patients who were referred; % of referrals who were able to be reached by a physical health care manager; % of high-risk women who received behavioral health treatment.	systems change protocol included a number of strategies for enhancing communication at all levels of care, variations in health information technology (HIT) capacities and/or capabilities across initiative partners frequently prevented optimal implementation of screening, referral, engagement	full execution of the protocol did not happen often enough: nearly half of the target population was never screened, nearly half of those with high-risk status were never referred, nearly half of those referred to their MCO were never reached by a care manager, and nearly half of those referred never engaged in behavioral health treatment			L2	

#	Citation	Year	Type: Topic	Population/ Subpopulations		Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	Weighted Relevance			TEP Review
				Age Range	Patient Type					High	Med	Low	H/M/L
7	Margolis, K.L., et al. (2011). Prevalence of Practice System Tools for Improving Depression Care Among Primary Care Clinics: The DIAMOND Initiative. J Gen Intern Med 26(9):999–1004	2011	Single Study			p.c	survey including practice systems recommended for care of depression and chronic conditions, each scored on a 100-point scale, and the clinic's priority for improving depression care on a 10- point scale.	describes the frequency of various depression-related practice system tools among 82 Minnesota primary care clinics interested in improving depression care.	Fewer practice systems tools were present and functioning well for depression care than care of chronic conditions; no significant correlation between the presence of practice systems and priority for depression care; presence of a fully functional EMR were associated with the presence of more practice system tools.		M2		
8	Kilbourne, A. M., et al. (2006) The Role of Clinical Information Technology in Depression Care Management. Administration and Policy in Mental Health and Mental Health Sevices Research 33(1)	2006	Review			p.c		examine the literature on the growing application of clinical information technology in managing depression care; discuss implementing registries (simple yet functional format, designing registries to track multiple conditions vs. depression alone, avoiding privacy violations)	potential to improve the management and the outcomes of depression care; many practices have been reluctant to implement for depression care as rapidly as they have for other chronic illnesses; as seen in the case studies, simple registries can be created or adapted for successful use in primary care settings without relying on expensive alternatives	H1			
9	McCarthy, D. (2006) Case Study: Institute for Urban Family Health-Using Information Technology and Community Action to Improve the Health of a Diverse Patient Population	2006	Single Study		general	p.c		New York City network of community health centers implemented electronic health records (EHRs) as part of its mission to promote equitable access to high-quality care for a socially and culturally diverse patient population	After one clinic's pilot, which added two depression screening questions to the EHR system, the proportion of patients screened for depression increased to 80% from a level of about 3% in usual practice; the depression screening identified many patients with possible mood disorders that require further evaluation. The costs of implementing EHR-enabled quality improvements such as these can exceed the savings from EHR-generated improvements in efficiency			L3	

#	Citation	Year	Type: Topic	Population/ Subpopulations		Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	Weighted Relevance			TEP Review
				Age Range	Patient Type					High	Med	Low	H/M/L
10	Gill, J.M. (2011). "Using Electronic Health Record Based Tools to Screen for Bipolar Disorder in Primary Care Patients with Depression. JABFM 25(3).	2011	Single Study	adults	depression	p.c.		study examined the impact of an EHR-based screening and decision support tool on diagnosis and treatment of BPD among patients diagnosed with depression; screening instrument and other tools for diagnosis and management of BPD, which were embedded into the EHR-- automatically activated when a patient with a diagnosis of depression but no diagnosis of BPD was seen in the office. The primary outcomes were the rates of new diagnoses of BPD and prescription of new BPD medications	screening tool was used with 47.5% of intervention patients, of whom 2.5% scored at high or very high risk for BPD. Intervention patients were more likely than comparison patients to be newly diagnosed with BPD; study suggests that EHR-based tools can be useful for screening and management of BPD for patients with depression in primary care offices		M2		
11	Trivedi, M.H. et al. (2007). "Assessing Physicians' Use of Treatment Algorithms: Project IMPACTS Study Design and Rationale." Contemporary Clinical Trials 28 192–212	2007	Review					This paper reviews issues related to the Project IMPACTS study rationale, design, and procedures. Patient outcomes include symptom severity, social and work function, and quality of life. The economic impact of treatment is assessed in terms of health care utilization and cost. Data collected on physician behavior include degree of adherence to guidelines and physician attitudes about the perceived utility, ease of use, and self-reported effect of the use of algorithms on workload.	Project IMPACTS addresses the critical question of how best to facilitate integration of depression treatment algorithms into routine care. It tests an algorithm implemented through a computerized decision support system using a measurement-based care approach for depression against a paper-and-pencil version of the same algorithm and nonalgorithm-based, specialist-delivered usual care;		M1		
12	Simon, G.E., et al. (2011). Randomized Trial of Depression Follow-Up Care by Online Messaging. Journal of General Internal Medicine 26(7): 698-704	2011	Single Study				Symptom Checklist scale	Evaluate the feasibility, acceptability, and effectiveness of a depression care management program delivered by online messaging through an EMR; Randomized controlled trial comparing usual primary care treatment to primary care supported by online care management	Patients offered the program had higher rates of antidepressant adherence, lower Symptom Checklist depression scores after 5 months, and greater satisfaction with depression treatment	H2			

#	Citation	Year	Type: Topic	Population/ Subpopulations Age Range	Population/ Subpopulations Patient Type	Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	Weighted Relevance High	Weighted Relevance Med	Weighted Relevance Low	TEP Review H/M/L
EMR- Using EMR to conduct studies													
13	Smolder, M. et. al. (2009) "Adherence to evidence-based guidelines for depression and anxiety disorders is associated with recording of the diagnosis " Generl Hospital Psychiatry 31. 460-469	2009	Single Study	mean 44.9	diagnosis of depressive or anxiety disorder	p.c	CIDI ;sociodemographic data; IDS; BAI; ICPC codes; PNCQ; ATC Classification System	assess professionals' adherence to evidence-based guidelines and to investigate whether or not this is influenced by recording of the diagnosis and symptom severity	42% percent of the patients with a depressive disorder was treated in accordance with the guideline; provision of care in line with current depression and anxiety guidelines was around 50% for persons with both types of disorders. Documentation of an International Classification of Primary Care appeared to have a strong influence on guideline adherence. Symptom severity, however, did not influence guideline adherence.	H2			
14	Pelis, R.H. (2011) "Using electronic medical records to enable large-scale studies in psychiatry: treatment resistant depression as a model." Psychological Medicine, 42, 41–50.	2011	Single Study		Major depressive disorder	p.c		Natural language processing (NLP) was applied to classify notes from 127504 patients with a billing diagnosis of MDD;Classifications were compared with results using billing data (ICD-9 codes) alone and to a clinical gold standard based on chart review by a panel of senior clinicians. These cross-sectional classifications were then used to define longitudinal treatment outcomes, which were compared with a clinician-rated gold standard	Models incorporating NLP were superior to those relying on billing data alone for classifying current mood state; when cross-sectional visits were integrated to define longitudinal outcomes and incorporate treatment data, 15% of the cohort remitted with a single antidepressant treatment, while 13% were identified as failing to remit despite at least two antidepressant trials.			L2	
Patient's self report/ Patient Recorded Outcomes													
15	Yong, S.P. and Awang Rambli, Dayang Rohaya and Anh, N.T.M. (2007) Depression Consultant Expert System. In: 6th Annual Seminar on Science and Technology, 26-27 October 2007, Tawau, Sabah, Malaysia	2007	Review/Single Study	18-55	depressive conditions			describes DECES, an interactive self-help online expert system, developed to diagnose patients' depressive conditions and provide recommendations to decrease their levels of depressions. The aim of the project is to capture expertise knowledge and make it available to sufferers, who are not seeking or procrastinate in getting help, to do self-assessing and obtain advice at their own convenience.	comparison of the system's diagnosis using real cases with psychologists' diagnosis on similar cases revealed a high degree of correspondence. The results of a survey on the system functionality and usability aspects yield positive responses from majority of the respondents		M2		
16	Jones, J.B. et al (2007) Issues in the design of Internet based systems for collecting patient-reported outcomes. Qual Life Res 16: 1407-14117	2007	Review					discusses the rationale for using the Internet for routine PRO collection, summarizes relevant literature and ongoing projects, and raises several key design and development issues that should guide further efforts in this area.	Several early-stage projects are already available for use by patients and physicians. If Internet-based PRO collection is to achieve its potential, it is critical that patients and physicians are provided with tools that are easy to use, that yield interpretable and actionable results, and that integrate well with existing workflows. This review outlines many of the key considerations in designing Internet-based PRO systems with the goal of facilitating their increased use, and, ultimately, improving the quality of clinical care.	H1			

#	Citation	Year	Type: Topic	Population/ Subpopulations Age Range	Population/ Subpopulations Patient Type	Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	Weighted Relevance High	Weighted Relevance Med	Weighted Relevance Low	TEP Review H/M/L
17	Cella, D. et al. (2010) The Patient-Reported Outcomes Measurement Information System (PROMIS) developed and tested its first wave of self-reported health outcome item banks 2005-2008. Journal of Clinical Epidemiology 63(11), 1179-1194	2010	Review	18 and older; median = 50 years				14-item pools were tested in the U.S. general population and clinical groups using an online panel and clinic recruitment.	PROMIS item banks and their short forms provide evidence that they are reliable and precise measures of generic symptoms and functional reports comparable to legacy instruments. Further testing will continue to validate and test PROMIS items and banks in diverse clinical populations.		M1		
18	Valderas, J.M. et. al (2008) The impact of measuring patient reported outcomes in clinical practice: a systematic review of the literature. Qual Life Res 17:179–193	2008	Review			p.c		summarize the best evidence regarding the impact of providing patient- reported outcomes (PRO) information to health care professionals in daily clinical practice.	Most studies found intervention effects on at least one aspect of the process outcomes (i.e.patient–provider communication/provider's diagnosis, treatment, and use of health services/patient's compliance with treatment, change of attitude) assessed; effects on patient health status were less frequently assessed and observed.	H1			
19	Coons, S.J. et al (2009). Recommendations on evidence needed to support measurement equivalence between electronic and paper-based patient-reported outcome (PRO) measures: ISPOR ePRO Good Research Practices Task Force report. Value Health. 12(4):419-29	2009	Review					describe how the FDA will evaluate the appropriateness and adequacy of PRO measures used as effectiveness end points in clinical trials	The electronic administration of PRO measures offers many advantages over paper administration. We provide a general framework for decisions regarding the level of evidence needed to support modifications that are made to PRO measures when they are migrated from paper to ePRO devices. The key issues include: 1) the determination of the extent of modification required to administer the PRO on the ePRO device and 2) the selection and implementation of an effective strategy for testing the measurement equivalence of the two modes of administration.	H1			
20	Gwaltney, C.J. et al (2008), Equivalence of electronic and paper-and-pencil administration of patient reported outcome measures: a meta-analytic review. Value Health 11(2): 322-333	2008	Meta Analysis					reviews the literature addressing whether computer-administered tests are equivalent to their paper-and-pencil forms	Extensive evidence indicates that paper- and computer-administered PROs are equivalent.		M1		

#	Citation	Year	Type: Topic	Population/Subpopulations Age Range	Population/Subpopulations Patient Type	Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	Weighted Relevance High	Weighted Relevance Med	Weighted Relevance Low	TEP Review H/M/L
21	McGrady, A. et. al (2010). Coherence Between Physician Diagnosis and Patient Self Reports of Anxiety and Depression in Primary Care. Journal of Nervous & Mental DIsease 198(6):420-424	2010	Single Study			p.c	PRIME-MD, Eysenck Personality Inventory	explored the coherence between a screening tool (PRIME-MD), a standardized questionnaire (Eysenck Personality Inventory), and physician diagnoses of anxiety and depression	Despite the statistical agreement between the self-report inventories and physician diagnosis, the coherence among these measures was less than optimal. Use of self report tools is recommended to complement physician understanding of patient symptom description and management of anxiety and depression in primary care	H2			

GUIDELINES

#	Citation	Year	Type: Topic	Population/Subpopulations Age Range	Population/Subpopulations Patient Type	Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	Weighted Relevance High	Weighted Relevance Med	Weighted Relevance Low	TEP Review H/M/L
22	O'Connor EA, Whitlock EP, Gaynes B, Beil TL. Screening for Depression in Adults and Older Adults in Primary Care: An Updated Systematic Review. Evidence Synthesis No. 75. AHRQ Publication No. 10-05143-EF-1. Rockville, Maryland: Agency for Healthcare Research and Quality, December 2009. (full text retrieved)	2009	Review: Screening	adults/older				developed an analytic framework and five key questions to represent the logical evidence connecting primary care screening to improved health outcomes, including remission from depression	programs that include depression screening and staff that assist the p.c. clinician by providing some direct depression care (such as care support or coordination, case management, or mental health treatment) can increase depression response and remission over usual care; it's unclear whether screening is a necessary component of these programs; depression screening programs that do not provide depression care supports are unlikely to be effective; antidepressants and psychotherapy are effective in treating depression in older adults, with odds of remission about twice those seen in placebo or other control conditions; most current evidence on risk of completed suicide deaths does not demonstrate a clear and uniform effect of second-generation antidepressants compared with placebo; data are consistent with no effect, mild protection or some increased risk; some meta-analyses suggest an increase in suicidal behaviors in young adults (aged 18-29 years) on antidepressants, particularly those with MDD and those taking paroxetine; in contrast, older adults have a reduced risk of suicidal behaviors during antidepressant treatment	H1			
23	Williams SB, O'Connor, E, Eder M, Whitlock E. (2009) Screening for Child and Adolescent Depression in Primary Care Settings: A Systematic Evidence Review for the U.S. Preventive Services Task Force. Evidence Synthesis No. 69. AHRQ Publication No. 09-05130-EF-1. Rockville, Maryland: AHRQ	2009	Review: Screening	child/adolescent (7 to 18 years)				assess the health effects of routine primary care screening for Major Depressive Disorder (MDD) among children and adolescents ages 7 to 18 years, including evaluating the accuracy of screening tests and the risks and benefits of treatment with psychotherapy and/or SSRIs	no data describing health outcomes among screened and unscreened populations; literature on diagnostic screening test accuracy is small and methodologically limited- indicates that several screening instruments have performed fairly well among adolescents; literature on treatment efficacy of selective serotonin reuptake inhibitors and/or psychotherapy is also small but includes good-quality randomized, controlled trials; available data indicate that SSRI, psychotherapy, and combined treatment are effective in increasing response rates and reducing depressive symptoms; not all SSRIs seem to be efficacious; SSRI treatment was associated with a small absolute increase in risk of suicidality (ie, suicidal ideation, preparatory acts, or attempts) thus should only be considered if judicious clinical monitoring is possible	H1			

#	Citation	Year	Type: Topic	Population/ Subpopulations Age Range	Patient Type	Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	Weighted Relevance High	Med	Low	TEP Review H/M/L
24	Weihs, K., Wert, J.M. (2011). "A Primary Care Focus on the Treatment of Patients With Major Depressive Disorder." 342(4). 324-330. (full text retrieved)	2011	Review: Diagnosis/ Treatment					overview of diagnostic and treatment guidelines for MDD and focuses on challenges encountered by primary care physicians. The role of antidepressant medications, psychotherapy and nonpharmaco-logic interventions for the treatment of patients with MDD is described, and factors influencing treatment selection, such as adverse event profiles and patient characteristics, are examined	supports brief screening questionnaires that can help to identify patients who may require additional, in-depth evaluation; concludes most effective treatment option for patients with MDD incorporates a patient-centered and team-based approach to care in which the PCP works with a nurse or social worker who serves as a DCM; mild MDD can be equally and successfully treated with pharmacologic or nonpharmacologic therapies; severe MDD requires a combination of these therapies to achieve optimal outcomes.	H1			
25	NCCMH-commissioned by NIHCE "National Clincial Practice Guideline 90-Depression: The Treatment and Management of Depression in Adults (Updated Edition)." (2010)	2010	Guideline: General	adult (>18)				discusses experience of care, case ID and service delivery, low intensity psychosocial interventions, high intensity psychological interventions, pharmacological and physical interventions, management, relapse prevention, dysthymia		H1			
26	NCCMH-commissioned by NIHCE "National Clincial Practice Guideline 28-Depression in children and young people: Identification and Management in primary, community, and secondary care ." (2005)	2005	Guideline: General	child/ad olescent (5 to 18 years)				examines depression, screening and risk factors, self help, family support, parental education, social/environmental interventions, psychological/pharmacological, physical treatment,service configurations		H1			
27	NICE - Management of Depression in Primary and Secondary Care (full guideline and quick reference guide)	2004/ 2005	Guideline						recommends stepped care model: Step 1 - Recognition in p.c. and general setting; Step 2- Treatment of mild depression in p.c.; Step 3- Treatment of moderate to severe depression in p.c.; Step 4- Treatment of depression by mental health specialists; Step 5- inpatient treatment for depression	H1			

ONC SAMSHA TEP Results for Behavioral Health Domain – Depression

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September 26, 2012

#	Citation	Year	Type: Topic	Population/ Subpopulations		Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	Weighted Relevance			TEP Review
				Age Range	Patient Type					High	Med	Low	H/M/L
28	American Medical Association-Physician Quality Reporting System (2012)	2012						Measures are reported through either temporary G-codes or CPT II codes on the claim form, whereas measures group reporting is indicated by reporting a G-code, and also reporting the relevant quality data codes required by the measure specifications. The physician will select the appropriate quality data codes representing the clinical services furnished with regard to a specific measure.	includes description/specification/worksheet of Antidepressant Medication During Acute Phase for Patients with MDD, Diagnostic Evaluation, Suicide Risk Assessment	H1			
PHQ-9 Screening													
29	Bergus GR, Hartz AJ, Noyes R Jr, Ward MM, James PA, Vaughn T, Kelley PL, Sinift SD, Bentler S, Tilman E. (2005). The limited effect of screening for depressive symptoms with the PHQ-9 in rural family practices J Rural Health. 21(4):303-9.	2005	Single study RCT	Adults	depressed patients	Rural fee-for-service primary care offices	PHQ-9	Patients with depressive symptoms were randomized to the control group or the intervention group, where providers were given completed PHQ-9 questionnaires at the baseline visit. The outcome PHQ-9 scores were assessed by telephone at 4, 10, and 24 weeks after the index visit.	The intervention and control groups did not significantly differ with respect to changes in PHQ-9 scores at any of the 3 follow-up times; did not differ with respect to the proportion of subjects who were actively managed with medication or by referral to a mental health specialist: 46% vs 33% (P = .38) for all subjects and 50% vs 50% (P = .96) for subjects with major depression at baseline. Screening for depressive symptoms with the PHQ-9 in 2 rural medical clinics did not significantly increase physicians' active management of depression or lead to improved patient outcomes.	H2			
30	Patten, S. B., Schopflocher, D. (2009). Longitudinal epidemiology of major depression as assessed by the Brief Patient Health Questionnaire (PHQ-9). Compr Psychiatry. 50(1):26-33.	2009	Single study longitudinal	Adults			PHQ-9	objective of this study was to describe the epidemiology of major depression using an approach that is less reliant on recall using an assessment scale, the 9-item Brief Patient Health Questionnaire (PHQ-9). The pattern observed is relevant both to understanding major depression epidemiology and to assessing a possible role for the PHQ-9 as a screening instrument. Random digit dialing was used to select a sample of 3304 community residents. Each respondent was assessed with a baseline interview followed by a series of 6 subsequent follow-up interviews 2 weeks apart.	Prevalence was between 2.5% and 3.3% during each interview, consistent with prior reports; incidence of new episodes was surprisingly high, and many of the episodes were brief; high rates of recovery were seen early in follow-up but declined subsequently. Episodes of major depression detected by the PHQ-9 tended to be preceded and followed by elevated levels of depressive symptoms. The long-standing episodes of major depression typical of clinical practice appear to represent a minority of episodes occurring in the community. These results suggest that, in general population screening applications, the PHQ-9 will identify many respondents having brief and perhaps self-limited episodes. Although some episodes are characterized by large increases in symptoms, many respondents appear to move above and below the diagnostic threshold as a result of small changes in their symptom levels. Efforts to develop more effective approaches to screening may benefit from severity-based decision rules and serial measurement strategies.	H2			

#	Citation	Year	Type: Topic	Population/ Subpopulations		Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	Weighted Relevance			TEP Review
				Age Range	Patient Type					High	Med	Low	H/M/L
31	Fann, J.R, et al. (2009) Depression screening using the Patient Health Questionnaire-9 administered on a touch screen computer. Psycho-Oncology 18(1); 14-22	2009	Single Study			p.c.	PHQ-9	(1) evaluate the feasibility of touch screen depression screening in cancer patients using the Patient Health Questionnaire-9 (PHQ-9), (2) evaluate the construct validity of the PHQ-9 using the touch screen modality, and (3) examine the prevalence and severity of depression using this screening modality; Patients in medical oncology, radiation oncology, and hematopoietic stem cell transplantation (HSCT) clinics used the program on a touch screen computer in waiting rooms prior to therapy (T1) and during therapy (T2)	9.6% at T1 and 20.2% at T2 triggered the full PHQ-9 by endorsing at least one cardinal symptom; feasibility was high, with at least 97% completing the PHQ-2 and at least 96% completing the PHQ-9 when triggered and a mean completion time of about 2 min;PHQ-9 had good construct validity. Medical oncology patients had the highest percent of positive screens (12.9%) at T1, while HSCT patients had the highest percent (30.5%) at T2. Using this method, 21 (6.1%) at T1 and 54 (15.8%) at T2 of the total sample had moderate to severe depression		M2		
32	Taylor, J.K. et al. (2008). Strategies for identifying and channeling patients for depression care management. Am J Manag Care. 14(8):497-50	2008	Single Study			p.c.	PHQ-2	evaluated positive depression screens using the PHQ-2 administered via telephone versus mail, examined variations in screener-positive findings by care manager, and compared rates of positive screens with antidepressant use and with claims diagnoses of depression.	Almost 14% of participants received an ICD-9 diagnosis of depression during the year before program enrollment; 7.1% reported taking antidepressants, and 5.1% screened positive for depression on the PHQ-2. We found substantial variation in positive depression screens by care manager that could not be explained by case mix, prior depression diagnoses, or current depression treatment. After adjusting for demographic and clinical differences, the PHQ-2-positive screen rates were 6.5% by telephone and 14.1% by mail		M2		
33	Hunziker, J.W. (2011) Depression and Generalized Anxiety Disorder in the Primary Care Clinic. Advances in Internal Medicine	2011	Guideline					Learning Objectives: understand how the PHQ- 9 can aid in the diagnosis and follow-up of patients with depression; become familiar with the use of treatment algorithms for the management of depression; understand when to refer your patients for psychiatric evaluation; become familiar with signs and symptoms of generalized anxiety disorder; understand basic treatment strategy for generalized anxiety disorder.	recommends PHQ-9 for screening	H1			

#	Citation	Year	Type: Topic	Population/ Subpopulations		Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	Weighted Relevance			TEP Review
				Age Range	Patient Type					High	Med	Low	H/M/L
34	Ell K, Unutzer J, Aranda M, Gibbs NE, Lee PJ, Xie B. Managing depression in home health care: a randomized clinical trial. Home Health Care Serv Q. 2007;26:81-104.	2007	Single Study	Older Adults			PHQ-9	total of 311 older adults were randomized to enhanced usual care (EUC) that included routine depression screening and staff training in depression care management for older adults or to the intervention group (INT) that included antidepressants and/or psychotherapy treatment plus EUC; depressive symptoms were assessed at screen, baseline and at 4, 8 and 12 month follow-up using the PHQ-9- 50% reduction in PHQ-9 score was considered a substantial treatment response. Health-related quality of life was measured at baseline and each follow-up by the physical and mental health summary scales from the SF-20 with high scores indicating better health Health services utilization- frequency of hospitalization and emergency room visits; number of home care visits was obtained from organizational records.	Implementing a routine screening protocol using the PHQ-9 and depression care management quality improvements is feasible in diverse home health care organizations and results in consistently better (but not statistically significant) depression outcomes in the INT group.		M2		

PHQ-9 severity

#	Citation	Year	Type: Topic	Age Range	Patient Type	Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	High	Med	Low	H/M/L
35	Cameron, I.M., Crawford, J.R., Lawton, K., Reid, I.C. (2008). Psychometric comparison of PHQ-9 and HADS for measuring depression severity in primary care. British Journal of General Practice	2008	Single study	Adults (M = 37.7)	adults with a mild to moderate mental health problem who GPs considered might be interested in, and able to concentrate on, a self-help approach.	32 general practices in Grampian, Scotland.	PHQ-9; HADS-D	Assessed the psychometric properties of the Patient Health Questionnaire (PHQ-9) and the depression subscale of the Hospital Anxiety and Depression Scale (HADS-D) for measuring depression severity in primary care.	Both scales demonstrated high internal consistency at baseline and end of treatment; one factor emerged each for the PHQ-9 (explaining 42% of variance) and HADS-D (explaining 52% of variance); both scales converged more with each other than with the HADS anxiety (HADS-A) subscale at baseline and at end of treatment; responsiveness to change was similar: effect size for PHQ-9 = 0.99 and for the HADS-D = 1; HADS-D and PHQ-9 differed significantly in categorising severity of depression, with the PHQ-9 categorising a greater proportion of patients with moderate/severe depression	H2			

#	Citation	Year	Type: Topic	Population/ Subpopulations		Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	Weighted Relevance			TEP Review
				Age Range	Patient Type					High	Med	Low	H/M/L
36	Malpass, A., Shaw, A., Kessler, D., Sharp, D. (2010). Concordance between PHQ-9 scores and patients' experiences of depression: a mixed methods study. British Journal of General Practice	2010	single study; longitudinal mixed methods	adults		p.c.	PHQ-9 and in-depth interviews were used at the same three time points over a 6-month period during a new or first episode of depression.	explore the extent to which changes in PHQ-9 score over time reflect patients' accounts of their experiences of depression during the same period; and to explore patients' experiences of using the PHQ-9 within primary care consultations.	Patterns in the total PHQ-9 score broadly reflected patients' accounts of the severity of their depression over time. However, the PHQ-9 was inaccurate in its assessment of the presence and intensity of thoughts of self-harm, and missed symptoms that are meaningful to patients. At the diagnostic primary care consultation, patients viewed their score as a 'tangible' measure of their condition. Some patients requested the PHQ-9 subsequently as a way to measure their own treatment response and recovery process. The potential therapeutic value of the PHQ-9 may be dependent upon the GP's willingness to openly discuss the results and what they may mean for the patient.	H2			
37	Cameron IM, Cardy A, Crawford JR, du Toit SW, Hay S, Lawton K, Mitchell K, Sharma S, Shivaprasad S, Winning S, Reid IC. (2011). Measuring depression severity in general practice: discriminatory performance of the PHQ-9, HADS-D, and BDI-II. Br J Gen Pract.61(588):e419-26.	2011	single study	Adult (M = 49.8)	patients diagnosed with depression	primary care	The HADS-D, PHQ-9, and BDI-II were assessed against the HRSD-17 interview	assesses the discriminatory performance of depression severity measures.	A total of 267 were recruited per protocol, mean HRSD-17=12.6; For APA criteria, AUCs were: HADS-D = 0.84; PHQ-9 = 0.90; and BDI-II = 0.86. Optimal sensitivity and specificity were reached where HADS-D ≥9 (74%, 76%); PHQ-9 ≥12 (77%, 79%), and BDI-II ≥23 (74%, 75%). For NICE criteria: HADS-D AUC = 0.89; PHQ-9 AUC = 0.93; and BDI-II AUC = 0.90. Optimal sensitivity and specificity were reached where HADS-D ≥10 (82%, 75%), PHQ-9 ≥15 (89%, 83%), and BDI-II ≥28 (83%, 80%). LRs did not provide evidence of sufficient accuracy for clinical use. As selecting treatment according to depression severity is informed by an evidence base derived from trials using HRSD-17, and none of the measures tested aligned adequately with that tool, they are inappropriate for use.	H2			

PHQ-9 vs. Other/ psychometric properties

#	Citation	Year	Type: Topic	Population/ Subpopulations		Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	Weighted Relevance			TEP Review
				Age Range	Patient Type					High	Med	Low	H/M/L
38	Kroenke, K., Strine, T.W., Spitzerc, R.L., Williams, J.B.W., Berry, J.T., Mokdad, A.H. (2009). The PHQ-8 as a measure of current depression in the general population. J Affect Disord. 2009 Apr;114(1-3):163-73. Epub 2008 Aug 27.	2009	single study	adults			Current depression as defined by either the DSM-IV based diagnostic algorithm of the PHQ-8 or a PHQ-8 score ≥ 10; respondent sociodemographic characteristics; number of days of impairment in the past 30 days in multiple domains of health-related quality of life (HRQoL).	objectives were to assess the PHQ-8 as a depression measure in a large, epidemiological population-based study, and to determine the comparability of depression as defined by the PHQ-8 diagnostic algorithm vs. a PHQ-8 cutpoint ≥ 10.	The prevalence of current depression was similar whether defined by the diagnostic algorithm or a PHQ-8 score ≥ 10 (9.1% vs. 8.6%). Depressed patients had substantially more days of impairment across multiple domains of HRQoL, and the impairment was nearly identical in depressed groups defined by either method. Of the 17,040 respondents with a PHQ-8 score ≥ 10, major depressive disorder was present in 49.7%, other depressive disorder in 23.9%, depressed mood or anhedonia in another 22.8%, and no evidence of depressive disorder or depressive symptoms in only 3.5%. The PHQ-8 is a useful depression measure for population-based studies, and either its diagnostic algorithm or a cutpoint ≥ 10 can be used for defining current depression.	H2			

#	Citation	Year	Type: Topic	Population/ Subpopulations		Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	Weighted Relevance			TEP Review
				Age Range	Patient Type					High	Med	Low	H/M/L
39	Arroll, B. et al. (2010) Validation of PHQ-2 and PHQ-9 to Screen for Major Depression in the Primary Care Populatio. Ann Fam Med 8(4) 348-353	2010	Single Study	adults		p.c.	PHQ-2; PHQ-9; Composite International Diagnostic Interview (CIDI)	Consecutive adult patients attending Auckland family practices completed the PHQ-9, after which they completed the Composite International Diagnostic Interview (CIDI) depression reference standard	PHQ-2-sensitivity-86% spec.-78%; PHQ-9- sensitivity-74%, spec-91% with a score of 10 or higher; PHQ-2 a score of 2 or higher detected more cases of depression than a score of 3 or higher				
40	Huang, F.Y., Chung, H., Kroenke, K., Delucchi, K. L., Spitzer, R.L. (2006). Using the Patient Health Questionnaire-9 to Measure Depression among Racially and Ethnically Diverse Primary Care Patients. J Gen Intern Med 21(6):547-52.	2006	Combined data from 2 separate studies	Adults	non-Hispanic white, African American, Chinese American, and Latino primary care patients		PHQ-9; DIF	compared the factor structure of the PHQ-9 between different racial/ethnic groups as well as the rates of endorsement and differential item functioning (DIF) of the 9 items of the PHQ-9. The presence of DIF would indicate that responses to an individual item differ significantly between groups, controlling for the level of depression. Exploratory principal components factor analysis was used to derive the factor structure of the PHQ-9 in each of the 4 racial/ethnic groups. A generalized Mantel-Haenszel statistic was used to test for DIF.	One main factor that included all PHQ-9 items was found in each racial/ethnic group with a coefficients ranging from 0.79 to 0.89. Although endorsement rates of individual items were generally similar among the 4 groups, evidence of DIF was found for some items. Analyses indicate that in African American, Chinese American, Latino, and non-Hispanic white patient groups the PHQ-9 measures a common concept of depression and can be effective for the detection and monitoring of depression in these diverse populations.		M2		

Screening/Assessment/Diagnosis

#	Citation	Year	Type: Topic	Age Range	Patient Type	Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	High	Med	Low	H/M/L
41	O'Connor EA, Whitlock EP, Gaynes B, Beil TL. Screening for Depression in Adults and Older Adults in Primary Care: An Updated Systematic Review. Evidence Synthesis No. 75. AHRQ Publication No. 10-05143-EF-1. Rockville, Maryland: Agency for Healthcare Research and Quality, December 2009. (full text retrieved)	2009	Review: Screening	adults/ geriatric		p.c		5 key questions: 1) Is there direct evidence that screening for depression among adults and older adults in p.c reduces morbidity and/or mortality 2) What is the impact of clinician feedback of screening test results (w/ or w/o addt'l care management support) on depression response and remission in screen-detected patients 3)What are the harms of screening for depressive disorders 4) is antidepressant and/or psychotherapy effective in improving health outcome 5) What are the adverse effects of antidepressant tx	1) programs that include depression screening and staff that assist the p.c. clinician by providing some direct depression care (such as care support or coordination, case management, or mental health treatment) can increase depression response and remission over usual care; it's unclear whether screening is a necessary component of these programs; 2) depression screening programs that do not provide depression care supports are unlikely to be effective; 4) antidepressants and psychotherapy are effective in treating depression in older adults, with odds of remission about twice those seen in placebo or other control conditions; 5) most current evidence on risk of completed suicide deaths does not demonstrate a clear and uniform effect of second- generation antidepressants compared with placebo; data are consistent with no effect, mild protection or some increased risk; some meta-analyses suggest an increase in suicidal behaviors in young adults (aged 18-29 years) on antidepressants, particularly those with MDD and those taking paroxetine; in contrast, older adults have a reduced risk of suicidal behaviors during antidepressant treatment	H1			

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				Age Range	Patient Type					High	Med	Low	H/M/L
42	van den Berg M, Smit F, Vos T, van Baal PHM (2011) Cost-Effectiveness of Opportunistic Screening and Minimal Contact Psychotherapy to Prevent Depression in Primary Care Patients. PLoS ONE 6(8)	2011	Single Study		individuals with sub-threshold depression			Using a Markov model, future health effects and costs of an intervention scenario and a current practice scenario were estimated. The time horizon was five years. Incremental cost-effectiveness ratios were expressed in euro per Disability Adjusted Life Year (DALY) averted	This modeling study showed that opportunistic screening in primary care for sub-threshold depression in combination with minimal contact psychotherapy may be cost-effective in the prevention of major depression.		M2		
43	Van der Weele, G. M. et al. (2012). Response to an unsolicited intervention offer to persons aged ≥ 75 years after screening positive for depressive symptoms: a qualitative study. Int Psychogeriatr 24(2):270-7	2012	Single Study	>75	screened positive for depression			In a randomized controlled trial, in which 101 persons who had screened positive for depressive symptoms were offered a "coping with depression" course, a sample of 23 persons were interviewed, of whom five (22%) accepted the treatment offer. Interview transcripts were coded independently by two researchers.	though the unsolicited treatment offer closely matched the perceived needs of people screening positive for depressive symptoms, only those who combined feelings of being depressed or lonely with positive expectations about the offered course accepted it. Treatment should perhaps be more individually tailored to the patient's motivational stage towards change, a process in which general practitioners can play an important role.		M2		
44	Rogers, W. H., Lerner, D., Adler, D. A. Technological Approaches to Screening and Case Finding for Depression from Screeing for Depression in Clinical Practice: An Evidence-Based Guide. ed. Mitchell, A. J., Coyne, J. C.		Review					discusses strengths, weaknesses, issues of computer based/other-automated methods of detecting depression	automated methods for both general health and depression-specific screening produce more accurate answers, more suited to evidence based medicine and less expensive than paper and pencil, person-dependent methods or mail; superior to paper and pencil b/c produces timely answers and can ask explore some of follow-up issues such as more detail about suicidal ideation or how patient fits into the care process; in general, pilot projects find that depressed patients are able to accurately complete both computer and telephone screener methodologies and find them acceptable alternatives		M1		
45	Richardson, L. & Puskar, K. (2012). Screening Assessment for Anxiety and Depression in Primary Care. The Journal for Nurse Practitioners 8(6): 475-481	2012	Review			p.c			incorporating effective and efficient screening methods for anxiety and depression will be key to identifying those at risk. Nurse practitioners (NPs) play a significant role in optimizing successful practical strategies for screening and further assessment of both anxiety and depression. In many cases, collaboration with or referral to a psychiatric NP or clinical nurse specialist is ideal.		M1		

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46	Mitchell, A.J. et al. (2009). Clinical diagnosis of depression in primary care: a meta-analysis. The Lancet 374(9690): 609-619.	2009	Meta-Analysis			p.c			GPs correctly identified depression in 47.3% of cases and recorded depression in their notes in 33.6%; 19 studies assessed both rule-in and rule-out accuracy-the weighted sensitivity was 50.1% and specificity was 81.3%; At a rate of 21.9%, the positive predictive value was 42·0% and the negative predictive value was 85.8%; this finding suggests that for every 100 unselected cases seen in p.c., there are more false positives (n=15) than either missed (n=10) or identified cases (n=10); accuracy was improved with prospective examination over an extended period (3—12 months) rather than relying on a one-off assessment or case-note records.; GPs can rule out depression in most people who are not depressed; however, the modest prevalence of depression in primary care means that misidentifications outnumber missed cases. Diagnosis could be improved by re-assessment of individuals who might have depression.	H1			
47	Aragones E, Pinol JL, Labad A. The overdiagnosis of depression in non-depressed patients in primary care. Fam Pract 2006; 23: 363–68.	2006	Single Study	mean-48.8		p.c	SDS; SCID; series of questionnaires	first phase- screened 906 patients using Zung's self-rating depression scale (SDS); second phase, 209 patients with a positive screening and 97 patients with a negative screening given the Structured Clinical Interview for DSM-IV Disorders, a series of questionnaires, physician judged whether depression was present; in the 186 patients for whom there were no criteria of major depression or dysthymia, the association of various variables with the physicians' overdiagnosis of depression was analyzed	The rate of diagnosis of depression in non-depressed patients was 26.5%; factors associated independently with overdiagnosis were the SDS score, GAF score, previous history of depression, presence of generalized anxiety; physicians classify as depressed those patients who do not have the formal signs of depression but who do have antecedents of this disorder or a psychological distress that may be prodromal of future depressive episodes.		M2		
48	Baas, K.D. et al. (2009) Screening for depression in high-risk groups: prospective cohort study in general practice. British Journal of Psychiatry. 194: 399-403	2009	Single Study		high risk	p.c				screening disclosed 71 people with major depressive disorder: 36 (50.7%) already received treatment, 14 (19.7%) refused treatment and 4 individuals did not show up for an appointment. As a final result of the screening, 17 individuals (1% of 1687) started treatment for major depressive disorder; Screening for depression in high-risk populations does not seem to be effective, mainly because of the low rates of treatment initiation, even if treatment is freely and easily accessible.	H2			

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49	Lecrubier Y. Widespread underrecognition and undertreatment of anxiety and mood disorders: results from 3 European studies. J Clin Psychiatry 2007; 68 (suppl 2): 36–41.	2007	Review			p.c		Data from WHO Collaborative Study on Psychological Problems in General Health Care, INSERM study and ESEMeD presented	ESEMeD study revealed a lifetime prevalence rate for major depression of 13.4%- despite high prevalence, WHO and INSERM studies revealed that only 54% to 58% of depressed patients were recognized as "psychiatric cases" by their gp + only 15% to 26% were given a specific diagnosis of depression; even when recognized, treatment was frequently inappropriate; WHO study-only 43% of patients correctly diagnosed with depression by their gp prescribed an antidepressant, 31% of patients recognized as "anxious" received an anxiolytic agent (14% were prescribed an antidepressant); ESEMeD study-4.6% of adults diagnosed with depression were using antidepressants exclusively, 18.4% had used anxiolytic medications exclusively; willingness to prescribe antidepressants/anxiolytic agents influenced,by diagnosis, patient age and gender, comorbidity/severity, number of spontaneous psychological complaints.	H1			
50	Menchetti M, Belvederi M, Murri B, Bertakis K, Bortolotti B, Berardi D. Recognition and treatment of depression in primary care Effect of patients' presentation and frequency of consultation. J Psychosom Res 2009; 66: 335–41.	2009	Single Study	mean-49.1		p.c		investigated the single and combined effects of different patient presentations and frequency of visits on detection and antidepressant use	Recognition of depression significantly varied according to both presentation and frequency of visits; compared to patients with psychological complaints, the odds ratios for nonrecognition of depression higher for patients presenting with physical symptoms and with pain; subjects who rarely attended the practice were 2.3 times less likely to receive a diagnosis of depression, compared with those having a high frequency of visits; patients presenting with physical symptoms/with pain and those with a low frequency of visits were rarely treated with antidepressants; combination of physical or pain presentation with low frequency of visits further increased the risk for nonrecognition, which was sixfold that of the reference category	H2			
51	Gilbody S, Sheldon T, House A. Screening and case-finding instruments for depression: a meta-analysis. CMAJ 2008; 178: 997–1003.	2008	Meta-Analysis			p.c		establish the effectiveness of screening in improving the recognition of depression, the management of depression and the outcomes of patients with depression.	use of screening or case-finding instruments were associated with a modest increase in the recognition of depression by clinicians[RR 1.27]; questionnaires, when administered to all patients and the results given to clinicians irrespective of baseline score, had no impact on recognition [RR 1.03]; screening/case finding increased the use of any intervention [RR 1.30]; no evidence of influence on the prescription of antidepressant medications [RR 1.20]; no evidence of an effect was found in studies that provided data on outcomes of depression; If used alone, case-finding or screening questionnaires for depression appear to have little or no impact on the detection and management of depression by clinicians. Recommendations to adopt screening strategies using standardized questionnaires without organizational enhancements are not justified.	H1			

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52	Vora, P.M. et al. (2005) Role of Hospital Anxiety & Depression scale in reducing need of a formal psychiatric referral in cancer patients. Journal of Clinical Oncology 23(16S)	2005	Single Study			p.c	Hospital Anxiety Depression (HAD)	studied whether simple and easy to administer HAD scale could help select subset of patients that really need further evaluation by a psychiatrist.	HADS is a good and simple instrument for rapid evaluation of psychological problems in physically ill cancer patients. There is a good co-relation between HADS and Hamilton scale for absent/definite anxiety and or depression. Only patients with doubtful/borderline anxiety or depression on HADS need further evaluation by a qualified psychologist/psychiatrist. Thus HADS can be a cost-effective way of screening all cancer patients for anxiety and/or depression.	H2			
53	Burton C, McGorm K, Weller D, Sharpe M. Depression and anxiety in patients repeatedly referred to secondary care with medically unexplained symptoms: a case-control study. Psychol Med. 2011;41(3):555-563	2011	Single Study	adults		s.c.		Cases were 193 adults with 3 + referrals over 5 years, at least 2 of which resulted in a diagnosis of medically unexplained symptoms [MUS]. Controls were: (a) patients referred only once over 5 years (b) patients with three or more referrals for symptoms always diagnosed as medically explained	93 (48%) of the cases met criteria for current depression, anxiety or panic disorders-compared with 38 (25%) and 52 (35.2%) of the control groups; almost half (44%) of the cases with current depression or anxiety had not received recent minimum effective therapy. Depression, anxiety and panic disorders are common in patients repeatedly referred to hospital with MUS. Improving the recognition and treatment of these disorders in these patients has the potential to provide better, more appropriate and more cost-effective medical care.	H2			
54	Volkers A, Nuyen J, Verhaak P, Schellevis F. The problem of diagnosing major depression in elderly primary care patients. J Affect Disord 2004; 82: 259–63.	2004	Single Study	>55		p.c	CIDI		Nearly all depressed patients (96.4%) had one or more contacts with their GP during 1 year; GPs classified 20.8% of the patients as having a down/depressed feeling or depression, while 32.1% as having other psychological problems than depression; an accurate diagnosis by GPs was significantly related to higher age in this age group; higher number of prescriptions of antidepressants in the accurately diagnosed patients; no significant differences in respect to other clinical characteristics (e.g. severity and number of symptoms, comorbidity of anxiety and somatic disorders);	H2			
55	Christensen KS, Toft T, Frostholm L, et al. The FIP study: a randomised, controlled trial of screening and recognition of psychiatric disorders. Br J Gen Pract 2003;53:758-63.	2003	Single Study			p.c	SQ; SCAN	examine the effect of a routinely administered questionnaire on recognition of common psychiatric disorders in general practice; before consultation, patients screened using a brief screening questionnaire (SQ) including somatisation, anxiety, depression, and alcohol abuse scales; randomized to one of two groups: questionnaires were disclosed and scored by the GPs or blinded; stratified subsample interviewed after the consultation using a standardised psychiatric research interview (SCAN).	GPs' recognition rates were 14% better for depression and 35% better for alcohol problems when SQs were disclosed; demonstrated limited usefulness for routine screening for common psychiatric disorders. However, findings suggest that the SQ may be useful for case-finding among a subgroup of patients with high SQ score	H2			

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56	Hutton C, Gunn J. Do longer consultations improve the management of psychological problems in general practice? A systematic literature review. BMC Health Serv Res 2007; 7: 71.	2007	Lit Review			p.c		determine whether management of psychological problems in general practice is associated with an increased consultation length and to explore whether longer consultations are associated with better health outcomes for patients with psychological problems.	Consultations with a recorded diagnosis of a psychological problem were reported to be longer than those with no recorded psychological diagnosis. It is not clear if this is related to the extra time or the consultation style. GPs reported that time pressure is a major barrier to treating depression. There was some evidence that increased consultation length is associated with more accurate diagnosis of psychological problems.		M1		
57	Pailler, M. et al. (2009). Patients' and Caregivers' Beliefs About Depression Screening and Referral in the Emergency Department. Pediatric Emergency Care 25(11): 721-727	2009	Single Study	pediatric		ED		explore patients' and parents'/caregivers' beliefs about the acceptability of universal depression screening in the emergency department (ED) and their perceptions of the barriers and facilitators to a mental health referral following a positive screen	Patients and caregivers generally support depression screening in the pediatric ED but identified several barriers to screening and referral for treatment. Recommendations include introduction of universal screening early in the ED visit, provision of specific information about the meaning of screening results, and support from family and health care providers to help reduce stigma and increase referral acceptability.	H2			
58	Nuyen J, Volkers AC, Verhaak PFM, et al. Accuracy of diagnosing depression in primary care: the impact of chronic somatic and psychiatric co-morbidity. Psychol Med 2005; 35: 1185–95.	2005	Single Study	mean 45.4		p.c	CIDI	Diagnoses of major depression and/or dysthymia in the last 12 months were assessed using a standardized psychiatric interview (CIDI) and compared with depression diagnoses registered by GPs in patient contacts during the same period. Presence of psychiatric and chronic somatic co-morbidity was determined using the CIDI and contact registration, respectively	patients without chronic somatic co-morbidity, a lower educational level, a less severe depression, and fewer GP contacts all significantly increased the likelihood of not being diagnosed as depressed; patients with chronic somatic co-morbidity, only having no psychiatric co-morbidity significantly decreased the likelihood of receiving a depression diagnosis	H2			
59	Yonkers, K.A. et al. (2009). Depression Screening of Perinatal Women: An Evaluation of the Healthy Start Depression Initiative. Psychiatr Serv. 60(3): 322–328.	2009	Single Study		Pregnant and post partum	p.c	Primary Care Evaluation of Mental Disorders Brief Patient Health Questionnaire; the PTSD Symptom Scale; a five-item modification of the Conflict Tactics Scale; and questions regarding alcohol, illicit substances, and general medical and obstetrical history	To address problems with low rates of detection and treatment of depression of pregnant and postpartum women, many advocate depression screening in obstetrical settings. This study evaluated the Healthy Start depression initiative to assess whether it resulted in diminished rates of depressive symptoms and increased rates of detection, referral, and treatment among pregnant and postpartum women.	The Healthy Start depression initiative changed neither levels of depressive symptoms nor use of depression treatment in unselected populations. The initiative may have decreased the rate of referral for depression in the cohort under study.		M2		

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60	Balestrieri M, Baldacci S, Bellomo A, et al. Clinical vs structured interview on anxiety and affective disorders by primary care physicians. Understanding diagnostic discordance. Epidemiol Psichiatr Soc 2007; 16: 144–51.	2007	Single Study			p.c	Mini-International Neuropsychiatric Interview (MINI)	assess the ability of GPs to detect psychiatric disorders using a clinical vs. a standardized interview + characterize the patients that were falsely diagnosed; GPs were randomly divided into two groups. Apart from the routine clinical interview, the experimental group (group A) had to administer the Mini-International Neuropsychiatric Interview (MINI).	In group A, the number of clinical diagnoses was about twice that of MINI diagnoses for affective disorders and one and a half times that for anxiety disorders; majority of clinical diagnoses were represented by MINI subsyndromal cases (52.3%); females showed a higher OR of being over-detected by GPs with anxiety disorders/ not being diagnosed with an affective disorder; being divorced/separated/widowed increased the OR of over-detection of affective and anxiety disorders; OR of over-detection of an affective or an anxiety disorder was higher for individuals with a moderate to poor quality of life.	H2			

2-Step Screening

#	Citation	Year	Type: Topic	Age Range	Patient Type	Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	High	Med	Low	H/M/L
61	NEED FULL-Licht-Strunk E, Beekman ATF, de Haan M, van Marwijk HWJ. The prognosis of undetected depression in older general practice patients. A one year follow-up study. J Affect Disord 2009 114: 310–15.	2009	Single Study	>55		p.c	GDS-15; PRIME-MD; MADRS	two-stepped screening procedure was used to diagnose depression using the GDS-15 and PRIME-MD; course of depression was measured with the MADRS and PRIME-MD, @ 6/12 mo.; remission was defined by no longer fulfilling DSM-criteria for depressive disorder and MADRS-score below 10; prognosis of those not detected by GPs was compared to those that were detected.	Among the 49 (67%) patients that were not detected by their GP as being depressed, 33% had remitted after one year. Of the 24 (33%) depressed patients that were detected by their GP, 37% had remitted after one year. Detected patients tended to have more serious depression and more comorbid anxiety than undetected patients.	H2			
62	NICE - Management of Depression in Primary and Secondary Care (full guideline and quick reference guide)	2004/ 2005	Guideline						recommends stepped care model: Step 1 - Recognition in p.c. and general setting; Step 2- Treatment of mild depression in p.c.; Step 3- Treatment of moderate to severe depression in p.c.; Step 4- Treatment of depression by mental health specialists; Step 5- inpatient treatment for depression	H1			
63	Stromberg R, Wernering E, Aberg-Wistedt A, Furhoff A-K, Sven-ErikJohansson S, Backlund LG. Screening and diagnosing depression in women visiting GPs' drop in clinic in primary health care. BMC Fam Pract 2008; 9: 34.	2008	Single Study			p.c	BDI; MADRS	two-stage screening method with "high risk feedback" was used; BDI was used to screen women visiting GPs' drop in clinic; women who screened positive (BDI score > or =10) invited by the GP to a repeat visit; MDD was diagnosed according to DSM-IV criteria and the severity assessed with MADRS; Women with BDI score <10 constituted a control group. demographic characteristics were obtained by questionnaire; chart notations were examined with regard to symptoms mentioned at the index visit and were categorized as somatic or mental.	two-stage method worked well with a low rate of withdrawals when the GP invited the women to a repeat visit; prevalence of depression was 22.4%, severity was mild in 43%, moderate in 53% and severe in 3%; depressed women mentioned mental symptoms significantly more often (69%) than the controls (15%) and were to a higher extent sick-listed for a longer period than 14 days; nearly one third of the depressed women did not mention mental symptoms; majority of the women who screened as false positive for depression had crisis reactions and needed further care from health professionals in PHC; referrals to a psychiatrist were few and revealed often psychiatric co-morbidity. REC-GPs do selective screening for depression when women mention mental symptoms and offer to schedule a repeat visit for follow-up rather than just recommending that the patient return if the mental symptoms do not disappear.	H2			

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64	Shimizu, K. et al. (2005) Usefulness of the nurse-assisted screening and psychiatric referral program. Cancer 103(9): 1949-1956.	2005	Single Study		cancer patients	p.c	Distress and Impact Thermometer (DIT)	The program consists of two stages; first stage- consecutive patients newly admitted to the Oncology/Hematology Unit are administered the DIT by nurses as a brief screening tool for major depression and adjustment disorders; second stage-the nurses recommend psychiatric referral to patients with scores above the cutoff point; patients' records were reviewed for a 3-month period before the start of the program and during the 3-month period after the start of the program.	Of the patients newly admitted during the program period, 86.0% completed the DIT and results were positive in 49.6%, but only 28.2% accepted psychiatric referral; ultimately, 11.5% of patients newly admitted were diagnosed with major depression or adjustment disorders and treated by psychiatric service, a significantly higher proportion than during the preceding 3-month period, before the program was begun	H2			
65	Yano et. Al. (2011) Yield of Practice Based Depression Screening in VA Primary Care Settings.	2011	Single Study: Screening	mean- 66.6 (range 21-105)		p.c.	PHQ-2 screening followed by the full PHQ-9 for screen positives, with standardized sociodemo-graphic and health status questions.	characterized the yield of practice-based screening in diverse PC settings (10 VA primary care clinics spanning 10 states), as well as the care needs of those assessed as having depression	Practice-based screening yielded 20.1% positive screens, 60% of whom were assessed as having probable major depression based on the PHQ-9 (11.8% of all screens); comorbid mental illnesses (e.g., anxiety, PTSD) were highly prevalent, medical comorbidities were substantial; nearly one-third of the depressed PC patients reported recent suicidal ideation (based on the PHQ- 9); practice-wide survey-based depression screening yielded more than twice the positive screen rate demonstrated through chart-based VA performance measures	H2			

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				Age Range	Patient Type					High	Med	Low	H/M/L
General Treatment													
66	NEED FULL-Shiner, B., Green R.L., Homa, K., Watts, B.V., Groft, A., Torrey, W.C., Oxman, T.E. (2010). Improving depression care in a psychiatry resident psychopharmacology clinic: measurement, monitoring, feedback and education. Qual Saf Health Care. 2010 Jun;19(3):234-8. Epub 2010 May 10.	2010	Single Study	Adults	Patients with MDD	resident psychop harmac ology clinic		A quality improvement program with administrative process changes to improve flow and a 40-week pre/post study to evaluate the effect of education and feedback was conducted. A systematic assessment and reengineered scheduling system were implemented. During the first 20 weeks, baseline data were collected; during the second 20 weeks, feedback to residents and attending psychiatrists about adherence to evidence-based treatment recommendations was added. Better outcomes for major depressive disorder (MDD) are associated with proactive treatment, including timely follow-up, systematic assessment and treatment changes for inadequate improvement. The effectiveness of an intervention to facilitate proactive treatment for MDD in a resident psychopharmacology clinic was studied.	Reengineering our system to improve flow was successful. By linking outcomes collection to completion of billing sheets, outcomes at 90% of visits for MDD throughout the 40-week study was assessed. By centralising our scheduling system, the percentage of active-phase patients with MDD seen for follow-up within 6 weeks was improved from 19% to 59%. In response to feedback, residents did not make significant changes to their overall practice patterns. Patient outcomes did not improve as a result of feedback to residents. Residents did improve their practice patterns for a subset of patients including those without comorbid psychiatric disorders and those whose depressive episodes had lasted <1 year. mproving administrative processes for the treatment of patients with MDD resulted in rapid changes that were associated with improvements in the delivery of evidence-based care. Feedback to residents was more difficult and less successful.		M2		
67	Culpepper, L. & Johnson, P. (2011). Managing Depression in Primary Care. Pharmacotherapy of Depression 375-397	2011	Review						Among nonpsychotic patients, symptom composition and severity differs little from adults presenting to psychiatrists; patients who have chronic medical conditions such as diabetes or ischemic heart disease with concomitant major depression have poorer outcomes than do those without depression. In spite of its frequency and importance, recognition, evaluation, and management in primary care is often less than optimal, with up to 50% of depressed patients going unrecognized	H1			
68	Van der Weele, G. M. et al. (2012). Response to an unsolicited intervention offer to persons aged ≥ 75 years after screening positive for depressive symptoms: a qualitative study. Int Psychogeriatr 24(2):270-7	2012	Single Study	>75	screened positive for depression			In a randomized controlled trial, in which 101 persons who had screened positive for depressive symptoms were offered a "coping with depression" course, a sample of 23 persons were interviewed, of whom five (22%) accepted the treatment offer. Interview transcripts were coded independently by two researchers.	though the unsolicited treatment offer closely matched the perceived needs of people screening positive for depressive symptoms, only those who combined feelings of being depressed or lonely with positive expectations about the offered course accepted it. Treatment should perhaps be more individually tailored to the patient's motivational stage towards change, a process in which general practitioners can play an important role.		M2		

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				Age Range	Patient Type					High	Med	Low	H/M/L
69	Smolders, M. et al. (2009) Adherence to evidence-based guidelines for depression and anxiety disorders is associated with recording of the diagnosis. General Hospital Psychiatry 31(5): 460-469	2009	Single Study		Depression or anxiety disorder				42% of the patients with a depressive disorder was treated in accordance with the guideline, whereas 27% of the patients with an anxiety disorder received guideline-consistent care. The provision of care in line with current depression and anxiety guidelines was around 50% for persons with both types of disorders. Documentation of an International Classification of Primary Care diagnosis of depression or anxiety disorder appeared to have a strong influence on guideline adherence. Symptom severity, however, did not influence guideline adherence.	H2			
70	Emslie, G.J. et al. (2010) Treatment of Resistant Depression in Adolescents (TORDIA) Week 24 Outcomes. Am J Psychiatry 167(7): 782–791.	2010	Single Study	12-18 years	SSRI-resistant depression			randomly assigned to either a medication switch alone or a medication switch plus CBT; At week 12, responders could continue in their assigned treatment arm and nonresponders received open treatment (medication and/or CBT) for 12 more weeks (24 weeks total); Response at 12 weeks was defined as a CGI improvement rating of ≤2 (much or very much improved) and a ≥50% decrease from baseline of the Children's Depression Rating Scale–Revised score. Remission was defined as at least 3 consecutive weeks without clinically significant depressive symptoms, corresponding to a score of 1 on the Adolescent Longitudinal Interval Follow-Up Evaluation. Participants who responded by week 12 were assessed for relapse, indicating at least 2 consecutive weeks with probable or definite depressive disorder (score of 3 or 4 on the Adolescent Longitudinal Interval Follow-Up Evaluation).	38.9% achieved remission by 24 weeks, and initial treatment assignment did not affect rates of remission; likelihood of remission was much higher and time to remission was much faster among those who had already demonstrated clinical response by week 12; remission was also higher among those with lower baseline depression, hopelessness, and self-reported anxiety; at week 12, lower depression, hopelessness, anxiety, suicidal ideation, family conflict, and absence of comorbid dysthymia, anxiety, and drug/alcohol use and impairment also predicted remission; of those who responded by week 12, 19.6% had a relapse of depression by week 24.	H2			

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71	Cassano, P. & Fava, Maurizio (2002) Depression and public health: An overview. Journal of Psychosomatic Research 53(4): 849-857	2002	Review			p.c			The diagnosis and treatment of depressive disorders, including major and minor depression have tremendous public health significance. Due to the relatively high prevalence, their management should largely take place in primary care settings, as is the case of other common chronic diseases such as diabetes and hypertension. The availability of safe, well-tolerated, and effective antidepressant treatments facilitates management of depression in primary care settings. Programs aimed at improving patient follow-up, and the coordination of the primary care inter- vention with that of specialists have been found to improve patient outcomes and to be cost effective.	H1			
72	Malhi, G.S. et al. (2009) Clinical practice recommendations for depression. Acta Psychiatrica Scandinavica 119(439): 8-26	2009	lit review					provide clinically relevant evidence-based recommendations for the management of depression in adults that are informative, easy to assimilate and facilitate clinical decision making		H1			
73	Wang PS, Simon GE, Avorn J et al. Telephone screening, outreach, and care management for depressed workers and impact on clinical and work productivity outcomes: a randomized controlled trial. JAMA. 2007;298:1401-1411	2007	Single Study				QIDS; HPQ; self-report instrument assessing job retention/time missed from work/work performance/criti cal	evaluate the effects of a depression outreach-treatment program on workplace outcomes, a concern to employers; intervention: A telephonic outreach and care management program encouraged workers to enter outpatient treatment (psychotherapy and/or antidepressant medication), monitored treatment quality continuity, and attempted to improve treatment by giving recommendations to providers. Participants reluctant to enter treatment were offered a structured telephone cognitive behavioral psychotherapy.	Combining data across 6- and 12-month assessments, the intervention group had significantly lower QIDS self-report scores, significantly higher job retention, significantly more hours worked among the intervention than the usual care groups			L2	
74	Cape J, Whittington C, Buszewicz M, Wallace P, Underwood L. Brief psychological therapies for anxiety and depression in primary care: meta- analysis and meta-regression. BMC Med. 2010;8:38.	2010	Meta-Analysis			p.c.			Brief CBT, counselling and PST are all effective treatments in primary care, but effect sizes are low compared to longer length treatments. The exception is brief CBT for anxiety, which has comparable effect sizes.	H1			

#	Citation	Year	Type: Topic	Population/Subpopulations		Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	Weighted Relevance			TEP Review
				Age Range	Patient Type					High	Med	Low	H/M/L
75	Marcus, S.C. & Olfson, M. (2010) National Trends in the Treatment for Depression From 1998 to 2007. Arch Gen Psychiatry 67(12):1265-1273	2010	Single Study		depression			assess national trends in the outpatient treatment of depression between 1998 and 2007.	rate of outpatient treatment for depression increased from 2.37 per 100 persons in 1998 to 2.88 per 100 persons in 2007; percentage of treated patients who used antidepressants was little changed from 73.8% to 75.3% but the percentage of those receiving psychotherapy declined from 53.6% to 43.1%; nat'l expenditures for the outpatient treatment of depression increased from $10.05 billion to $12.45 billion- primarily driven by an increase in medication expenditures from $4.59 billion to $6.60 billion, which in turn was related to an increase in Medicare expenditures for depression treatment from $0.52 billion to $2.25 billion	H2			
76	Rodgers, M. et al. (2012). The clinical effectiveness and cost-effectiveness of low-intensity psychological interventions for the secondary prevention of relapse after depression: a systematic review. Health Technology Assessment 16(28).	2012	Review	adolescents and adults			outcomes – relapse or recurrence, other outcomes (e.g. social function, quality of life) were recorded where reported; and study design – for clinical effectiveness, randomised, quasi-randomised and non-randomised studies with concurrent control patients.	population – adults or adolescents who had received treatment for depression; intervention – part A, low-intensity interventions, specifically any unsupported psychological/psychosocial interventions or any supported interventions that did not involve highly qualified mental health professionals, and, part B, interventions carried out by qualified mental health professionals that involved < 6 hours of contact per patient; comparator – any, including no treatment, placebo, psychological or pharmacological interventions;	For the clinical effectiveness review, 17 studies met the part B inclusion criteria - these studies were clinically and methodologically diverse, and reported differing degrees of efficacy for the evaluated interventions. One randomised controlled trial (RCT), which evaluated a collaborative care-type programme, was potentially relevant to part A; this study reported no difference between patients receiving the intervention and those receiving usual care in terms of relapse of depression over 12 months. For the cost-effectiveness review, two studies met the criteria for part B. One of these was an economic evaluation of the RCT above, which was potentially relevant to part A. This evaluation found that the intervention may be a cost-effective use of resources when compared with usual care; however, it was unclear how valid these estimates were for the NHS; There is inadequate evidence to determine the clinical effectiveness or cost- effectiveness of low-intensity interventions for the prevention of relapse or recurrence of depression. A scoping review of brief high-intensity therapies indicates that some approaches have shown promise in some studies, but findings have not been consistent.	H1			
77	Parker, G. et al. (2011). Evaluating the first 1000 patients referred to a specialist depression clinic: A case for tertiary referral facilities. Journal of Affective Disorders 131(1–3): 52–58	2011	Single Study			s.c- depression clinic		report on the assessment and outcome of the first 1000 patients referred to a tertiary referraldepression clinic established to assess the utility of diagnostic sub-typing on clinical course of illness; Diagnostic, treatment recommendations, prognostic judgments and 12-week outcome data were examined.	Nearly 40% of those with a primary mood disorder were diagnosed with bipolar disorder, of whom three-quarters received such a diagnosis for the first time; alternative diagnoses or formulations were provided for 68% of the total sample, with the therapeutic paradigm altered for the majority (86%) of patients. Improvement rates were indicative of a higher level of improvement in those diagnosed with bipolar disorder (some 70%) compared to those with unipolar disorders (some 60%); overall, rates of 'full remission' were low, being 2% and up to 12% for bipolar and unipolar patients respectively and perhaps reflecting the tertiary nature of the assessing clinical facility. Baseline clinician predictions were in the order of 60% accuracy in predicting outcome, irrespective of diagnostic grouping.		M2		

#	Citation	Year	Type: Topic	Population/Subpopulations Age Range	Population/Subpopulations Patient Type	Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	Weighted Relevance High	Weighted Relevance Med	Weighted Relevance Low	TEP Review H/M/L
78	Sharpe, M. et al. (2012) Is co-morbid depression adequately treated in patients repeatedly referred to specialist medical services with symptoms of a medical condition? Journal of Psychosomatic Research 72(6): 419–421	2012	Single Study				PHQ-9	All patients who had at least 3 referrals to medical and surgical specialists for an assessment of symptoms attributed to a medical condition, over a 5 year period from 5 p.c. practices in Edinburgh, UK were identified using a referral database and review of records. Participants were sent a questionnaire which included the PHQ-9 depression scale and additional questions about depression during the preceding 5 years. Details of treatment for depression were obtained from primary care records.	Questionnaires were sent to 230 patients and returned by 162 (70.4%). Forty-one (25.3%) had a PHQ-9 score of 10 or more and hence probable current depressive disorder. An additional 36 (22.2%) reported depression in the previous 5 years. Only eight (19.5%) of those reporting current depression and 20 (26%) of the 77 patients reporting previous depression had received minimally adequate treatment for it.		M2		
79	Trivedi, M.H., Lin, E.H., Katon, W.J (2007) Consensus recommendations for improving adherence, self-management, and outcomes in patients with depression. CNS Spectrums 12(8 Suppl 13): 1-27	2007	Review			p.c		The use of evidence-based treatment algorithms are discussed and recommendations are provided for patients and physicians based on collaborative care interventions that may be useful for improving the current management of depressive disorders.	NEED TO FIND FULL TEXT	H1			
80	Cuijpers, P. et al. (2008). Psychotherapy for Depression in Adults: A Meta-Analysis of Comparative Outcome Studies.	2008	Meta-analysis: Treatment	adults	mild-moderate depression	p.c		looks at 53 studies in which 7 major types of psychological treatment: CBT, non-directive supportive treatment, behavioral activation treatment, psychodynamic treatment, problem-solving therapy, interpersonal psychotherapy, and social skills training were directly compared with other psychological treatments	no large differences in efficacy between the major treatments (interpersonal psychotherapy was somewhat more efficacious; non-directive supportive treatment somewhat less efficacious); drop out rate significantly higher for CBT, significantly lower in problem-solving therapy	H1			
81	Christensen H, Griffiths KM, Gulliver A, et al. Models in the delivery of depression care: a systematic review of randomised and controlled intervention trials. BMC Fam Pract 2008; 9: 25	2008	Review			p.c		determine the effective components of depression care in primary care through a systematic examination of both general practice and community based intervention trials.	components which were found to significantly predict improvement: revision of professional roles, provision of a case manager who provided direct feedback and delivered a psychological therapy, an intervention that incorporated patient preferences into care; nurse, psychologist and psychiatrist delivered care were effective, pharmacist delivery not; training directed to general practitioners was significantly less successful than interventions that did not have training as the most important intervention; community interventions were effective	H1			

#	Citation	Year	Type: Topic	Population/Subpopulations		Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	Weighted Relevance			TEP Review
				Age Range	Patient Type					High	Med	Low	H/M/L

Psychotherapy vs. Medication

#	Citation	Year	Type: Topic	Age Range	Patient Type	Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	Weighted Relevance	TEP Review
82	Simon J, Pilling S, Burbeck R, et al. Treatment options in moderate and severe depression: decision analysis supporting a clinical guideline. Br J Psychiatry 2006;189:494 –501.	2006	Review			s.c.		Systematic literature reviews were used to identify clinical, utility and cost data. A decision analysis was then conducted to compare the benefits and costs of antidepressants with combination therapy for moderate and severe depression in secondary care in the UK	15-month analysis period, combination therapy resulted in higher costs and an expected 0.16 increase per person in the probability of remission and no relapse compared with antidepressants;cost per additional successfully treated patient was 4056 UK pounds;cost per quality-adjusted life year gained was 5777 UK poundsfor severe depression and 14540 UK pounds for moderate depression; Combination therapy is likely to be a cost-effective first-line secondary care treatment for severe depression. Its cost-effectiveness for moderate depression is more uncertain from current evidence	H1
83	Fournier, J.C. (2009) Prediction of response to medication and cognitive therapy in the treatment of moderate to severe depression. Journal of Consulting and Clinical Psychology, Vol 77(4):775-787	2009	Single Study		moderate-severly depressed			180 depressed outpatients: 60 of whom were randomly assigned to cognitive therapy; 120 were assigned to antidepressant medications. Treatment was provided for 16 weeks	Chronic depression, older age, and lower intelligence each predicted relatively poor response across both treatments; prescriptive variables: marriage, unemployment, and having experienced a greater number of recent life events-each predicted superior response to cognitive therapy relative to antidepressant medications.	H2
84	Dobson, K.S. (2008) Randomized trial of behavioral activation, cognitive therapy, and antidepressant medication in the prevention of relapse and recurrence in major depression. Journal of Consulting and Clinical Psychology, Vol 76(3): 468-477.	2008	Single Study	adults	major depression			followed treatment responders from a randomized controlled trial of adults with major depression	Patients treated with medication but withdrawn onto pill-placebo had more relapse through 1 year of follow-up compared to patients who received prior behavioral activation, prior cognitive therapy, or continued medication; prior psychotherapy was superior to medication withdrawal in the prevention of recurrence across the 2nd year of follow-up Specific patients previously exposed to cognitive therapy were significantly less likely to relapse following treatment termination than patients withdrawn from medication; differences between behavioral activation and cognitive therapy were small in magnitude and not significantly different across the full 2-year follow-up, and each therapy was at least as efficacious as the continuation of medication.	M2
85	Cuijpers, B.P. et al. (2010) The contribution of active medication to combined treatments of psychotherapy and pharmacotherapy for adult depression: a meta-analysis. Acta Psychiatrica Scandinavica 121(6): 415-423.	2010	Meta-Analysis	adults				Meta-analysis of randomised controlled trials comparing the combination of psychotherapy and pharmacotherapy with the combination of psychotherapy and placebo.	The standardised mean difference indicating the differences between the combination of psychotherapy and pharmacotherapy and the combination of psychotherapy and placebo was 0.25; Active medication has a small but significant contribution to the overall efficacy of combined treatments.	H1

#	Citation	Year	Type: Topic	Population/Subpopulations		Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	Weighted Relevance			TEP Review
				Age Range	Patient Type					High	Med	Low	H/M/L
86	Imel, Z. E. et al. (2008) A meta-analysis of psychotherapy and medication in unipolar depression and dysthymia. Journal of Affective Disorders 110(3): 197-206	2008	Meta-Analysis						Psychotherapy and medication were not significantly different at post-treatment, however effect sizes were not consistent. Although there was no association between severity and relative efficacy, a small but significant advantage for medications in the treatment of dysthymia did emerge; psychotherapy showed a significant advantage over medication at follow-up and this advantage was positively associated with length of follow-up. Moreover, discontinued acute phase psychotherapy did not differ from continued medication at follow-up	H1			
87	Manber, R. et al. (2008) Faster remission of chronic depression with combined psychotherapy and medication than with each therapy alone. Journal of Consulting and Clinical Psychology 76(3): 459-467	2008	Single Study					compare the time to remission during 12 weeks of treatment of chronic depression following antidepressant medication, psychotherapy, and their combination	the combination of medication and psychotherapy produced full remission from chronic depression more rapidly than either of the single modality treatments, which did not differ from each other; for those receiving the combination treatment, the most likely to succeed were those with low baseline depression and those with high depression scores but low anxiety; both profiles assoc. with at least 40% chance of attaining full remission; model did not identify predictors for those receiving medication or psychotherapy alone, and it did not distinguish between the 2 monotherapies	H2			
88	Raue, P.J. et al. (2009) Patients' Depression Treatment Preferences and Initiation, Adherence, and Outcome: A Randomized Primary Care Study. Psychiatr Serv 60(3): 337–343	2009	Single Study	midlife/elderly	major depression	p.c		primary care participants meeting DSM-IV criteria for major depression were randomized to receive treatment congruent or incongruent with their primary stated preference. Participants received either 20 weeks of escitalopram as monitored by a care manager, or 12 weekly sessions of interpersonal psychotherapy followed by 2 monthly booster sessions. Adherence to treatment and depression severity were reassessed at weeks 4, 8, 12, and 24.	Participants expressed stronger preferences for psychotherapy than antidepressant medication. Preference strength was a more sensitive measure of outcomes than congruence versus incongruence of preference with the assigned treatment. Across age groups, preference strength was significantly associated with treatment initiation and 12-week adherence rate, but not with depression severity or remission.	H2			
89	Miranda, J. et al. (2006). One-year outcomes of a randomized clinical trial treating depression in low-income minority women. Journal of Consulting and Clinical Psychology, Vol 74(1):99-111	2006	Single Study		low income minority women	p.c		examines 1-year depressive symptom and functional outcomes of 267 predominantly low income, young minority women randomly assigned to antidepressant medication, group or individual cognitive- behavioral therapy (CBT), or community referral	76% assigned to medications received 9 or more weeks of guideline-concordant doses of medications; 36% assigned to psychotherapy received 6 or more CBT sessions; medication and CBT were superior to community referral in lowering depressive symptoms across 1-year follow-up; at Month 12, 50.9% assigned to antidepressants, 56.9% assigned to CBT, and 37.1% assigned to community referral were no longer clinically depressed; suggest that both antidepressant medications and CBT result in clinically significant decreases in depression for low-income minority women.	H2			

#	Citation	Year	Type: Topic	Population/ Subpopulations		Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	Weighted Relevance			TEP Review
				Age Range	Patient Type					High	Med	Low	H/M/L
Medication													
	Gartlehner G, Gaynes BN, Hansen RA, et al. Comparative benefits and harms of second-generation antidepressants: background paper for the American College of Physicians. Ann Intern Med 2008;149:734 –50.	2008	Meta-Analysis	adults				compare the benefits and harms of second-generation antidepressants for treating MDD in adults.	basis of 234 studies, no clinically relevant differences in efficacy or effectiveness were detected for the treatment of acute, continuation, and maintenance phases of MDD. No differences in efficacy were seen in patients with accompanying symptoms or in subgroups based on age, sex, ethnicity, or comorbid conditions. Individual drugs differed in onset of action, adverse events, and some measures of health-related quality of life.		M1		
91	Bosworth, H.B. et al. The effects of antidepressant medication adherence as well as psychosocial and clinical factors on depression outcome among older adults. International Journal of Geriatric Psychiatry Volume 23, Issue 2, pages 129–134, February 2008	2008	Single Study	older adults				examine the contribution of medication adherence to 12-month depression scores in the context of other psychosocial and clinical predictors of depression in a sample of older adults treated for depression	nearly 28% of patients reported being nonadherent with their antidepressant medication; greater antidepressant medication nonadherence, more medication barriers, poorer subjective social support, less non-family interaction, greater basic/instrumental activities of daily living limitations, poor self-rated health, higher baseline depression scores, and not having diabetes were related to higher 12-month depression scores	H2			
92	Olfson, M. & Marcus, S.C. (2009) National Patterns in Antidepressant Medication Treatment. Arch Gen Psychiatry 66(8): 848-856	2009	Meta-Analysis	>6 yr	reported at least 1 antidepressant prescription during that year		Rate of antidepressant use and adjusted rate ratios (ARRs) of year effect on rate of antidepressant use adjusted for age, sex, race/ethnicity, annual family income, self-perceived mental health, and insurance status.	compare sociodemographic and clinical patterns of antidepressant medication treatment in the United States between 1996 and 2005.	1996 to 2005-marked and broad expansion in antidepressant treatment in the US, with persisting low rates of treatment among racial/ethnic minorities; individuals treated with antidepressants became more likely to also receive treatment with antipsychotic medications and less likely to undergo psychotherapy.	H1			

#	Citation	Year	Type: Topic	Population/ Subpopulations Age Range	Population/ Subpopulations Patient Type	Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	Weighted Relevance High	Weighted Relevance Med	Weighted Relevance Low	TEP Review H/M/L
93	Alwan,S. et al. (2011) Patterns of Antidepressant Medication Use Among Pregnant Women in a United States Population. J Clin Pharmacol. 51(2): 264-270	2011	Single Study		pregnant women			pattern of reported antidepressant use around the time of pregnancy in a population-based sample of women who delivered live-born babies without birth defects	4.5% reported use of an antidepressant in the period of 3 months before through the end of pregnancy; use of SSRI was reported most often, followed by bupropion; statistically significant decline was observed, from 3.1% to 2.3% in reported use of antidepressants between the first and second month after conception; frequency of reported antidepressant use at any time during pregnancy increased from 2.5% in 1998 to 8.1% in 2005 in 4 states; ffindings show an increase in reported antidepressant use over a 9-year period and a substantial decrease in use around the usual time of pregnancy recognition.			L2	
94	Emslie, G.J. et al. (2008) Flouxetine Versus Placebo in Preventing Relapse of Major Depression in Children and Adolescents. Focus 6: 348-357.	2008	Single Study	7-18 years	major depressive disorder	p.c.	relapse/time to relapse-defined as either a score of 40 or higher on the Children's Depression Rating Scale with a history of 2 weeks of clinical deterioration, or clinical deterioration as judged by the clinician		102 were randomly assigned to continuation treatment with fluoxetine (N = 50) or placebo (N = 52); 42.0% in the fluoxetine group relapsed, compared with 69.2% in the placebo group, a significant difference; under the stricter definition of relapse, fewer participants in the fluoxetine group relapsed than in the placebo group; time to relapse was significantly shorter in the placebo group.		M2		
95	Bosmans, J.E. et al. (2008). Cost-effectiveness of usual general practitioner care with or without antidepressant medication for patients with minor or mild-major depression. Journal of Affective Disorders 111(1): 106-112	2008	Single Study		depression	p.c.	MADRS; quality adjusted life years (QALY)		The mean difference in total costs between usual care without antidepressants and usual care with antidepressants was −€751; although equivalence could not be shown in the costs and cost-effectiveness analyses, 95% confidence intervals also did not show that usual care without antidepressants was vastly superior or inferior to usual care with antidepressants; recommend general practitioners to show restraint when prescribing antidepressants to mildly depressed patients.		M2		

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				Age Range	Patient Type					High	Med	Low	H/M/L
96	Rasmussen, K.G. et al. (2009) Is Baseline Medication Resistance Associated With Potential for Relapse After Successful Remission of a Depressive Episode With ECT? Data From the Consortium for Research on Electroconvulsive Therapy (CORE). J Clin Psychiatry 70(2):232–237	2009	Single Study		depression		24-item Hamilton Rating Scale for Depression	assessed whether response to antidepressant medications prior to ECT for a unipolar nonpsychotic depressive episode (DSM-IV) was associated with differential relapse rates after remission with ECT; medication resistance is defined as not having responded to at least 1 adequate trial of an antidepressant medication before ECT;Relapse was assessed with the 24-item Hamilton Rating Scale for Depression	In the first week after acute remission, 9.8% of patients not having at least 1 antidepressant medication trial met relapse criteria, while 31.4% of medication-resistant patients met relapse criteria; in the randomized phase of the study, 34.6% of non– medication-resistant patients relapsed, while 50.0% of medication-resistant patients relapsed,	H2			
97	Lenz, T. L. (2010) Medication Adherence and Its Connection With Depression and Lifestyle Medicine. American Journal of Lifestyle Medicine 4(5) 413-415	2010	Review					to discuss medication adherence and its possible effects on the management of depression and lifestyle medicine activities as well as the role that pharmacists have in adherence to lifestyle medicine activities			M1		
98	Chakraborty, K. et al. (2009) Attitudes and beliefs of patients of first episode depression towards antidepressants and their adherence to treatment. Social Psychiatry and Psychiatric Epidemiology 44(6): 482-488	2009	Single Study	18-50	first episode unipolar depression		antidepressant compliance questionnaire (ADCQ)		92% agreed that doctor gave sufficient time to listen to their problem, explained the causes of depression sufficiently, felt confident that antidepressants are suitable treatment of their depression; 88% subjects believed that antidepressants are difficult to stop when taken over a long period of time and can alter patient's personality; 72% of the subjects felt, fewer tablets could be taken on days one feels better; 96% of subjects reported their partner's positive attitude towards diagnosis and treatment; second assessment, 88% missed the antidepressant medication on less than 25% days in the last 3 months whereas only 4% of the subjects missed antidepressants for more than 75% of the days	H2			

Referral Issues

#	Citation	Year	Type: Topic	Age Range	Patient Type	Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	High	Med	Low	H/M/L
99	Leo, R.J.et al. (2002) Psychiatric consultation in the nursing home: Referral patterns and recognition of depression. J Psychosom Res. 53(3):783-7.	2002	Single Study	geriatric		p.c			Referrals for depression comprised 19.7% of all requested consultations. Of patients referred for depression, 74.2% were diagnosed with a depressive disorder. Of all residents diagnosed with depressive disorders, 53.5% were referred for other reasons; Nursing home staff often failed to recognize depression. Depressed residents are primarily referred for disruptive behaviors.			L2	

#	Citation	Year	Type: Topic	Population/ Subpopulations Age Range	Population/ Subpopulations Patient Type	Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	Weighted Relevance High	Weighted Relevance Med	Weighted Relevance Low	TEP Review H/M/L
100	Bruce, M.L. et al. (2007) A Randomized Trial of Depression Assessment Intervention in Home Health Care. Journal of the American Geriatrics Society 55(11): 1793–1800	2007	Single Study			p.c	SCID; HDRS-25	examines whether an educational intervention would improve depression assessment and appropriate referral. Secondary analyses tested whether referral led to depression improvement; Nurse training in clinically meaningful use of depression sections of Medicare's mandatory Outcome and Assessment Information Set (OASIS).	Referral rates for patients with (SCID) depressed mood or anhedonia varied according to nurse group: 50.0% full intervention, 18.5% minimal, 21.4% control; rates for nondepressed patients did not differ; in patients with major or minor depression, referral was associated with symptom improvement; change in HDRS was 5 points greater in referred patients than others; concordance between OASIS and SCID did not differ between intervention groups.	H2			
101	Goodman, J.H. & Tyer-Viola, L. (2008) Detection, Treatment, and Referral of Perinatal Depression and Anxiety by Obstetrical Providers. 19(3): 477-490	2008	Single Study		pregnant women	p.c	Edinburgh Postnatal Depression Scale; PHQ		23% of participants screened positive for an anxiety disorder or high levels of depressive symptoms or both prenatally, and 17% screened positive at 6 weeks postpartum; majority of women who screened positive were not identified by their providers during pregnancy or postpartum; only 15% of positively screened participants had evidence of any mental health treatment in their EMR during pregnancy, with equally low rates of referral to mental health or social services; in the postpartum period, only 25% of positively screened postpartum women received treatment, and an additional 2.5% were referred.	H2			
102	Kendrick, T. et al. (2009) Management of depression in UK general practice in relation to scores on depression severity questionnaires: analysis of medical record data. BMJ	2009	Single Study			p.c	PHQ-9; HADS; BDI-II	determine if general practitioner rates of antidepressant drug prescribing and referrals to specialist services for depression vary in line with patients' scores on depression severity questionnaires	General practitioners do not decide on drug treatment or referral for depression on the basis of questionnaire scores alone, but also take account of other factors such as age and physical illness. The two most widely used severity questionnaires [PHQ-9 and HADS] perform inconsistently in practice, suggesting that changing the recommended threshold scores for intervention might make the measures more valid, more consistent with practitioners' clinical judgment, and more acceptable to practitioners as a way of classifying patients.	H2			
103	Kravitz, R.L. et al. (2006) What Drives Referral from Primary Care Physicians to Mental Health Specialists? A Randomized Trial Using Actors Portraying Depressive Symptoms. Journal of General Internal Medicine 21(6): 584–589	2006	Single Study			p.c			Among 298 standardized patient (SP) visits, 107 (36%) resulted in mental health referral. Referrals were less likely among physicians with greater self-confidence in their ability to manage antidepressant therapy and were more likely if physicians typically spent 10% of professional time on nonclinical activities, had personal life experience with psychotherapy for depression, or usually had access to mental health consultation within 2 weeks	H2			

#	Citation	Year	Type: Topic	Population/Subpopulations		Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	Weighted Relevance			TEP Review
				Age Range	Patient Type					High	Med	Low	H/M/L
104	Cossich, C.T. et al. (2002) Uptake of psychosocial referrals in an outpatient cancer setting: improving service accessibility via the referral process. Supportive Care in Cancer 10(7): 549-555	2002	Single Study		cancer patients	p.c		to identify factors which influence the uptake of psychosocial services in an ambulatory cancer setting and to identify potential barriers to the access of support services in the referral process	Individuals accepted 22% of offered services, refused 38% of offered services, indicated that services were in place in 31% of cases, and were not offered 9% of identified services; major response from patients refusing services was "not now"; female patients and individuals with a moderate to high level of depression were more likely to accept services	H2			
105	Blashki, G. (2003) Referral of patients with depression to specialist psychological care from general practice. Aust Fam Physician. 32(12):998-1002.	2003	Guideline			p.c		provides a practical four step approach to assist general practitioners to refer patients with depression from general practice to specialist psychological care. Referral represents one important step within a broader shared care framework. The four step approach provides information and resources to help GPs with assessment, patient education, choice of mental health specialist(s) and long term monitoring	full article missing	H1			
106	Parker, G. et al. (2011). Evaluating the first 1000 patients referred to a specialist depression clinic: A case for tertiary referral facilities. Journal of Affective Disorders 131(1–3): 52–58	2011	Single Study			s.c.-depression clinic		report on the assessment and outcome of the first 1000 patients referred to a tertiary referraldepression clinic established to assess the utility of diagnostic sub-typing on clinical course of illness; Diagnostic, treatment recommendations, prognostic judgments and 12-week outcome data were examined.	Nearly 40% of those with a primary mood disorder were diagnosed with bipolar disorder, of whom three-quarters received such a diagnosis for the first time; alternative diagnoses or formulations were provided for 68% of the total sample, with the therapeutic paradigm altered for the majority (86%) of patients. Improvement rates were indicative of a higher level of improvement in those diagnosed with bipolar disorder (some 70%) compared to those with unipolar disorders (some 60%); overall, rates of 'full remission' were low, being 2% and up to 12% for bipolar and unipolar patients respectively and perhaps reflecting the tertiary nature of the assessing clinical facility. Baseline clinician predictions were in the order of 60% accuracy in predicting outcome, irrespective of diagnostic grouping.		M2		

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				Age Range	Patient Type					High	Med	Low	H/M/L
107	Warrington, L. & Velikova, G. (2011). Identifying patients psychological needs in oncology consultations: an exploration of rates of discussion and patterns of referral. BMJ Support Palliat Care	2011	Single Study		Cancer patients			aims to determine the frequency of discussion of depression and anxiety within consultations and how often referrals and prescriptions are offered and made; 28 oncologists and 286 cancer patients were recruited to a randomized controlled trial examining the effects of the regular collection and use of health-related quality-of-life data in oncology practice on process of care and patient well-being. Each patient was recorded at four consecutive consultations	Depression and anxiety was discussed with 17.5% of patients in at least one of the four consultations. Referrals were offered to 6.6% and made for 1.4% of patients.1.7% mentioned ongoing psychosocial care. Prescriptions were offered to 3.5% and made for 1.4% of patients. 4.9% mentioned ongoing psychotropic medications. 42% of patients who discussed depression or anxiety with their doctors were not offered any further support.	H2			
108	Mataix-Cols, D. (2006). Effect of referral source on outcome with cognitive-behavior therapy self-help. Comprehensive Psychiatry 47: 241–245	2006	Single Study					examines the effect of referral source on clinical outcome with computer-aided cognitive-behavior therapy (CCBT) for anxiety and depressive disorders; clinic that offered CCBT with brief backup from a clinician were classified into general practitioner (GP) referrals (34%), mental health (MH) professional referrals (42%), and self-referrals (SR, 24%), and compared on sociodemographic and clinical features and treatment outcome	At intake, referrals from all 3 sources had similar sociodemographic features and problem duration, but GP referrals had less comorbidity, whereas MH professional referrals were being treated for their problem more often and were less motivated to change than were SR; among treatment completers, SRs had the least and MH professional referrals had the most impaired work/social adjustment; each referral group improved on generic and syndrome-specific measures; however, GP referrals improved the most and MH professional referrals the least. The 3 groups received similar therapist support and were equally satisfied after treatment. We conclude that GP referrals had the best outcome with CCBT for anxiety/depressive disorders.	H2			

Geriatric

#	Citation	Year	Type: Topic	Age Range	Patient Type	Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	High	Med	Low	H/M/L
109	Chen, C.Y. et al. (2009) Comparison of patient and caregiver assessments of depressive symptoms in elderly patients with depression. Psychiatry Res. 166(1):69-75	2009	Single Study	M= 72.38			Pfeiffer's Short Portable Mental Status Questionnaire (SPMSQ); GDS; Activities of Daily Living (ADL); Psychosomatic symptoms	evaluation of the extent to which proxy assessment may appropriately substitute for or add to self-assessment regarding somatic complaints, physical activities of daily living, and instrumental activities of daily living in elderly patients diagnosed with depression according to DSM-IV criteria	intraclass correlation coefficients (ICCs) between proxies and patients were all significant for the number of somatic complaints, physical activities of daily living. Proxy-patient responses were consistent for most subtypes of geriatric depression, with the exception of instrumental activities of daily life in patients with recurrent major depressive disorder			L2	
110	Licht-Strunk, E. et al. (2009) The prognosis of undetected depression in older general practice patients. A one year follow-up study. J Affect Disord. 114(1-3):310-5.	2009	Single Study	>55			GDS-15, PRIME-MD, MADRS	two-stepped screening procedure was used to diagnose depression using the GDS-15 and PRIME-MD. @ 6 mo/12 mo. course of depression was measured with the MADRS and PRIME-MD; remission=no longer fulfilling DSM-criteria for depressive disorder and a MADRS-score below 10; prognosis of those not detected by GPs was compared to those that were detected.	73 patients were followed for one year. Among the 49 (67%) patients that were not detected by their GP as being depressed, 33% had remitted after one year. Of the 24 (33%) depressed patients that were detected by their GP, 37% had remitted after one year. Detected patients tended to have more serious depression and more comorbid anxiety than undetected patients; Although GPs identify older depressed patients who are most in need of treatment, the prognosis of patients that go undetected is poor	H2			

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				Age Range	Patient Type					High	Med	Low	H/M/L
111	Ivanova, J., et al. (2011). Physicians' Decisions to Prescribe Antidepressant Therapy in Older Patients with Depression in a USManaged Care Plan. Drugs & Aging 28(1). pp51-62	2011	Single Study	>65				EMR notes from office visits of older patients were screened every 2 weeks between August 2007 and July 2008 for mention of depression; electronic surveys containing questions about depression severity and onset, and antidepressant treatment, were sent to physicians whose EMR notes indicated that they had treated an older patient with depression; physicians were asked about whether they prescribed antidepressants/made changes to antidepressant treatment and were asked about the extent to which they agreed with a set of pre-specified reasons for treatment recommendations; physicians were also allowed to document any other reasons that influenced their decision; patient characteristics and treatment were identified from administrative claims	Physicians responded to the survey and confirmed a depression diagnosis for 396 patients, for whom the average age was 77.1 years and 76.5% were female; most patients had physician-reported depression onset after age 60 years (72.2%) and moderately severe depression (58.8%); 62.9% of patients were already being treated with antidepressants prior to their visit, 28.5% were recommended antidepressant initiation and 8.6% were not prescribed antidepressants. SSRIs were most frequently prescribed; maintaining prior therapy was recommended for 81.1% of treated patients and treatment modification for 18.9%. Almost all physicians (>92%) agreed that experience in use of prescription drugs, safety/tolerability and patient improvement influenced their decision to maintain prior therapy or recommend new therapy; 85.8% of physicians agreed that availability of efficacy data in the elderly influenced their decision to prescribe new therapy. 38.9% of patients who were recommended new therapy initiation did not fill an antidepressant prescription.	H2			
112	Vannoy, S.D. et al. (2007). The Relationship Between Suicide Ideation and Late-Life Depression. American Journal of Geriatric Psychiatry. 15(12): 1024-1033	2007	Single Study	>60			Hopkins Symptoms Checklist	describes the course of suicide ideation (SI) in primary-care based late-life depression treatment, ID predictors of SI, characterize the dynamic relationship between depression and SI, and test the hypothesis that collaborative care decreases the likelihood of reporting SI by decreasing the severity of depressive symptoms	prevalence of SI was 14%; cumulative incidence over 24 mo. was 21%; likelihood that SI emerged after baseline was highly dependent on change in depression; effect of collaborative care on SI was mediated by the treatment's effect on depression	H2			
113	Cheng, S.T. et al. (2010). The Geriatric Depression Scale as a Screening Tool for Depression and Suicide Ideation: A Replication and Extention. American Journal of Geriatric Psychiatry 18(3): 256-265.	2010	Single Study	young old: 60-74 yr ; old old: >75 yr			GDS	examines a) whether the Geriatric Depression Scale (GDS) can predict clinician-rated suicide ideation and depression, using the 15-, 5-, and 4-item versions, b) whether an additional suicide-ideation item would improve the performance, and c) whether the results vary by age groups	for identifying depression, thresholds of 7, 2, and 2 for the 15-, 5-, and 4-item versions were optimal, respectively. In terms of detecting suicide ideation, all measures performed better in old-old than in young-old adults. A single, self-report suicide-ideation item performed better than all multiitem GDS measures	H2			

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114	Dennis, M. et al. (2012). Depression in older people in the general hospital: a systematic review of screening instruments. Age Ageing 41(2): 148-154.	2012	Review	Geriatric		p.c	GDS	reviews relevant literature on rating scales used to detect depression in older people in general hospitals so as to identify the most appropriate tool and cut-off score with optimal performance	and only one instrument—the Geriatric Depression Scale (GDS)—has been studied to an adequate extent in older people in the acute general hospital setting. Best performance for the GDS was for a cut-off of 5/6 for the GDS-15 and 10/11 for the GDS-30	H1			
115	Hustey, F.M. & Smith, M.D. (2007). A depression screen and intervention for older ED patients. American Journal of Emergency Medicine 25(2) : 133-137.	2007	Single Study	>70		ED	Short Form Geriatric Depression Scale	determine the effect of screening examinations for depression on the care of older emergency department (ED) patients and to assess recognition of depression by emergency physicians (EPs).	prevalence of depression was 16.5%; 15 of 44 patients with depression were recognized by EPs as being depressed. Screening results did not alter care in any of the 44 patients with depression. No patients were given referrals or discharge instructions specifically to address depression. Depression is highly prevalent and poorly recognized in older ED patients. Use of the Short-Form Geriatric Depression Scale did not alter care of older patients with depression.	H1			
116	Mitchell, A.J. et al. (2010) Diagnostic validity and added value of the geriatric depression scale for depression in primary care: A meta-analysis of GDS-30 and GDS-15. Journal of Affective Disorders 125(1): 10-17	2010	Meta-Analysis			p.c	GDS-15; GDS-30		GDS 30- sensitivity 77.4% spec-65.4%; efficiency significantly higher for GDS-15; clinical utility of both GDS-30 and 15 was "poor" for case finding; GDS-15 rated "good" for screening; GDS-30 rated "adequate"; when identification using the GDS was compared with general practitioners' ability to diagnose late-life depressions unassisted by tools, at a prevalence of 15% the GDS30 had no added benefit whereas the GDS15 helped identify an additional 4 cases per 100 primary care attendees and also helped rule-out an additional 4 non-cases per 100 attendees; estimate potential gain of the GDS15 in primary care to be 8% over unassisted clinical detection but at a cost of 3–4 minutes of extra time per appointment; recommends GDS 15.		M1		
117	NEED FULL-Licht-Strunk E, Beekman ATF, de Haan M, van Marwijk HWJ. The prognosis of undetected depression in older general practice patients. A one year follow-up study. J Affect Disord 2009 114: 310–15.	2009	Single Study	>55		p.c	GDS-15; PRIME-MD; MADRS	two-stepped screening procedure was used to diagnose depression using the GDS-15 and PRIME-MD; course of depression was measured with the MADRS and PRIME-MD, @ 6/12 mo.; remission was defined by no longer fulfilling DSM-criteria for depressive disorder and MADRS-score below 10; prognosis of those not detected by GPs was compared to those that were detected.	Among the 49 (67%) patients that were not detected by their GP as being depressed, 33% had remitted after one year. Of the 24 (33%) depressed patients that were detected by their GP, 37% had remitted after one year. Detected patients tended to have more serious depression and more comorbid anxiety than undetected patients.	H2			

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118	Bosworth, H.B. et al. The effects of antidepressant medication adherence as well as psychosocial and clinical factors on depression outcome among older adults. International Journal of Geriatric Psychiatry Volume 23, Issue 2, pages 129–134, February 2008	2008	Single Study	older adults				examine the contribution of medication adherence to 12-month depression scores in the context of other psychosocial and clinical predictors of depression in a sample of older adults treated for depression	nearly 28% of patients reported being nonadherent with their antidepressant medication; greater antidepressant medication nonadherence, more medication barriers, poorer subjective social support, less non-family interaction, greater basic/instrumental activities of daily living limitations, poor self-rated health, higher baseline depression scores, and not having diabetes were related to higher 12-month depression scores	H2			

Youth/Adolescents

#	Citation	Year	Type: Topic	Age Range	Patient Type	Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	High	Med	Low	H/M/L
119	Seeley, J.R. et al. (2009). Screening for depression prevention: Identifying adolescent girls at high risk for depression. Journal of Abnormal Psychology, Vol 118(1); 161-170	2009	Single Study	Adolescent	girls	p.c.		investigated a broad array of putative risk factors for the onset of major depression and examined their screening properties in a longitudinal study of 479 adolescent girls.	most potent predictors of major depression onset included subthreshold depressive symptoms, poor school and family functioning, low parental support, bulimic symptoms, and delinquency; . Girls with the combination of elevated depressive symptoms and poor school functioning represented the highest risk group, with a 40% incidence of major depression during the ensuing 4-year period		M2		
120	Dumont, I.P. & Olson, A. L. (2012). Primary Care, Depression, and Anxiety: Exploring Somatic and Emotional Predictors of Mental Health Status in Adolescents. J Am Board Fam Med 25(3); 291-299	2012	Single Study	Adolescents (11-18 yrs)		p.c.	PHQ-2; Generalized Anxiety Disorder scale	personal digital assistant–based questionnaire was administered as part of clinical care to adolescents 11 to 18 years old (N = 2184) attending preventive well-child visits in 13 pediatric and family medicine primary care practices in a northern New England	significant risk factors for positive screen of depression-substance use, stress, anger, and worries about family alcohol and drug use; protective factors-age, having parents who listen, having more assets; Significant predictors of screening positive for anxiety- substance use, stress, anger, trouble sleeping , and the sex of the adolescent	H2			
121	Rutman, M.S. et al. (2008). Brief Screening for Adolescent Depressive Symptomes in the Emergency Department. Academic Emergency Medicine 15(1): 17-22	2008	Single Study	adolescents		ED	two-question screen; single question screen; CESD	78 (37%) of the study participants screened positive for depression on the CESD using a cutoff score of ≥16. The two-question screen had a sensitivity of 78% and specificity of 82% for depressive symptoms compared with the CESD; single-question screen had a sensitivity of 56% and specificity of 93% compared with the CESD	two-question screen is a sensitive and specific initial screen for depressive symptoms in adolescents being seen in the PED. This quick, simple instrument would be ideal for use in the busy PED setting and would allow clinicians to identify adolescents who require more extensive psychiatric evaluation	H2			

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				Age Range	Patient Type					High	Med	Low	H/M/L
122	Subramaniam, G. et al. (2009). Beck Depression Inventory for depression screening in substance-abusing adolescents. Journal of Substance Abuse Treatment. 37(1): 25-31	2009	Single Study	adolescents	with SUD	p.c	BDI; Diagnostic Interview for Children and Adolescents		Results indicate that BDI scores of 12 and higher had the most optimal sensitivity (73%), whereas BDI scores of 17 and higher, the most optimal specificity (75%). Five factors accounted for approximately 56% of the variance. Overall, internal consistency was high, and the BDI adequately discriminated MDD from non-MDD cases. Results support the use of BDI as a screen for MDD with moderate to high psychometric properties in an adolescent SUD sample.	H2			
123	Zuckerbrot, R.A. et al. (2007). Adolescent Depression Screening in Primary Care: Feasibility and Acceptability. Pediatrics 119(1): 101-108.	2007	Single Study	adolescents		p.c		implemented a 2-stage adolescent identification protocol: 1st stage= pen-and-paper screen, 2nd stage= computerized assessment, into a busy primary care pediatric practice; providers tracked number of eligible patients screened at both health maintenance and urgent care visits and provided survey responses regarding the burden that screening placed on the practice and the effect on patient/parent-provider relationships	79% of adolescent patients presenting for health maintenance visits were screened + majority of patients presenting for any type of visit; avg. completion time for paper screen was 4.6 minutes; providers perceived parents and patients as expressing more satisfaction than dissatisfaction with the screening procedures + increased time burden could be handled; all providers wished to continue using the paper screen at the conclusion of the protocol	H1			
124	Williams SB, , E, Eder M, Whitlock E. (2009) Screening for Child and Adolescent Depression in Primary Care Settings: A Systematic Evidence Review for the U.S. Preventive Services Task Force. Evidence Synthesis No. 69. AHRQ Publication No. 09-05130-EF-1. Rockville, Maryland: AHRQ	2009	Review: Screening	child/adolescent (7 to 18 years)		p.c		assess the health effects of routine primary care screening for Major Depressive Disorder (MDD) among children and adolescents ages 7 to 18 years, including evaluating the accuracy of screening tests and the risks and benefits of treatment with psychotherapy and/or SSRIs	no data describing health outcomes among screened and unscreened populations; literature on diagnostic screening test accuracy is small and methodologically limited- indicates that several screening instruments have performed fairly well among adolescents; literature on treatment efficacy of selective serotonin reuptake inhibitors and/or psychotherapy is also small but includes good-quality randomized, controlled trials; available data indicate that SSRI, psychotherapy, and combined treatment are effective in increasing response rates and reducing depressive symptoms; not all SSRIs seem to be efficacious; SSRI treatment was associated with a small absolute increase in risk of suicidality (ie, suicidal ideation, preparatory acts, or attempts) thus should only be considered if judicious clinical monitoring is possible	H1			

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				Age Range	Patient Type					High	Med	Low	H/M/L
125	Horowitz, L.M. et al. (2009) Suicide screening in schools, primary care, and emergency departments. Curr Opin Pediatr. 21(5): 620–627.	2009	Review	children /adolesc ents		schools; p.c.; ED		Valid, brief and easy-to-administer screening tools can be utilized to detect risk of suicide in children and adolescents. Targeted suicide screening in schools, and universal suicide screening in primary care clinics and EDs may be the most effective way to recognize and prevent self-harm. These settings must be equipped to manage youth who screen positive with effective and timely interventions. Most importantly, the impact of suicide screening in various settings needs to be further assessed.			M1		
126	Olson, A.L. et al. (2001) Primary Care Pediatricians' Roles and Perceived Responsibilities in the Identification and Management of Depression in Children and Adolescents. Ambulatory Pediatrics 1(2): 91-98	2001	Single Study	children and adolesc ent		p.c		National cross-sectional survey of randomly selected primary care pediatricians that assessed the management of recalled last case of child or adolescent depression, attitudes, limitations to care from barriers and skills, and willingness to implement new educational or intervention strategies to improve care.	Pediatricians overwhelmingly reported it was their responsibility to recognize depression in both children and adolescents (90%) but were unlikely to feel responsible for treating children or adolescents (26%–27%); those with most of their practice in capitated managed care were less likely to feel responsible for recognizing depression; 46% of pediatricians lacked confidence in their skills to recognize depression in children, and 10%–14% had confidence in their skills in different aspects of treatment; diagnostic, assessment, and management details for their last recalled case of depression in a child or adolescent were provided by 248 of these pediatricians; in addition to referring 78%–79% of the cases to mental health care professionals, 77% of pediatricians provided a wide range of brief interventions; only 19%–20% prescribed medication. Major factors cited that limited their diagnosis or management were time, and training or knowledge of issues; fewer pediatricians noted limitations due to insurer or financial issues or patient issues	H2			
127	Curry, J. et al. (2011). Recovery and Recurrence Following Treatment for Adolescent Major Depression. Arch Gen Psychiatry. 68(3):263-269	2011	Single Study	14-22 years	MDD		Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime Version interview	determine whether adolescents who responded to short-term treatments or who received the most efficacious short-term treatment would have lower recurrence rates, and to identify predictors of recovery and recurrence.	Almost all participants (96.4%) recovered from their index episode of major depressive disorder during the follow-up period; recovery by 2 years was significantly more likely for short-term treatment responders than for partial responders or nonresponders but was not associated with having received the most efficacious short-term treatment (the combination of fluoxetine and cognitive behavioral therapy); of the participants who recovered, 46.6% had a recurrence; recurrence was not predicted by full short-term treatment response or by original treatment; however, full or partial responders were less likely to have a recurrence (42.9%) than were non-responders (67.6%) ; sex predicted recurrence (57.0% among females vs 32.9% among males)	H2			

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128	Emslie, G.J. et al. (2010) Treatment of Resistant Depression in Adolescents (TORDIA) Week 24 Outcomes. Am J Psychiatry 167(7): 782–791.	2010	Single Study	12-18 years	SSRI-resistant depression			randomly assigned to either a medication switch alone or a medication switch plus CBT; At week 12, responders could continue in their assigned treatment arm and nonresponders received open treatment (medication and/or CBT) for 12 more weeks (24 weeks total); Response at 12 weeks was defined as a CGI improvement rating of ≤2 (much or very much improved) and a ≥50% decrease from baseline of the Children's Depression Rating Scale–Revised score. Remission was defined as at least 3 consecutive weeks without clinically significant depressive symptoms, corresponding to a score of 1 on the Adolescent Longitudinal Interval Follow-Up Evaluation. Participants who responded by week 12 were assessed for relapse, indicating at least 2 consecutive weeks with probable or definite depressive disorder (score of 3 or 4 on the Adolescent Longitudinal Interval Follow-Up Evaluation).	38.9% achieved remission by 24 weeks, and initial treatment assignment did not affect rates of remission; likelihood of remission was much higher and time to remission was much faster among those who had already demonstrated clinical response by week 12; remission was also higher among those with lower baseline depression, hopelessness, and self-reported anxiety; at week 12, lower depression, hopelessness, anxiety, suicidal ideation, family conflict, and absence of comorbid dysthymia, anxiety, and drug/alcohol use and impairment also predicted remission; of those who responded by week 12, 19.6% had a relapse of depression by week 24.	H2			

Race/Ethnic Groups

#	Citation	Year	Type: Topic	Age Range	Patient Type	Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	High	Med	Low	H/M/L
129	Miranda, J. et al. (2006). One-year outcomes of a randomized clinical trial treating depression in low-income minority women. Journal of Consulting and Clinical Psychology, Vol 74(1):99-111	2006	Single Study		low income minority women	p.c		examines 1-year depressive symptom and functional outcomes of 267 predominantly low income, young minority women randomly assigned to antidepressant medication, group or individual cognitive- behavioral therapy (CBT), or community referral	76% assigned to medications received 9 or more weeks of guideline-concordant doses of medications; 36% assigned to psychotherapy received 6 or more CBT sessions; medication and CBT were superior to community referral in lowering depressive symptoms across 1-year follow-up; at Month 12, 50.9% assigned to antidepressants, 56.9% assigned to CBT, and 37.1% assigned to community referral were no longer clinically depressed; suggest that both antidepressant medications and CBT result in clinically significant decreases in depression for low-income minority women.		M2		

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130	Stockdale, S.E. et al. (2008). Racial and Ethnic Disparities in Detection and Treatment of Depression and Anxiety Among Psychiatric and Primary Health Care Visits, 1995-2005. Medical Care 46(7): 668-677	2008	Single Study			p.c		Analyses of office-based outpatient visits from the National Ambulatory Medical Care Study from 1995-2005 (n = 96,075); comprehensively examine time trends in outpatient diagnosis and treatment of depression and anxiety among ethnic groups in primary care and psychiatric settings	disparities in counseling/referrals for counseling, antidepressant medications, and any care vastly improved or were eliminated over time in psychiatric visits. Continued disparities in diagnoses, counseling/referrals for counseling, antidepressant medication, and any care are found in primary care visits among African Americans and Hispanics		M2		

Suicide

#	Citation	Year	Type: Topic	Age Range	Patient Type	Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	High	Med	Low	H/M/L
131	Mazza, J., et al. (2011). "An Examination of the Validity of Retrospective Measures of Suicide Attempts in Youth."Journal of Adolescent Health 49. 532-537	2011	Single Study: Suicide Attempts	18-19 years		recruited from school district		strong corroboration between retrospective reports of first suicide attempt and prospective measures of depression, with attempters experiencing significantly more depression than their nonattempting peers; within the attempter group, depression scores during the year of their reported first attempt were significantly higher than the average depression score across previous years	suggest that the reports of older adolescents regarding their suicide attempts are corroborated by their prospective reports of depression in childhood and earlier adolescence; supports that retrospective measures of suicidal behavior, namely suicide attempts, may be a valid method of assessment.	H2			
132	Coffey, E.C. (2007). Building a System of Perfect Depression Care in Behavioral Health. Joint Commission Journal on Quality and Patient Safety 33(4): 193-199	2007	Single Study					In 2001, the Division of Behavioral Health Services of the Henry Ford Health System (Detroit) launched an initiative to completely redesign depression care delivery using the Six Aims and the Ten Rules from the Institute of Medicine report Crossing the Quality Chasm. This "Perfect Depression Care" initiative, whose key goal was the elimination of suicide, entailed performance improvement activities in four domains—partnership with patients, clinical care (planned care model), access, and information flow.	The rate of suicide in the patient population decreased by 75% from ~89 per 100,000 at baseline (2000) to ~22 per 100,000 for the four-year follow-up interval (the average rate for 2002-2005); this sustained reduction in suicide rate suggests that the process improvements implemented as part of the Perfect Depression Care initiative substantially improved the care of persons with depression.		M2		

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133	Vitiellow, B. et al. (2009) Suicidal Events in the Treatment for Adolescents with Depression Study (TADS). J Clin Psychiatry. 70(5): 741–747.	2009	Single Study	12-17 years	MDD	p.c	Columbia Classification Algorithm of Suicidal Assessment; Clinical Global Impression, Suicidal Ideation Questionnaire for Adolescents; Reynolds Adolescent Depression Scale	TADS=a 36-week randomized controlled clinical trial of pharmacological and psychotherapeutic treatments involving 439 youths with major depressive disorder; analyzed TADS database to determine whether suicidal events (attempts and ideation) occurred early in treatment, could be predicted by severity of depression or other clinical characteristics, and were preceded by clinical deterioration or symptoms of increased irritability, akathisia, sleep disruption, or mania.	Most suicidal events occurred in the context of persistent depression and insufficient improvement, without evidence of medication-induced behavioral activation as a precursor. Severity of self-rated suicidal ideation and depressive symptoms predicted emergence of suicidality during treatment. Risk for suicidal events did not decrease after the first month of treatment, suggesting the need for careful clinical monitoring for several months after starting treatment.	H2			
134	Gardner, W. et al. (2010). Screening, Triage, and Referral of Patients Who Report Suicidal Thought During a Primary Care Visit. Pediatrics. 125(5): 945 -952	2010	Single Study	11 to 20 years		p.c		describe a care process that includes a computerized screen, colocated social workers, and a coordinated suicide-prevention team at a specialty mental health unit; performed an observational study of services provided to youths who screened positive for suicidal ideation on a computerized behavioral health screen during visits to pediatric primary care clinics. Data included clinical records, provider notes, and patients' responses to the screen	A total of 209 (14%) youths reported suicidal thought in the previous month. Suicidal thought was more common among girls, younger youths, substance users, depressed youths, youths who carried weapons, and those who had been in fights; 87% reported at least 1 other serious behavioral health problem. Social workers were able to triage 205 (98%) youths. Triage occurred on the visit day for 193 youths (94%). Mental health evaluations were recommended for 152 (74%) of the triaged youths. Of the 109 subjects referred to a clinic with records accessible for review, 71 (65%) received a mental health service within 6 months	H2			

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Trendable/Tracking

PHQ-9

#	Citation	Year	Type: Topic	Age Range	Patient Type	Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	High	Med	Low	H/M/L
1	McMillan, D., Gilbody, S., Richards, D. (2010). Defining successful treatment outcome in depression using the PHQ-9: A comparison of methods. J Affect Disord. 127(1-3):122-9.	2010	Single study	Adults (M = 43.3)	Patients with depression managed in primary care practices		included if they were aged above 18 years, had received a diagnosis of depression by a GP, and scored ≥5 on the Structure Clinical Interview for DSM-IV (SCID) defined major depressive disorder (MDD)	Although the PHQ-9 is widely used in primary care, little is known about its performance in quantifying improvement. The original validation study of the PHQ-9 defined clinically significant change as a post-treatment score of ≤9 combined with improvement of 50%, but it is unclear how this relates to other theoretically informed methods of defining successful outcome. Study compared a range of definitions of clinically significant change (original definition, asymptomatic criterion, reliable and clinically significant change criteria a, b and c) in a clinical trial of a community-level depression intervention.	The standard definition showed good agreement (kappa>0.60) with the other definitions and had moderate, though acceptable, agreement with the diagnostic interview (kappa=0.58). The standard definition corresponded closely to reliable and clinically significant change criterion c, the recommended method of quantifying improvement when clinical and non-clinical distributions overlap. The close agreement between the standard definition and reliable and clinically significant change criterion c provides some support for the standard definition of improvement. However, it may be preferable to use a reliable change index rather than 50% improvement. Remission status, based on the asymptomatic range and a lower PHQ-9 score, may provide a useful additional category of clinical change.	H2			
2	Angstman, K., Rohrer, J.E., Rasmussen, N. (2012). PHQ-9 Response Curve: Rate of Improvement for Depression Treatment With Collaborative Care Management. Journal of Primary Care & Community Health	2012	Single study; pilot study	Adults	patients who were in clinical remission (defined PHQ-9 score <5) at 6 mo. after enrollment in collaborative care management	p.c		Depression Improvement Across Minnesota—Offering a New Direction (DIAMOND), using a collaborative care model; determining the subsequent PHQ-9 data that were obtained, a PHQ-9 response curve was developed for those patients who did improve.	appeared to be rapid response to depression treatment, evident by the first month of treatment and more pronounced in severely depressed patients; in the patients who did respond, there was no any difference in the remission rates over the study period when evaluated by the initial severity of the depression	H2			
3	Löwe, B., Schenkel, I., Carney-Doebbeling, C., Göbel, C. (2006). Responsiveness of the PHQ-9 to Psychopharmacological Depression Treatment. Psychosomatics, 47(1); 62-67	2006	Single study	Adults (M = 50.3)	depressed outpatients		PHQ-9	Authors analyzed data from 1,788 depressed outpatients (66.8% women; mean age, 50.3 years), participating in a prospective, open-label, non-interventional, observational study of sertraline.	On the 0-27-point PHQ-9 scale, the total sample gained 10.3 points at 12 weeks, corresponding to a standardized effect size of -1.85; with reference to two independent criterion standards, the PHQ-9 change scores were considerably greater in therapy responders than in non responders; PHQ-9 was equally responsive in men and women; PHQ-9 qualifies as a practical tool for gauging response to pharmacological treatment in depressed patients.	H2			

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				Age Range	Patient Type					High	Med	Low	H/M/L
4	Duffy FF; Chung H; Trivedi M; Rae DS; Regier DA; Katzelnick DJ (2008). Systematic use of patient-rated depression severity monitoring: is it helpful and feasible in clinicalpsychiatry? Psychiatr Serv. 2008 Oct;59(10):1148-54.	2008	Single study; multi-site study	Adults		s.c.- psychiatric practice	PHQ-9	PHQ-9 for monitoring depression severity was introduced in 19 diverse psychiatric practices; during the one-year course of the project the helpfulness and feasibility of implementation of PHQ-9 in these psychiatric practices were studied.	all remaining 17 practices had adopted PHQ-9 as a routine part of depression care in their practice; on the basis of responses from 17 psychiatrists from those practices, PHQ-9 scores influenced clinical decision making for 93% patient contacts; with the add'l info gained from the PHQ-9 score, one or more treatment changes occurred during 40% of these clinical contacts; most common treatment changes recorded by psychiatrists: changing the dosage of antidepressant medication and adding another medication, starting or increasing psychotherapy, switching or initiating antidepressants; in 3% of the patient contacts, using the PHQ-9 led to additional suicide risk assessment; findings suggest that adopting measurement-based care, such as using the PHQ-9, is achievable, even in practices with limited resources.	H2			
5	Angstman, K., Rohrer, J.E., Rasmussen, N. (2012). PHQ-9 Response Curve: Rate of Improvement for Depression Treatment With Collaborative Care Management. Journal of Primary Care & Community Health	2012	Single study; pilot study	Adults	patients who were in clinical remission (defined PHQ-9 score <5) at 6 mo. after enrollment in collaborative care management		PHQ-9	Depression Improvement Across Minnesota—Offering a New Direction (DIAMOND), using a collaborative care model; determining the subsequent PHQ-9 data that were obtained, a PHQ-9 response curve was developed for those patients who did improve.	appeared to be rapid response to depression treatment, evident by the first month of treatment and more pronounced in severely depressed patients; in the patients who did respond, there was no any difference in the remission rates over the study period when evaluated by the initial severity of the depression	H2			
6	Löwe, B., Schenkel, I., Carney-Doebbeling, C., Göbel, C. (2006). Responsiveness of the PHQ-9 to Psychopharmacological Depression Treatment. Psychosomatics, 47(1); 62-67	2006	Single study	Adults (M = 50.3)	depressed outpatients		PHQ-9	Authors analyzed data from 1,788 depressed outpatients (66.8% women; mean age, 50.3 years), participating in a prospective, open-label, non-interventional, observational study of sertraline.	On the 0-27-point PHQ-9 scale, the total sample gained 10.3 points at 12 weeks, corresponding to a standardized effect size of -1.85; with reference to two independent criterion standards, the PHQ-9 change scores were considerably greater in therapy responders than in non responders; PHQ-9 was equally responsive in men and women; PHQ-9 qualifies as a practical tool for gauging response to pharmacological treatment in depressed patients.	H2			

#	Citation	Year	Type: Topic	Population/Subpopulations Age Range	Population/Subpopulations Patient Type	Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	Weighted Relevance High	Weighted Relevance Med	Weighted Relevance Low	TEP Review H/M/L
7	Duffy FF; Chung H; Trivedi M; Rae DS; Regier DA; Katzelnick DJ (2008). Systematic use of patient-rated depression severity monitoring: is it helpful and feasible in clinicalpsychiatry? Psychiatr Serv. 2008 Oct;59(10):1148-54.	2008	Single study; multi-site study	Adults			PHQ-9	PHQ-9 for monitoring depression severity was introduced in 19 diverse psychiatric practices; during the one-year course of the project the helpfulness and feasibility of implementation of PHQ-9 in these psychiatric practices were studied.	all remaining 17 practices had adopted PHQ-9 as a routine part of depression care in their practice; on the basis of responses from 17 psychiatrists from those practices, PHQ-9 scores influenced clinical decision making for 93% patient contacts; with the add'l info gained from the PHQ-9 score, one or more treatment changes occurred during 40% of these clinical contacts; most common treatment changes recorded by psychiatrists: changing the dosage of antidepressant medication and adding another medication, starting or increasing psychotherapy, switching or initiating antidepressants; in 3% of the patient contacts, using the PHQ-9 led to additional suicide risk assessment; findings suggest that adopting measurement-based care, such as using the PHQ-9, is achievable, even in practices with limited resources.	H2			
8	Bergus GR, Hartz AJ, Noyes R Jr, Ward MM, James PA, Vaughn T, Kelley PL, Sinift SD, Bentler S, Tilman E. (2005). The limited effect of screening for depressive symptoms with the PHQ-9 in rural family practices J Rural Health. 21(4):303-9.	2005	Single study RCT	Adults	depressed patients	Rural fee-for-service primary care offices	PHQ-9	Patients with depressive symptoms were randomized to the control group or the intervention group, where providers were given completed PHQ-9 questionnaires at the baseline visit. The outcome PHQ-9 scores were assessed by telephone at 4, 10, and 24 weeks after the index visit.	The intervention and control groups did not significantly differ with respect to changes in PHQ-9 scores at any of the 3 follow-up times; did not differ with respect to the proportion of subjects who were actively managed with medication or by referral to a mental health specialist: 46% vs 33% (P = .38) for all subjects and 50% vs 50% (P = .96) for subjects with major depression at baseline. Screening for depressive symptoms with the PHQ-9 in 2 rural medical clinics did not significantly increase physicians' active management of depression or lead to improved patient outcomes.	H2			
9	Patten, S. B., Schopflocher, D. (2009). Longitudinal epidemiology of major depression as assessed by the Brief Patient Health Questionnaire (PHQ-9). Compr Psychiatry. 50(1):26-33.	2009	Single study longitudinal	Adults		community	PHQ-9	objective of this study was to describe the epidemiology of major depression using an approach that is less reliant on recall using an assessment scale, the 9-item Brief Patient Health Questionnaire (PHQ-9). The pattern observed is relevant both to understanding major depression epidemiology and to assessing a possible role for the PHQ-9 as a screening instrument. Random digit dialing was used to select a sample of 3304 community residents. Each respondent was assessed with a baseline interview followed by a series of 6 subsequent follow-up interviews 2 weeks apart.	Prevalence was between 2.5% and 3.3% during each interview, consistent with prior reports; incidence of new episodes was surprisingly high, and many of the episodes were brief; high rates of recovery were seen early in follow-up but declined subsequently. Episodes of major depression detected by the PHQ-9 tended to be preceded and followed by elevated levels of depressive symptoms. The long-standing episodes of major depression typical of clinical practice appear to represent a minority of episodes occurring in the community. These results suggest that, in general population screening applications, the PHQ-9 will identify many respondents having brief and perhaps self-limited episodes. Although some episodes are characterized by large increases in symptoms, many respondents appear to move above and below the diagnostic threshold as a result of small changes in their symptom levels. Efforts to develop more effective approaches to screening may benefit from severity-based decision rules and serial measurement strategies.	H2			

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				Age Range	Patient Type					High	Med	Low	H/M/L
10	Ruoff, G. A method that dramatically improves patient adherence to depression treatment. J Fam Pract. 2005 Oct;54(10):846-52.	2005	single study	Adults	Patients tentatively diagnosed with depression		PHQ-9; physicians in the practice then implemented a flow sheet to record pertinent data including comorbidities. A second PHQ-9 survey was completed by patients after at least 4 weeks.	Study focused on increasing patient adherence to a prescribed medical regimen for depression or depressive symptoms. The goal was to demonstrate that a depression flow sheet supported by physician instruction, patient education, and diligent follow-up could enable depressed patients to better adhere to treatment. The study documented reduction in depression severity over time. In addition to depression data, sample characteristics of comorbid disorders were obtained. A total of 103 subjects was analyzed during 2003-2004. Subsequently, patient charts were systematically audited throughout the study period to record adherence, reasons for nonadherence (if any), PHQ-9 survey results, and comorbidities.	Patient adherence improved to a significantly greater extent among patients in our study compared with existing national research data on depression. Use of a flow sheet, coupled with patient education and diligent follow-up, dramatically improved the rate of medication adherence in patients who initially presented with depressive symptoms--with or without comorbidities. A clinician or small group can adapt the PHQ-9 materials with modest effort and positively impact the care of their patients, including adherence to medication regimens.	H2			
11	Malpass, A., Shaw, A., Kessler, D., Sharp, D. (2010). Concordance between PHQ-9 scores and patients' experiences of depression: a mixed methods study. British Journal of General Practice	2010	single study; longitudinal mixed methods	adults		p.c.	PHQ-9 and in-depth interviews were used at the same three time points over a 6-month period during a new or first episode of depression.	explore the extent to which changes in PHQ-9 score over time reflect patients' accounts of their experiences of depression during the same period; and to explore patients' experiences of using the PHQ-9 within primary care consultations.	Patterns in the total PHQ-9 score broadly reflected patients' accounts of the severity of their depression over time. However, the PHQ-9 was inaccurate in its assessment of the presence and intensity of thoughts of self-harm, and missed symptoms that are meaningful to patients. At the diagnostic primary care consultation, patients viewed their score as a 'tangible' measure of their condition. Some patients requested the PHQ-9 subsequently as a way to measure their own treatment response and recovery process. The potential therapeutic value of the PHQ-9 may be dependent upon the GP's willingness to openly discuss the results and what they may mean for the patient.	H2			
12	Simon, G.E., et al. (2011). Randomized Trial of Depression Follow-Up Care by Online Messaging. Journal of General Internal Medicine 26(7): 698-704	2011	Single Study			p.c	Symptom Checklist scale	Evaluate the feasibility, acceptability, and effectiveness of a depression care management program delivered by online messaging through an EMR; Randomized controlled trial comparing usual primary care treatment to primary care supported by online care management	Patients offered the program had higher rates of antidepressant adherence, lower Symptom Checklist depression scores after 5 months, and greater satisfaction with depression treatment	H2			

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				Age Range	Patient Type					High	Med	Low	H/M/L
13	O'Connor EA, Whitlock EP, Gaynes B, Beil TL. Screening for Depression in Adults and Older Adults in Primary Care: An Updated Systematic Review. Evidence Synthesis No. 75. AHRQ Publication No. 10-05143-EF-1. Rockville, Maryland: Agency for Healthcare Research and Quality, December 2009. (full text retrieved)	2009	Review: Screening	adults/older		p.c		developed an analytic framework and five key questions to represent the logical evidence connecting primary care screening to improved health outcomes, including remission from depression	programs that include depression screening and staff that assist the p.c. clinician by providing some direct depression care (such as care support or coordination, case management, or mental health treatment) can increase depression response and remission over usual care; it's unclear whether screening is a necessary component of these programs; depression screening programs that do not provide depression care supports are unlikely to be effective; antidepressants and psychotherapy are effective in treating depression in older adults, with odds of remission about twice those seen in placebo or other control conditions; most current evidence on risk of completed suicide deaths does not demonstrate a clear and uniform effect of second- generation antidepressants compared with placebo; data are consistent with no effect, mild protection or some increased risk; some meta-analyses suggest an increase in suicidal behaviors in young adults (aged 18-29 years) on antidepressants, particularly those with MDD and those taking paroxetine; in contrast, older adults have a reduced risk of suicidal behaviors during antidepressant treatment	H1			
14	Lowe, B. et al. (2004) Monitoring depression treatment outcomes with the patient health questionnaire-9. Med Care. 42(12):1194-201.	2004	Single Study	mean=71 years			PHQ-9; SCL-20; structured diagnostic interviews	Changes in PHQ-9 scores over the course of time were evaluated with respect to change scores of the SCL-20 depression scale as well as 2 independent structured diagnostic interviews for depression during a 6-month period. Test-retest reliability and minimal clinically important difference were assessed in 2 subgroups of patients who completed the PHQ-9 twice exactly 7 days apart.	The PHQ-9 responsiveness as measured by effect size was significantly greater than the SCL-20 at 3 months (-1.3 versus -0.9) and equivalent at 6 months (-1.3 versus -1.2). With respect to structured diagnostic interviews, both the PHQ-9 and the SCL-20 change scores accurately discriminated patients with persistent major depression, partial remission, and full remission. Test-retest reliability of the PHQ-9 was excellent, and its minimal clinically important difference for individual change, estimated as 2 standard errors of measurement, was 5 points on the 0 to 27 point PHQ-9 scale; PHQ-9 has now proven to be a responsive and reliable measure of depression treatment outcomes	H2			

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Trendable/Tracking - Other													
15	Shiner, B., Green R.L., Homa, K., Watts, B.V., Groft, A., Torrey, W.C., Oxman, T.E. (2010). Improving depression care in a psychiatry resident psychopharmacology clinic: measurement, monitoring, feedback and education. Qual Saf Health Care. 2010 Jun;19(3):234-8. Epub 2010 May 10.	2010		Adults	Patients with MDD	s.c.-resident psychopharmacology clinic		A quality improvement program with administrative process changes to improve flow and a 40-week pre/post study to evaluate the effect of education and feedback was conducted. A systematic assessment and reengineered scheduling system were implemented. During the first 20 weeks, baseline data were collected; during the second 20 weeks, feedback to residents and attending psychiatrists about adherence to evidence-based treatment recommendations was added. Better outcomes for major depressive disorder (MDD) are associated with proactive treatment, including timely follow-up, systematic assessment and treatment changes for inadequate improvement. The effectiveness of an intervention to facilitate proactive treatment for MDD in a resident psychopharmacology clinic was studied.	Reengineering our system to improve flow was successful. By linking outcomes collection to completion of billing sheets, outcomes at 90% of visits for MDD throughout the 40-week study was assessed. By centralising our scheduling system, the percentage of active-phase patients with MDD seen for follow-up within 6 weeks was improved from 19% to 59%. In response to feedback, residents did not make significant changes to their overall practice patterns. Patient outcomes did not improve as a result of feedback to residents. Residents did improve their practice patterns for a subset of patients including those without comorbid psychiatric disorders and those whose depressive episodes had lasted <1 year. mproving administrative processes for the treatment of patients with MDD resulted in rapid changes that were associated with improvements in the delivery of evidence-based care. Feedback to residents was more difficult and less successful.	M2			
16	Licht-Strunk, E. et al. (2009) The prognosis of undetected depression in older general practice patients. A one year follow-up study. J Affect Disord. 114(1-3):310-5.	2009	Single Study	>55		p.c	GDS-15, PRIME-MD, MADRS	two-stepped screening procedure was used to diagnose depression using the GDS-15 and PRIME-MD. @ 6 mo/12 mo. course of depression was measured with the MADRS and PRIME-MD; remission=no longer fulfilling DSM-criteria for depressive disorder and a MADRS-score below 10; prognosis of those not detected by GPs was compared to those that were detected.	73 patients were followed for one year. Among the 49 (67%) patients that were not detected by their GP as being depressed, 33% had remitted after one year. Of the 24 (33%) depressed patients that were detected by their GP, 37% had remitted after one year. Detected patients tended to have more serious depression and more comorbid anxiety than undetected patients; Although GPs identify older depressed patients who are most in need of treatment, the prognosis of patients that go undetected is poor	M2			
17	Vuorilehto, M.S. et al (2009). Course and outcome of depressive disorders in primary care: a prospective 18-month study.Psychological Medicine 39 : pp 1697-1707	2009	Single Study			p.c	Prime-MD; SCID-I/P; SCID-II	1111 primary care patients screening for depression with Prime MD; 137 diagnosed with depressive disorders by SCID; these cohorts followed up at 3, 6, 18 mo.;Duration of the index episode and the timing of relapses/recurrences were examined using a life-chart.	of patients with MDD only a quarter achieved and remained in full remission; another quarter persisted in major depressive episode for 18 mo. remaining 49% suffered from residual symptoms or recurrences; time to remission and recurrences were robustly predicted by severity of depression, and less consistently by co-morbid substance-use disorder, chronic medical illness or cluster C personality disorder	H2			
18	Vannoy, S.D. et al. (2007). The Relationship Between Suicide Ideation and Late-Life Depression. American Journal of Geriatric Psychiatry. 15(12): 1024-1033	2007	Single Study	>60		p.c	Hopkins Symptoms Checklist	describes the course of suicide ideation (SI) in primary-care based late-life depression treatment, ID predictors of SI, characterize the dynamic relationship between depression and SI, and test the hypothesis that collaborative care decreases the likelihood of reporting SI by decreasing the severity of depressive symptoms	prevalence of SI was 14%; cumulative incidence over 24 mo. was 21%; likelihood that SI emerged after baseline was highly dependent on change in depression; effect of collaborative care on SI was mediated by the treatment's effect on depression	H2			

| # | Citation | Year | Type: Topic | Population/ Subpopulations | | Study Setting | Screening Tools/ Measures | Summary Notes | Results/Findings | Weighted Relevance | | | TEP Review |
				Age Range	Patient Type					High	Med	Low	H/M/L
19	Christensen H, Griffiths KM, Gulliver A, et al. Models in the delivery of depression care: a systematic review of randomised and controlled intervention trials. BMC Fam Pract 2008; 9: 25	2008	Review			p.c		determine the effective components of depression care in primary care through a systematic examination of both general practice and community based intervention trials.	components which were found to significantly predict improvement: revision of professional roles, provision of a case manager who provided direct feedback and delivered a psychological therapy, an intervention that incorporated patient preferences into care; nurse, psychologist and psychiatrist delivered care were effective, pharmacist delivery not; training directed to general practitioners was significantly less successful than interventions that did not have training as the most important intervention; community interventions were effective	H1			
20	Whooley MA, Stone B, Soghikian K. Randomized trial of case-finding for depression in elderly primary care patients. J Gen Intern Med 2000;15:293-300.	2000	Single Study	>65		p.c	GDS-15	PCPs in the intervention clinics were notified of GDS scores-suggested that participants with severe depressive symptoms (GDS score >/= 11) be referred to the Psychiatry Department and participants with mild to moderate depressive symptoms (GDS score of 6 -10) be evaluated and treated by the primary care physician; Intervention group participants were also offered a series of organized educational group sessions on coping with depression led by a psychiatric nurse; PCPs in the control clinics were not notified of their patients' GDS scores or advised of the availability of the patient education program (usual care). Participants were followed for 2 years.	Comparing participants in the intervention and control groups, there were no significant differences in mean GDS change scores at the 2-year follow-up, nor were there significant differences in mean number of clinic visits or mean number of hospitalizations during the 2-year period; unable to demonstrate any benefit from case-finding for depression during 2 years of follow-up in elderly primary care patients		M2		
21	Ell K, Unutzer J, Aranda M, Gibbs NE, Lee PJ, Xie B. Managing depression in home health care: a randomized clinical trial. Home Health Care Serv Q. 2007;26:81-104.	2007	Single Study	Older Adults		p.c	PHQ-9	total of 311 older adults were randomized to enhanced usual care (EUC) that included routine depression screening and staff training in depression care management for older adults or to the intervention group (INT) that included antidepressants and/or psychotherapy treatment plus EUC; depressive symptoms were assessed at screen, baseline and at 4, 8 and 12 month follow-up using the PHQ-9-50% reduction in PHQ-9 score was considered a substantial treatment response. Health-related quality of life was measured at baseline and each follow-up by the physical and mental health summary scales from the SF-20 with high scores indicating better health Health services utilization- frequency of hospitalization and emergency room visits; number of home care visits was obtained from organizational records.	Implementing a routine screening protocol using the PHQ-9 and depression care management quality improvements is feasible in diverse home health care organizations and results in consistently better (but not statistically significant) depression outcomes in the INT group.	H2			

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				Age Range	Patient Type					High	Med	Low	H/M/L
22	Rush AJ, Wisniewski SR, Warden D, et al. Selecting among second-step antidepressant medication monotherapies: predictive value of clinical, demographic, or first-step treatment features. Arch Gen Psychiatry 2008;65:870 – 80.	2008	Single Study	18-75	non psychotic major depressive disorder		QIDS; Frequency, Intensity and Burden of Side Effects Rating	determine whether sociodemographic, clinical, or first-step treatment features predict remission with or intolerance overall or differentially to any 1 of 3 second-step medications after an unsatisfactory outcome with citalopram hydrobromide; primary outcome of symptom remission was defined as a total score of 7 or less on the 17-item Hamilton Rating Scale for Depression; Remission was defined as a total QIDS-SR16 score of 5 or less at exit from each treatment step. Response (without remission) was defined as an improvement of 50% or more above the baseline QIDS-SR16 score at exit from each treatment step	Remission was more likely: white, employed, cohabiting or married, or privately insured or who had prior intolerance to citalopram or at least a response to citalopram, and no prior suicide attempts. Remission was less likely: concurrent generalized anxiety, obsessive-compulsive, panic, or posttraumatic stress disorders, social phobia, anxious or melancholic features, or more severe depression, concurrent substance use;	H2			
23	Bosworth, H.B. et al. The effects of antidepressant medication adherence as well as psychosocial and clinical factors on depression outcome among older adults. International Journal of Geriatric Psychiatry Volume 23, Issue 2, pages 129–134, February 2008	2008	Single Study	older adults				examine the contribution of medication adherence to 12-month depression scores in the context of other psychosocial and clinical predictors of depression in a sample of older adults treated for depression	nearly 28% of patients reported being nonadherent with their antidepressant medication; greater antidepressant medication nonadherence, more medication barriers, poorer subjective social support, less non-family interaction, greater basic/instrumental activities of daily living limitations, poor self-rated health, higher baseline depression scores, and not having diabetes were related to higher 12-month depression scores	H2			
24	Fournier, J.C. (2009) Prediction of response to medication and cognitive therapy in the treatment of moderate to severe depression. Journal of Consulting and Clinical Psychology, Vol 77(4):775-787	2009	Single Study		moderate-severly depressed			180 depressed outpatients: 60 of whom were randomly assigned to cognitive therapy; 120 were assigned to antidepressant medications. Treatment was provided for 16 weeks	Chronic depression, older age, and lower intelligence each predicted relatively poor response across both treatments; prescriptive variables: marriage, unemployment, and having experienced a greater number of recent life events-each predicted superior response to cognitive therapy relative to antidepressant medications.	H2			

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				Age Range	Patient Type					High	Med	Low	H/M/L
25	Dobson, K.S. (2008) Randomized trial of behavioral activation, cognitive therapy, and antidepressant medication in the prevention of relapse and recurrence in major depression. Journal of Consulting and Clinical Psychology, Vol 76(3): 468-477.	2008	Single Study	adults	major depression			followed treatment responders from a randomized controlled trial of adults with major depression	Patients treated with medication but withdrawn onto pill-placebo had more relapse through 1 year of follow-up compared to patients who received prior behavioral activation, prior cognitive therapy, or continued medication; prior psychotherapy was superior to medication withdrawal in the prevention of recurrence across the 2nd year of follow-up Specific patients previously exposed to cognitive therapy were significantly less likely to relapse following treatment termination than patients withdrawn from medication; differences between behavioral activation and cognitive therapy were small in magnitude and not significantly different across the full 2-year follow-up, and each therapy was at least as efficacious as the continuation of medication.		M2		
26	Cuijpers, B.P. et al. (2010) The contribution of active medication to combined treatments of psychotherapy and pharmacotherapy for adult depression: a meta-analysis. Acta Psychiatrica Scandinavica 121(6): 415-423.	2010	Meta-Analysis	adults				Meta-analysis of randomised controlled trials comparing the combination of psychotherapy and pharmacotherapy with the combination of psychotherapy and placebo.	The standardised mean difference indicating the differences between the combination of psychotherapy and pharmacotherapy and the combination of psychotherapy and placebo was 0.25; Active medication has a small but significant contribution to the overall efficacy of combined treatments.	H1			
27	Imel, Z. E. et al. (2008) A meta-analysis of psychotherapy and medication in unipolar depression and dysthymia. Journal of Affective Disorders 110(3): 197-206	2008	Meta-Analysis						Psychotherapy and medication were not significantly different at post-treatment, however effect sizes were not consistent. Although there was no association between severity and relative efficacy, a small but significant advantage for medications in the treatment of dysthymia did emerge; psychotherapy showed a significant advantage over medication at follow-up and this advantage was positively associated with length of follow-up. Moreover, discontinued acute phase psychotherapy did not differ from continued medication at follow-up	H1			
28	Manber, R. et al. (2008) Faster remission of chronic depression with combined psychotherapy and medication than with each therapy alone. Journal of Consulting and Clinical Psychology 76(3): 459-467	2008	Single Study					compare the time to remission during 12 weeks of treatment of chronic depression following antidepressant medication, psychotherapy, and their combination	the combination of medication and psychotherapy produced full remission from chronic depression more rapidly than either of the single modality treatments, which did not differ from each other; for those receiving the combination treatment, the most likely to succeed were those with low baseline depression and those with high depression scores but low anxiety; both profiles assoc. with at least 40% chance of attaining full remission; model did not identify predictors for those receiving medication or psychotherapy alone, and it did not distinguish between the 2 monotherapies	H2			

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				Age Range	Patient Type					High	Med	Low	H/M/L
29	Emslie, G.J. et al. (2008) Flouxetine Versus Placebo in Preventing Relapse of Major Depression in Children and Adolescents. Focus 6: 348-357.	2008	Single Study	7-18 years	major depressive disorder		relapse/time to relapse- defined as either a score of 40 or higher on the Children's Depression Rating Scale with a history of 2 weeks of clinical deterioration, or clinical deterioration as judged by the clinician		102 were randomly assigned to continuation treatment with fluoxetine (N = 50) or placebo (N = 52); 42.0% in the fluoxetine group relapsed, compared with 69.2% in the placebo group, a significant difference; under the stricter definition of relapse, fewer participants in the fluoxetine group relapsed than in the placebo group; time to relapse was significantly shorter in the placebo group.		M2		
30	Raue, P.J. et al. (2009) Patients' Depression Treatment Preferences and Initiation, Adherence, and Outcome: A Randomized Primary Care Study. Psychiatr Serv 60(3): 337–343	2009	Single Study	midlife/el derly	major depression	p.c		primary care participants meeting DSM-IV criteria for major depression were randomized to receive treatment congruent or incongruent with their primary stated preference. Participants received either 20 weeks of escitalopram as monitored by a care manager, or 12 weekly sessions of interpersonal psychotherapy followed by 2 monthly booster sessions. Adherence to treatment and depression severity were reassessed at weeks 4, 8, 12, and 24.	Participants expressed stronger preferences for psychotherapy than antidepressant medication. Preference strength was a more sensitive measure of outcomes than congruence versus incongruence of preference with the assigned treatment. Across age groups, preference strength was significantly associated with treatment initiation and 12-week adherence rate, but not with depression severity or remission.	H2			
31	Emslie, G.J. et al. (2010) Treatment of Resistant Depression in Adolescents (TORDIA) Week 24 Outcomes. Am J Psychiatry 167(7): 782–791.	2010	Single Study	12-18 years	SSRI- resistant depression			randomly assigned to either a medication switch alone or a medication switch plus CBT; At week 12, responders could continue in their assigned treatment arm and nonresponders received open treatment (medication and/or CBT) for 12 more weeks (24 weeks total); Response at 12 weeks was defined as a CGI improvement rating of ≤2 (much or very much improved) and a ≥50% decrease from baseline of the Children's Depression Rating Scale– Revised score. Remission was defined as at least 3 consecutive weeks without clinically significant depressive symptoms, corresponding to a score of 1 on the Adolescent Longitudinal Interval Follow-Up Evaluation. Participants who responded by week 12 were assessed for relapse, indicating at least 2 consecutive weeks with probable or definite depressive disorder (score of 3 or 4 on the Adolescent Longitudinal Interval Follow-Up Evaluation).	38.9% achieved remission by 24 weeks, and initial treatment assignment did not affect rates of remission; likelihood of remission was much higher and time to remission was much faster among those who had already demonstrated clinical response by week 12; remission was also higher among those with lower baseline depression, hopelessness, and self-reported anxiety; at week 12, lower depression, hopelessness, anxiety, suicidal ideation, family conflict, and absence of comorbid dysthymia, anxiety, and drug/alcohol use and impairment also predicted remission; of those who responded by week 12, 19.6% had a relapse of depression by week 24.		M2		

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32	Rasmussen, K.G. et al. (2009) Is Baseline Medication Resistance Associated With Potential for Relapse After Successful Remission of a Depressive Episode With ECT? Data From the Consortium for Research on Electroconvulsive Therapy (CORE). J Clin Psychiatry 70(2):232–237	2009	Single Study		depression		24-item Hamilton Rating Scale for Depression	assessed whether response to antidepressant medications prior to ECT for a unipolar nonpsychotic depressive episode (DSM-IV) was associated with differential relapse rates after remission with ECT; medication resistance is defined as not having responded to at least 1 adequate trial of an antidepressant medication before ECT;Relapse was assessed with the 24-item Hamilton Rating Scale for Depression	In the first week after acute remission, 9.8% of patients not having at least 1 antidepressant medication trial met relapse criteria, while 31.4% of medication-resistant patients met relapse criteria; in the randomized phase of the study, 34.6% of non– medication-resistant patients relapsed, while 50.0% of medication-resistant patients relapsed,		M2		
33	Krahn, D.D et al. (2006) PRISM-E: Comparison of Integrated Care and Enhanced Specialty Referral Models in Depression Outcomes. Psychiatric Services	2006	Single Study	mean- 73.9		p.c		examined six-month outcomes for older primary care patients with depression who received different models of treatment-integrated care or enhanced specialty referral. Integrated care consisted of mental health services co-located in primary care in collaboration with primary care physicians. Enhanced specialty referral consisted of referral to physically separate, clearly identified mental health or substance abuse clinics	Six-month outcomes were comparable for the two models. For the subgroup with major depression, reduction in symptom severity was superior for those randomly assigned to the enhanced specialty referral group.	H2			
34	Bruce, M.L. et al. (2007) A Randomized Trial of Depression Assessment Intervention in Home Health Care. Journal of the American Geriatrics Society 55(11): 1793–1800	2007	Single Study			home health care	SCID; HDRS-25	examines whether an educational intervention would improve depression assessment and appropriate referral. Secondary analyses tested whether referral led to depression improvement; Nurse training in clinically meaningful use of depression sections of Medicare's mandatory Outcome and Assessment Information Set (OASIS).	Referral rates for patients with (SCID) depressed mood or anhedonia varied according to nurse group: 50.0% full intervention, 18.5% minimal, 21.4% control; rates for nondepressed patients did not differ; in patients with major or minor depression, referral was associated with symptom improvement; change in HDRS was 5 points greater in referred patients than others; concordance between OASIS and SCID did not differ between intervention groups.		M2		
35	Shimizu, K. et al. (2005) Usefulness of the nurse-assisted screening and psychiatric referral program. Cancer 103(9): 1949-1956.	2005	Single Study		cancer patients	p.c	Distress and Impact Thermometer (DIT)	The program consists of two stages; first stage- consecutive patients newly admitted to the Oncology/Hematology Unit are administered the DIT by nurses as a brief screening tool for major depression and adjustment disorders; second stage-the nurses recommend psychiatric referral to patients with scores above the cutoff point; patients' records were reviewed for a 3-month period before the start of the program and during the 3-month period after the start of the program.	Of the patients newly admitted during the program period, 86.0% completed the DIT and results were positive in 49.6%, but only 28.2% accepted psychiatric referral; ultimately, 11.5% of patients newly admitted were diagnosed with major depression or adjustment disorders and treated by psychiatric service, a significantly higher proportion than during the preceding 3-month period, before the program was begun		M2		

#	Citation	Year	Type: Topic	Population/Subpopulations		Study Setting	Screening Tools/Measures	Summary Notes	Results/Findings	Weighted Relevance			TEP Review
				Age Range	Patient Type					High	Med	Low	H/M/L
36	Cassano, P. & Fava, Maurizio (2002) Depression and public health: An overview. Journal of Psychosomatic Research 53(4): 849-857	2002	Review						The diagnosis and treatment of depressive disorders, including major and minor depression have tremendous public health significance. Due to the relatively high prevalence, their management should largely take place in primary care settings, as is the case of other common chronic diseases such as diabetes and hypertension. The availability of safe, well-tolerated, and effective antidepressant treatments facilitates management of depression in primary care settings. Programs aimed at improving patient follow-up, and the coordination of the primary care inter- vention with that of specialists have been found to improve patient outcomes and to be cost effective.	H1			
37	Miranda, J. et al. (2006). One-year outcomes of a randomized clinical trial treating depression in low-income minority women. Journal of Consulting and Clinical Psychology, Vol 74(1):99-111	2006	Single Study		low income minority women			examines 1-year depressive symptom and functional outcomes of 267 predominantly low income, young minority women randomly assigned to antidepressant medication, group or individual cognitive- behavioral therapy (CBT), or community referral	76% assigned to medications received 9 or more weeks of guideline-concordant doses of medications; 36% assigned to psychotherapy received 6 or more CBT sessions; medication and CBT were superior to community referral in lowering depressive symptoms across 1-year follow-up; at Month 12, 50.9% assigned to antidepressants, 56.9% assigned to CBT, and 37.1% assigned to community referral were no longer clinically depressed; suggest that both antidepressant medications and CBT result in clinically significant decreases in depression for low-income minority women.		M2		
38	Parker, G. et al. (2011). Evaluating the first 1000 patients referred to a specialist depression clinic: A case for tertiary referral facilities. Journal of Affective Disorders 131(1–3): 52–58	2011	Single Study			s.c-depression clinic		report on the assessment and outcome of the first 1000 patients referred to a tertiary referraldepression clinic established to assess the utility of diagnostic sub-typing on clinical course of illness; Diagnostic, treatment recommendations, prognostic judgments and 12-week outcome data were examined.	Nearly 40% of those with a primary mood disorder were diagnosed with bipolar disorder, of whom three-quarters received such a diagnosis for the first time; alternative diagnoses or formulations were provided for 68% of the total sample, with the therapeutic paradigm altered for the majority (86%) of patients. Improvement rates were indicative of a higher level of improvement in those diagnosed with bipolar disorder (some 70%) compared to those with unipolar disorders (some 60%); overall, rates of 'full remission' were low, being 2% and up to 12% for bipolar and unipolar patients respectively and perhaps reflecting the tertiary nature of the assessing clinical facility. Baseline clinician predictions were in the order of 60% accuracy in predicting outcome, irrespective of diagnostic grouping.	H2			

#	Citation	Year	Type: Topic	Population/Subpopulations		Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	Weighted Relevance			TEP Review
				Age Range	Patient Type					High	Med	Low	H/M/L
39	Yonkers, K.A. et al. (2009). Depression Screening of Perinatal Women: An Evaluation of the Healthy Start Depression Initiative. Psychiatr Serv. 60(3): 322–328.	2009	Single Study		Pregnant and post partum	p.c	Primary Care Evaluation of Mental Disorders Brief Patient Health Questionnaire; the PTSD Symptom Scale; a five-item modification of the Conflict Tactics Scale; and questions regarding alcohol, illicit substances, and general medical and obstetrical history	To address problems with low rates of detection and treatment of depression of pregnant and postpartum women, many advocate depression screening in obstetrical settings. This study evaluated the Healthy Start depression initiative to assess whether it resulted in diminished rates of depressive symptoms and increased rates of detection, referral, and treatment among pregnant and postpartum women.	The Healthy Start depression initiative changed neither levels of depressive symptoms nor use of depression treatment in unselected populations. The initiative may have decreased the rate of referral for depression in the cohort under study.		M2		
40	Rodgers, M. et al. (2012). The clinical effectiveness and cost-effectiveness of low- intensity psychological interventions for the secondary prevention of relapse after depression: a systematic review. Health Technology Assessment 16(28).	2012	Review	adolescents and adults			outcomes – relapse or recurrence, other outcomes (e.g. social function, quality of life) were recorded where reported; and study design – for clinical effectiveness, randomised, quasi-randomised and non-randomised studies with concurrent control patients.	population – adults or adolescents who had received treatment for depression; intervention – part A, low-intensity interventions, specifically any unsupported psychological/psychosocial interventions or any supported interventions that did not involve highly qualified mental health professionals, and, part B, interventions carried out by qualified mental health professionals that involved < 6 hours of contact per patient; comparator – any, including no treatment, placebo, psychological or pharmacological interventions;	For the clinical effectiveness review, 17 studies met the part B inclusion criteria - these studies were clinically and methodologically diverse, and reported differing degrees of efficacy for the evaluated interventions. One randomised controlled trial (RCT), which evaluated a collaborative care- type programme, was potentially relevant to part A; this study reported no difference between patients receiving the intervention and those receiving usual care in terms of relapse of depression over 12 months. For the cost-effectiveness review, two studies met the criteria for part B. One of these was an economic evaluation of the RCT above, which was potentially relevant to part A. This evaluation found that the intervention may be a cost-effective use of resources when compared with usual care; however, it was unclear how valid these estimates were for the NHS; There is inadequate evidence to determine the clinical effectiveness or cost- effectiveness of low-intensity interventions for the prevention of relapse or recurrence of depression. A scoping review of brief high-intensity therapies indicates that some approaches have shown promise in some studies, but findings have not been consistent.	H1			

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41	Sung, M. et al. ( ).Objective Physiological and Behavioral Measures for Identifying and Tracking Depression State in Clinically Depressed Patients.		Single Study			s.c- in-ward treatme nt center	HAM-D; CGI; QLS; Emotional Rating Surveys; body motion; skin conductance (on the fingers and back of the arm); heart rate; heat flux/temperatur e; and voice activity	demonstrate use of non-invasive physiology to diagnose, monitor, and trend clinically significant depression state over long periods of time; monitor the long-term continuous physiology and behavior of clinically depressed patients throughout their stay at an in-ward treatment center as they undergo ECT	show how non- invasive physiological measures are correlated to depression state and can be used to track trends in depression state through the course of treatment.			L2	
42	Fava, M. et al. (2008). Difference in Treatment Outcome in Outpatients With Anxious Versus Nonanxious Depression: A STAR*D Report. Am J Psychiatry 165:342-351	2008	Single Study	18-75	outpatients with MDD	p.c		received citalopram in Level 1 of STAR*D. Level 2- those whodid not remit with or tolerate citalopram were randomly assigned either to switch to sustained-release bupropion, sertraline or extended-release venlafaxine (N=250) or to continue taking citalopram ; anxious depression if their anxiety/somatization factor score from HAM-D was 7 or higher at baseline. Rates of remission and response as well as times to remission and response were compared between patients with anxious depression and those with nonanxious depression; Remission was defined as an exit HAM-D score ≤7 or last observed QIDS-SR score ≤5	In Level 1 of STAR*D, 53.2% of patients had anxious depression. Remission was significantly less likely and took longer to occur in these patients than in those with nonanxious depression. Ratings of side effect frequency, intensity, and burden, as well as the number of serious adverse events, were significantly greater in the anxious depression group. Similarly, in Level 2, patients with anxious depression fared significantly worse in both the switching and augmentation options; Anxious depression is associated with poorer acute outcomes than nonanxious depression following antidepressant treatment.		M2		
43	Helreich, I. et al. (2011). The inventory of depressive symptomatology is more sensitive to changes in depressive symptomatology than the hamilton depression rating scale in patients with minor depression. European Psychiatry 26(Supp-1): 634	2011	Single Study	>18			IDS-C; HAM-D	investigates whether the IDS is more sensitive in detecting changes in depression symptoms in patients with mild major, minor or subsyndromal depression; investigated sensitivity to change for both scales (1) from assessment-to-assessment, (2) in relation to depression severity level, and (3) in relation to DSM-IV depression criterion symptoms	The IDS-C(28) was more sensitive in detecting changes in depression symptomatology over the treatment course as well as for different severity levels, especially in patients with a low depression severity. It assesses the DSM-IV criteria more thoroughly, is better able to track the change of cognitive symptoms and to identify residual symptoms. Both scales are well able to assess depressive symptomatology. However, the IDS-C(28) surpasses the HAMD(17) in detecting small changes especially in the core symptoms of depression.	H2			

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44	Gerhards. S. A.H. et al. (2011) The Responsiveness of Quality of Life Utilities to Change in Depression: A Comparison of Instruments (SF-6D, EQ-5D, and DFD). Value in Health 14(5)732–739	2011	Single Study				SF-6D, EQ-5D, and DFD	evaluate the change in utility derived from different instruments in depression, including the Short Form 6D (SF-6D), the Euroqol based on the UK (EQ-5DUK), the Euroqol based on the Dutch tariff (EQ-5DNL), and utilities derived from Beck Depression Inventory Second Edition (BDI-II) using the Depression-Free-Day method; evaluated the responsiveness, the minimally important difference, and the agreement in utility change derived from the different instruments.	The SF-6D, EQ-5DUK, and EQ-5DNL were responsive. The minimally important difference values are in line with previous studies, about 0.3. The Depression-Free-Day method nearly always resulted in positive utility changes, even for subgroups that had no change or deterioration in health status or depression. There was poor agreement between utility changes of the SF-6D, EQ-5D (either EQ-5DUK or EQ-5DNL), and DFDu.	H2			
45	Douglas, K.M. et al. (2011). Neuropsychological changes and treatment response in severe depression. The British Journal of Psychiatry. 198: 115-122	2011	Single Study					examine early and later changes in neuropsychological functioning and facial emotion processing as potential markers of treatment response in major depression; 68 newly admitted in-patients with a primary diagnosis of major depression and 50 healthy controls completed an assessment, including mood ratings, neuropsychological measures and facial emotion processing measures at three time points (baseline, 10–14 days and 6 weeks)	Pervasive neuropsychological impairment was evident at baseline in patients with depression compared with healthy controls. During 6 weeks of treatment, only simple reaction time, verbal working memory and the recognition of angry facial expressions showed differential change in those whose depression responded to treatment compared with treatment non-responders in the depression group. None of the measures showed a significant difference between treatment responders and non-responders at 10–14 days.		M2		
46	Houle, J. et al (2010). Inequities in Medical Follow-Up for Depression: A Population-Based Study in Montreal. Psychiatric Services 61(3)	2010	Single Study	mean-43.6	depression	p.c/s.c-psychiatrist		used administrative data to measure the quality of medical follow-up within the first three months of diagnosis. Indicators of adequate follow-up care included having at least one outpatient visit to a family physician or a psychiatrist, the first follow-up visit within 30 days of diagnosis, more than half of follow-up visits with the same physician, and at least three follow-up visits	Among sample, 90% had at least one visit with a physician (family practitioner or psychiatrist) within the first three months of diagnosis, 59% benefited from continuity with their usual provider, 50% received a prompt follow-up visit, and 48% had optimal contacts with practitioners. Medical follow-up was less adequate for older patients, male patients, patients living in very deprived neighborhoods, and patients with high morbidity levels. The quality of medical follow-up was better when both a family physician and a psychiatrist were involved; results suggest that universal access facilitates optimal practitioner contacts during the acute treatment phase of depression. However, despite universal access, the findings revealed that some inequities persist.	H2			

#	Citation	Year	Type: Topic	Population/Subpopulations		Study Setting	Screening Tools/Measures	Summary Notes	Results/Findings	Weighted Relevance			TEP Review
				Age Range	Patient Type					High	Med	Low	H/M/L
47	Curry, J. et al. (2011). Recovery and Recurrence Following Treatment for Adolescent Major Depression. Arch Gen Psychiatry. 68(3):263-269	2011	Single Study	14-22 years	MDD		Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime Version interview	determine whether adolescents who responded to short-term treatments or who received the most efficacious short-term treatment would have lower recurrence rates, and to identify predictors of recovery and recurrence.	Almost all participants (96.4%) recovered from their index episode of major depressive disorder during the follow-up period; recovery by 2 years was significantly more likely for short-term treatment responders than for partial responders or nonresponders but was not associated with having received the most efficacious short-term treatment (the combination of fluoxetine and cognitive behavioral therapy); of the participants who recovered, 46.6% had a recurrence; recurrence was not predicted by full short-term treatment response or by original treatment; however, full or partial responders were less likely to have a recurrence (42.9%) than were non-responders (67.6%) ; sex predicted recurrence (57.0% among females vs 32.9% among males)		M2		
48	Rush AJ, Wisniewski SR, Warden D, et al. Selecting among second-step antidepressant medication monotherapies: predictive value of clinical, demographic, or first-step treatment features. Arch Gen Psychiatry 2008;65:870 – 80.	2008	Single Study	18-75	non psychotic major depressive disorder		QIDS; Frequency, Intensity and Burden of Side Effects Rating	determine whether sociodemographic, clinical, or first-step treatment features predict remission with or intolerance overall or differentially to any 1 of 3 second-step medications after an unsatisfactory outcome with citalopram hydrobromide; primary outcome of symptom remission was defined as a total score of 7 or less on the 17-item Hamilton Rating Scale for Depression; Remission was defined as a total QIDS-SR16 score of 5 or less at exit from each treatment step. Response (without remission) was defined as an improvement of 50% or more above the baseline QIDS-SR16 score at exit from each treatment step	Remission was more likely: white, employed, cohabiting or married, or privately insured or who had prior intolerance to citalopram or at least a response to citalopram, and no prior suicide attempts. Remission was less likely: concurrent generalized anxiety, obsessive-compulsive, panic, or posttraumatic stress disorders, social phobia, anxious or melancholic features, or more severe depression, concurrent substance use;	H2			
49	Phillips, J.L. et al. (2012) Brain-volume increase with sustained remission in patients with treatment-resistant unipolar depression.J Clin Psychiatry. 73(5):625-31.	2012	Single Study			p.c	Montgomery-Asberg Depression Rating Scale	Baseline MRI scans were obtained from 28 outpatients with treatment-resistant MDD (diagnosed according to DSM-IV criteria); 27 patients underwent follow-up scanning after either 6 months of sustained remission (Montgomery-Asberg Depression Rating Scale score ≤ 12) or 12 months of failure to remit. Longitudinal whole-brain and voxel-based gray- and white-matter volume changes were estimated.	12 patients achieved sustained 6-month remission; in contrast to nonremitters, remitted patients demonstrated a significant mean increase in whole-brain volume during follow-up; within-subject voxel-based morphometry analyses identified increased gray-matter volume in remitters in the right orbitofrontal cortex and the right inferior temporal gyrus; Nonremitters showed decreased white-matter volume in the left anterior limb of the internal capsule		M2		

Physician vs. Psychiatrist

#	Citation	Year	Type: Topic	Population/ Subpopulations		Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	Weighted Relevance			TEP Review
				Age Range	Patient Type					High	Med	Low	H/M/L
50	Houle, J. et al (2010). Inequities in Medical Follow-Up for Depression: A Population-Based Study in Montreal. Psychiatric Services 61(3)	2010	Single Study			p.c/s.c- psychiat rist		used administrative data to measure the quality of medical follow-up within the first three months of diagnosis. Indicators of adequate follow-up care included having at least one outpatient visit to a family physician or a psychiatrist, the first follow-up visit within 30 days of diagnosis, more than half of follow-up visits with the same physician, and at least three follow-up visits	Among sample, 90% had at least one visit with a physician (family practitioner or psychiatrist) within the first three months of diagnosis, 59% benefited from continuity with their usual provider, 50% received a prompt follow-up visit, and 48% had optimal contacts with practitioners. Medical follow-up was less adequate for older patients, male patients, patients living in very deprived neighborhoods, and patients with high morbidity levels. The quality of medical follow-up was better when both a family physician and a psychiatrist were involved; results suggest that universal access facilitates optimal practitioner contacts during the acute treatment phase of depression. However, despite universal access, the findings revealed that some inequities persist.	H2			
51	Mitchell, A.J. et al. (2009). Clinical diagnosis of depression in primary care: a meta-analysis. The Lancet 374(9690): 609-619.	2009	Meta-Analysis			p.c			GPs correctly identified depression in 47.3% of cases and recorded depression in their notes in 33.6%; 19 studies assessed both rule-in and rule-out accuracy-the weighted sensitivity was 50.1% and specificity was 81.3%; At a rate of 21.9%, the positive predictive value was 42·0% and the negative predictive value was 85.8%; this finding suggests that for every 100 unselected cases seen in p.c., there are more false positives (n=15) than either missed (n=10) or identified cases (n=10); accuracy was improved with prospective examination over an extended period (3—12 months) rather than relying on a one-off assessment or case-note records.; GPs can rule out depression in most people who are not depressed; however, the modest prevalence of depression in primary care means that misidentifications outnumber missed cases. Diagnosis could be improved by re-assessment of individuals who might have depression.	H1			
52	Gaynes BN, Rush AJ, Trivedi MH et al. Major depression symptoms in primary care and psychiatric care settings: a cross- sectional analysis. Ann Fam Med. 2007;5:126-134.	2007	Single Study		MDD	p.c/s.c- specialt y care	HAM-D; Inventory of Depressive Symptomology	Participants met broadly inclusive eligibility criteria requiring a DSM-IV, diagnosis of MDD and a minimum depressive symptom score on the 17-item Hamilton Rating Scale for Depression. The main outcome measures were the 30-item Inventory of Depressive Symptomatology – Clinician Rated and the Psychiatric Diagnostic Screening Questionnaire.	Primary care and specialty care participants had identical levels of moderately severe depression and identical distributions of depressive severity scores. Both primary care and specialty care participants showed considerable suicide risk, with specialty care participants even more likely to report prior suicide attempts. Core depressive symptoms or concurrent psychiatric disorders were not substantially different between settings. One half of participants in each setting had an anxiety disorder with social phobia being the most common	H2			

#	Citation	Year	Type: Topic	Population/ Subpopulations		Study Setting	Screening Tools/ Measures	Summary Notes	Results/Findings	Weighted Relevance			TEP Review
				Age Range	Patient Type					High	Med	Low	H/M/L
53	Cepoiu M, McCusker J, Cole MG, Sewitch M, Belzile E, Ciampi A. Recognition of depression by non-psychiatric physicians—a systematic literature review and meta-analysis. J Gen Intern Med 2008; 23: 25–36.	2008	Meta-Analysis			p.c		describe and quantitatively summarize the existing data on recognition of depression by non-psychiatric physicians.	The accuracy of depression recognition by non-psychiatrist physicians is low. Further research should focus on developing standardized methods of documenting non-psychiatric physicians' recognition of depression.	H1			
54	Christensen H, Griffiths KM, Gulliver A, et al. Models in the delivery of depression care: a systematic review of randomised and controlled intervention trials. BMC Fam Pract 2008; 9: 25	2008	Review			p.c		determine the effective components of depression care in primary care through a systematic examination of both general practice and community based intervention trials.	components which were found to significantly predict improvement: revision of professional roles, provision of a case manager who provided direct feedback and delivered a psychological therapy, an intervention that incorporated patient preferences into care; nurse, psychologist and psychiatrist delivered care were effective, pharmacist delivery not; training directed to general practitioners was significantly less successful than interventions that did not have training as the most important intervention; community interventions were effective	H1			
55	Richardson, L. & Puskar, K. (2012). Screening Assessment for Anxiety and Depression in Primary Care. The Journal for Nurse Practitioners 8(6): 475-481	2012	Review			p.c			incorporating effective and efficient screening methods for anxiety and depression will be key to identifying those at risk. Nurse practitioners (NPs) play a significant role in optimizing successful practical strategies for screening and further assessment of both anxiety and depression. In many cases, collaboration with or referral to a psychiatric NP or clinical nurse specialist is ideal.	H1			
56	Hustey, F.M. & Smith, M.D. (2007). A depression screen and intervention for older ED patients. American Journal of Emergency Medicine 25(2) : 133-137.	2007	Single Study	>70		ED	Short Form Geriatric Depression Scale	determine the effect of screening examinations for depression on the care of older emergency department (ED) patients and to assess recognition of depression by emergency physicians (EPs).	prevalence of depression was 16.5%; 15 of 44 patients with depression were recognized by EPs as being depressed. Screening results did not alter care in any of the 44 patients with depression. No patients were given referrals or discharge instructions specifically to address depression. Depression is highly prevalent and poorly recognized in older ED patients. Use of the Short-Form Geriatric Depression Scale did not alter care of older patients with depression.	H2			

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				Age Range	Patient Type					High	Med	Low	H/M/L
57	Whooley MA, Stone B, Soghikian K. Randomized trial of case-finding for depression in elderly primary care patients. J Gen Intern Med 2000;15:293-300.	2000	Single Study	>65		p.c	GDS-15	PCPs in the intervention clinics were notified of GDS scores-suggested that participants with severe depressive symptoms (GDS score >/= 11) be referred to the Psychiatry Department and participants with mild to moderate depressive symptoms (GDS score of 6 -10) be evaluated and treated by the primary care physician; Intervention group participants were also offered a series of organized educational group sessions on coping with depression led by a psychiatric nurse; PCPs in the control clinics were not notified of their patients' GDS scores or advised of the availability of the patient education program (usual care). Participants were followed for 2 years.	Comparing participants in the intervention and control groups, there were no significant differences in mean GDS change scores at the 2-year follow-up, nor were there significant differences in mean number of clinic visits or mean number of hospitalizations during the 2-year period; unable to demonstrate any benefit from case-finding for depression during 2 years of follow-up in elderly primary care patients	H2			
58	Mitchell, AJ. & Kakkadasam, V. (2010). Ability of nurses to identify depression in primary care, secondary care and nursing homes-A meta-analysis of routine clinical accuracy. Int J Nurs Stud. 24	2010	Meta-Analysis			nursing homes			Across all 22 studies involving 7061 individuals, community nurses correctly identified 26.3% of people with depression, they also correctly identified 94.8% of the non-depressed; Nurses working in hospital settings correctly identified 43.1% of people with depression and 79.6% of the non-depressed. Those working in nursing homes correctly identified 45.8% of people with depression and 80.0% of the non-depressed; Nurses have considerable difficulty accurately identifying depression but are probably at least as accurate as medical staff.		M1		
59	Jackson, J.L. et al. (2007) Outcome and impact of mental disorders in primary care at 5 years. Psychosom Med 69(3): 270-6	2007	Single Study			p.c	PRIME-MD; MOS-SF6; PHQ-15	A prospective cohort of adults presenting to a primary care walk-in clinic with a physical symptom were evaluated at baseline and at 5 years for mental disorders with the PRIME-MD). Additional measures: Medical Outcomes Study SF-6, Patient Health Questionnaire-15, unmet expectations, and symptom outcome. Patients self-reported whether their disorder was diagnosed or treated at the 5-year follow-up.	at baseline, 29% of patients had a mental disorder (major depression: 8.4%, minor depression 10.4%, panic disorder 1.4%, generalized anxiety disorder 2%, anxiety not otherwise specified (NOS) 11.4%); of these patients, 26% had more than one mental disorder. Over 5 years, 33% were recognized. Threshold disorders were more likely to be recognized (major depression 56%, panic 100%, generalized anxiety disorder 88%) than subthreshold disorders (minor depression 20%, anxiety NOS 25%). Correlates of recognition included having a threshold or multiple disorders; recognition was associated with greater likelihood of persistence. Most patients with subthreshold disorders at baseline had no disorder at 5 years and few progressed to threshold disorders (minor to major depression 12%, anxiety NOS to generalized anxiety or panic 8%).	H2			
60	NICE - Management of Depression in Primary and Secondary Care (full guideline and quick reference guide)	2004 / 2005	Guideline						recommends stepped care model: Step 1 - Recognition in p.c. and general setting; Step 2- Treatment of mild depression in p.c.; Step 3- Treatment of moderate to severe depression in p.c.; Step 4- Treatment of depression by mental health specialists; Step 5- inpatient treatment for depression	H1			

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				Age Range	Patient Type					High	Med	Low	H/M/L
61	Krahn, D.D et al. (2006) PRISM-E: Comparison of Integrated Care and Enhanced Specialty Referral Models in Depression Outcomes. Psychiatric Services	2006	Single Study	mean-73.9				examined six-month outcomes for older primary care patients with depression who received different models of treatment-integrated care or enhanced specialty referral. Integrated care consisted of mental health services co-located in primary care in collaboration with primary care physicians. Enhanced specialty referral consisted of referral to physically separate, clearly identified mental health or substance abuse clinics	Six-month outcomes were comparable for the two models. For the subgroup with major depression, reduction in symptom severity was superior for those randomly assigned to the enhanced specialty referral group.	H2			
62	Blashki, G. (2003) Referral of patients with depression to specialist psychological care from general practice. Aust Fam Physician. 32(12):998-1002.	2003	Guideline			p.c		provides a practical four step approach to assist general practitioners to refer patients with depression from general practice to specialist psychological care. Referral represents one important step within a broader shared care framework. The four step approach provides information and resources to help GPs with assessment, patient education, choice of mental health specialist(s) and long term monitoring	full article missing	H1			
63	Mataix-Cols, D. (2006). Effect of referral source on outcome with cognitive-behavior therapy self-help. Comprehensive Psychiatry 47: 241–245	2006	Single Study					examines the effect of referral source on clinical outcome with computer-aided cognitive-behavior therapy (CCBT) for anxiety and depressive disorders; clinic that offered CCBT with brief backup from a clinician were classified into general practitioner (GP) referrals (34%), mental health (MH) professional referrals (42%), and self-referrals (SR, 24%), and compared on sociodemographic and clinical features and treatment outcome	At intake, referrals from all 3 sources had similar sociodemographic features and problem duration, but GP referrals had less comorbidity, whereas MH professional referrals were being treated for their problem more often and were less motivated to change than were SR; among treatment completers, SRs had the least and MH professional referrals had the most impaired work/social adjustment; each referral group improved on generic and syndrome-specific measures; however, GP referrals improved the most and MH professional referrals the least. The 3 groups received similar therapist support and were equally satisfied after treatment. We conclude that GP referrals had the best outcome with CCBT for anxiety/depressive disorders.	H1			

<u>**Summary Comments: Depression Domain**</u>

<u>Electronic Health/Medical Records + Screening and follow up</u>
- The majority of studies recommend using EMR for various reasons in the primary care setting- screening, assessment, treatment;
  - It has been show to be successful in screening for depression in the general populations (communities, waiting rooms, patients who arrive for any type of visit); EMR data was also used to generate patient specific recommendations and reminders for the physicians.
  - Generally, EMR databases are comparative to a primary physician's assessment by a written questionnaire.   *[Anand et al. 2012; Klein et al. 2006; Trinh et al. 2011]*
- Limitations
  - When EMR was used in studies to electronically inform PCPs with the diagnosis and expose them to treatment recommendations there was little differential impact on patients' clinical outcomes
  - Significant concerns about use of EMR for patients with chronic conditions— EMRs are associated with significantly lowered odds that depressed patients with three or more chronic conditions received treatment- no association with those with two or fewer chronic conditions.   *[Rollman et al. 2002; Harman et al. 2012]*

<u>Patient's self report/ Patient Recorded Outcomes (PRO)</u>
- Literature of patient reported outcomes generally supports the use of PROs and finds them to be reliable, precise, and comparable to demonstrated reliability, precision, and construct validity based upon their correlation with established instruments (ex. Center for Epidemiological Studies- Depression Scale; Mood and Anxiety Symptom Questionnaire).
  - Providing PRO information to health care professionals in daily clinical practice has a positive effect on at least one aspect of the process outcomes (patient-provider communication, diagnosis, treatment, etc.) BUT less of an effect of the information on the patient's health status- suggesting that PROs should not be used for tracking
- Literature has also started to focus on the use of computer or internet administration of PRO in comparison to paper and pencil forms.
  - there is extensive evidence that paper vs. computer-administered PROs are equivalent.
                    [Cella 2010; Valderas 2008; Coons et al. 2009, Gwaltney et al. 2008]

<u>PHQ-9</u>
- Overall the literature supports using PHQ-9 for screening, diagnosis, and follow-up. Many studies show PHQ-9 being effective in screening both general populations as well as high risk populations (post partum, cancer patients, diabetes, etc.).
  - Despite effectiveness in screening, often a positive screen of PHQ-9 does not lead to a referral to a mental health specialist or proper treatment (psychotherapy or medication)
- Mixed body of literature in terms of using PHQ-9 to measure the severity of depression- there is a caution in recommending:

- a longitudinal study to look at the pattern of depression in a large sample of community residents found the incidence of new depressive episodes was high yet brief-suggesting general population screening applications, the PHQ-9 will identify many respondents having brief and perhaps self-limited episodes; many respondents appear to move above and below the diagnostic threshold as a result of small changes in their symptom levels.
- PHQ-9 overlooked presence/intensity of thoughts of self harm, and missed symptoms meaningful to patients

[Bergus et al. 2005; Patten & Schopflocher 2009 ; Malpass et al. 2010]

Trendable/Tracking
- The majority of the studies used PHQ-9 as their sole tracking measure or at least as one of the measures.
- Adherence to medication was often measured
- Response/remission was defined differently across studies- (ex. a minimum score or reduction in a patients' scores on PHQ-9, MADRS, QIDS-SR, CGI, HAM-D)

Physician vs. Psychiatrist
- The research leans toward the view that primary care physicians are capable of screening for depression. Generally, threshold disorders (major depression, panic disorder) are more likely to be recognized than sub-threshold disorders (anxiety NOS) in a primary care setting.
  - Studies show that up to 50% of depressed patients go unrecognized in p.c. settings; yet literature shows that there are more false positives than missed or identified cases in primary care settings.
  - one study found general practitioner referrals improved the most on generic and syndrome specific measures compared to mental health professionals referrals and self referrals.
  - Screening in geriatric populations seem to be extremely difficult; under diagnosis is prevalent in primary care and thus there is an increase in training nurses and staff at nursing homes to screen *[Culpepper 2011; Mitchell, 2009; Mataix-Cois 2006; Richardson 2012]*

Positive Screen→ Referral/Treatment
- Generally, studies conclude that referral or treatment after a positive screen does not occur as much as it should (often 50% or fewer patients are receiving practices consistent with guidelines or accessing treatment)
  - Pediatricians cited time, and training/knowledge of issues as factors that limited their diagnosis or management; in one study, referrals were less likely among physicians with greater self-confidence in their ability to manage antidepressant therapy and were more likely if physicians had personal life experience with psychotherapy for depression, or usually had access to mental health consultation within 2 weeks
  - One study concerning oncology consultations found that 42% of patients who discussed depression and anxiety with their doctors were not offered any support.

- o general practitioners do not decide on drug treatment or referral to depression on the basis of the questionnaires scores alone; age and physical illness taken into account
- o even with referral to treatment, patients will decline or not adhere to their medication (up to 28%)   *[Kravitz, 2006; Kendrick 2009; Warrington 2011; Bosworth 2008]*

INSTRUMENT	FORMAT	AGE	TIME TO ASSESS	# OF ITEMS	ADVANTAGE	DISADVANTAGE	RCI	SENSITIVITY SPECIFICITY	INTERNAL CONSISTENCY (Cronbach α)
Beck Depression Inventory-II (BDI-II)	Self-report	13-80	5-10 min	21	Brief assessment/ scoring time, no training needed, psychometrically sound, could be used longitudinally; available in other languages	Proprietary with fees	10 pts.	89% / 82%	.81-.86
Center for Epidemiological Studies-Depression Scale (CES-D)	Self report	14+	5-10 min.	20	Brief assessment/scoring time; no training needed; could be used longitudinally	May not accurately discriminate between depressed and non depressed patients; psychometric properties not as strong in adolescent populations	≥ 8.6	78.80% / 77.1%	.84-.90
Quick Inventory of Depressive Symptomology (QIDS-SR-16)	Self-report	18-75	5-10 min.	16	Psychometrically sound in adult populations; one study confirms good psychometric properties in ages 7-13	More research needed in child/adolescent population; training may be needed for clinician interview		79% / 81%	.86
The Hamilton Depression Rating Scale 17(HAM-D-17)	interview		15-20 min.	17	Good psychometric properties; sensitive to change, training needed	high item difficulty, lack of representative norms	50% score reduction		$\geq .70$
Patient Health Questionnaire-9 (PHQ-9)	Self-report	13+	1-3min	9	Short, can be administered in person, telephone, or self-administered, well validated/documented in variety of populations, sensitivity to change, no training needed	May not accurately assess for thoughts of self-harm	5 pts	.77-81 / .91-.94	$\geq .86$
Clinically Useful Depression Outcome Scale (CUDOS)	Self-report	18+	<3 min		Brief assessment/scoring time; psychometrically sound; follows the DSM-IV algorithmic approach	research needed in child/adolescent population		83.3% / 72.1%	.90

C.5 - Depression Instrument Psychometric Table
ONC SAMSHA TEP Results for Behavioral Health Domain – Depression

September 26, 2012

Journal / Publication Title (citation)	Type / Topic	Target Population /Subpopulations		Study Setting	Study Design	Findings / Implications for Primary Care Settings	Quality of Evidence *(see table at end)
		Age Range	Risk Group				
PHQ-9							
1 Ell K, Unutzer J, Aranda M, Gibbs NE, Lee PJ, Xie B. Managing depression in home health care: a randomized clinical trial. Home Health Care Serv Q. 2007;26:81-104.	Single Study: implementation of an algorithm-driven depression care model in which diverse home health care organizational systems	Older Adults (M=78.1)	General	Home Health Care	311 older adults were randomized to enhanced usual care (EUC) that included routine depression screening and staff training in depression care management for older adults or to the intervention group (INT) that included antidepressant and/or psychotherapy treatment plus EUC; Criteria for CSD = PHQ-9 $\geq$ 8; substantial treatment response = 50% reduction; Remission = N/A; Timeframe: start at receipt of a referral and physician's order for specified home care treatment and services by the patient's primary care physician- Baseline, 4, 8, 12 mo.	Implementing a routine screening protocol using the PHQ-9 and depression care management quality improvements is feasible in diverse home health care organizations and results in consistently better (but not statistically significant) depression outcomes in the INT group.	Mod; RCT/ Limited Target
2 Trangle M, et al. (2012). Institute for Clinical Systems Improvement. [ICSI] Major Depression in Adults in Primary Care. http://bit.ly/Depr0512. Updated May 2012.	Lit Review/Guideline: addresses detection/diagnosis, patient/family education materials, specialist involvement, outcomes measurement, systems to coordinate care/ ensure continuity/keep clinicians informed	Adults	MDD	Primary Care	Lit Review/Guideline; Criteria for CSD = Clinical Interview: incl. DSM-IV TR criteria, history of present illness, rule out illness that can cause depression; Response = 50% or greater reduction in symptoms (as measured on a standardized rating scale- such as PHQ-9); partial response = 25-50% reduction in symptoms; Remission = PHQ-9 < 5; Timeframe= N/A	Clinical Highlights: A reasonable way to evaluate whether a system is successfully functioning in its diagnosis, treatment plan, and follow-up of major depression is to consider: - how well the diagnosis is documented - how well the treatment team engages and educates patients/families - how reliably ongoing patient contacts occur and how response/remission to treatment are documented - how well the outcomes are measured and documented	Mod:Guideline

	Journal / Publication Title (citation)	Type / Topic	Target Population /Subpopulations		Study Setting	Study Design	Findings / Implications for Primary Care Settings	Quality of Evidence *(see table at end)
			Age Range	Risk Group				
3	Kroenke, K. & Spitzer, R.L. (2002) The PHQ-9: A New Depression Diagnostic and Severity Measure. Psychiatric Annals 32:9.	Review: PHQ-9 as Diagnositc Measure and Severity Measure	N/A	MDD	Primary Care	Review; Criteria for CSD = PHQ-9 $\geq$ 10; Clinically significant response= decline in PHQ-9 score of at least 5 points; Partial response = PHQ-9 < 10; Remission = PHQ-9 < 5; Timeframe= 3 mo.after initiation of treatment	Brevity coupled with its construct and criterion validity makes the PHQ-9 an attractive, dual-purpose instrument for making diagnoses and assessing severity of depressive disorders, particularly in the busy setting of clinical practice. If our preliminary data on sensitivity to change of the PHQ-9 is substantiated in several large ongoing clinical trials, it could also prove to be a useful measure for monitoring outcomes of depression therapy. Finally, alternative versions may occasionally be considered for use in certain types of research (PHQ-8) or when just a few screening items are desired (PHQ-2).	Mod: Review

	Journal / Publication Title (citation)	Type / Topic	Target Population /Subpopulations		Study Setting	Study Design	Findings / Implications for Primary Care Settings	Quality of Evidence *(see table at end)
			Age Range	Risk Group				
4	DeJesus, R. S. et al. (2007) A System-Based Approach to Depression Management in Primary Care Using the Patient Health Questionnaire-. Mayo Clin Proc. ;82(11):1395-14029	Review: provides a system-based approach to depression management using the Patient Health Questionnaire-9 to guide clinicians in the identification and treatment of depression and its follow-up care.	N/A	MDD	Primary Care	Review; Criteria for CSD = PHQ-9 > 10; Adequate/complete treatment response = decrease of 5 points or more from baseline Partial response = decrease of 2-4 points from baseline Poor or no response = decrease of 1 point or no change/increase in score; Remission = PHQ-9 < 5; Timeframe= 4-6 weeks after initiation of treatment	Using the PHQ-9 to assess treatment response, clinicians can classify and manage patients as follows: complete response/remission, in which case therapy should be continued for at least 6 months; partial response, in which case a higher dose of the same agent should be used or a second agent or psychotherapy added; and poor/no response, in which case a switch should be made to a different category of drug or to psychotherapy. The PHQ-9 is a validated and reliable tool that the primary care physician can use to diagnose and treat depression and to monitor progress. A score of 10 or higher is used as the cutoff for a clinical diagnosis of depression and as an indication of the need to begin therapy. However, the PHQ-9 is intended only as a tool to facilitate clinical decision making and does not replace sound medical judgment. The goal of the initial treatment phase is to achieve remission either by pharmacotherapy, psychotherapy, or a combination of modalities.	Mod: Review

	Journal / Publication Title (citation)	Type / Topic	Target Population /Subpopulations		Study Setting	Study Design	Findings / Implications for Primary Care Settings	Quality of Evidence *(see table at end)
			Age Range	Risk Group				
5	Lowe, B. et al. (2004) Monitoring depression treatment outcomes with the patient health questionnaire-9. Med Care. 42(12):1194-201.	Single Study: investigated responsiveness to treatment, reproducibility, minimal clinically important difference of the PHQ-9	mean=71 years	MDD	Primary Care	434 subjects(mean=71 years) from a multisite treatment trial of late life depression; changes in PHQ-9 scores over course of time evaluated with respect to change scores of SCI-20 and 2 indep structured diagnostic interviews; Criteria for CSD= DSM-IV criteria; MCID (minimal clinically important difference) = 5 points; persistent major depression(>5 depression symptoms), partial remission (1-4 depression symptoms), full remission (0 depression symptoms); Timeframe= 3, 6 mo.after recruited to study	The PHQ-9 responsiveness as measured by effect size was significantly greater than the SCL-20 at 3 months (-1.3 versus -0.9) and equivalent at 6 months (-1.3 versus -1.2). With respect to structured diagnostic interviews, both the PHQ-9 and the SCL-20 change scores accurately discriminated patients with persistent major depression, partial remission, and full remission. Test-retest reliability of the PHQ-9 was excellent, and its minimal clinically important difference for individual change, estimated as 2 standard errors of measurement, was 5 points on the 0 to 27 point PHQ-9 scale. Well-validated as a diagnostic measure, the PHQ-9 has now proven to be a responsive and reliable measure of depression treatment outcomes. Its responsiveness to treatment coupled with its brevity makes the PHQ-9 an attractive tool for gauging response to treatment in individual care as well as in clinical research.	Mod: RCT/ Limited Target
6	Katzelnick DJ, Duffy FF, Chung H, et al. (2011). Depression outcomes in psychiatric clinical practice: using a self-rated measure of depression severity. Psychiatr Serv; 62:929.	Single Study: determined rates of response and remission among patients being treated by psychiatrists for depression on the basis of PHQ-9 scores and identified factors associated with response and remission.	Adults	MDD	Psychiatric Practice	n=1763 outpatients with a diagnosis of depressive disorder, n=960 PHQ-9 scores $\geq$ 10; response and remission analysis; Criteria for CSD = PHQ-9 > 10; Response = PHQ-9 score <10 OR 50% improvement in the PHQ-9 score; Remission = PHQ-9 < 5; Timeframe= 3, 6 mo. after recruited to study	Between 31% and 41% of patients were responders by 12 weeks, and 13% were in remission. By 24 weeks, between 36% and 45% of patients were responders, and 18% were in remission. Results reflect the rather modest frequency of follow-up visits even among patients presenting with PHQ-9 scores ≥10. Notably, longer time to first follow-up visit predicted poorer outcomes. Documentation by clinicians of self- management by the patient was a very positive predictor of outcome.	High: Large Sample

	Journal / Publication Title (citation)	Type / Topic	Target Population /Subpopulations		Study Setting	Study Design	Findings / Implications for Primary Care Settings	Quality of Evidence *(see table at end)
			Age Range	Risk Group				
7	Shiner, B., Green R.L., Homa, K., Watts, B.V., Groft, A., Torrey, W.C., Oxman, T.E. (2010). Improving depression care in a psychiatry resident psychopharmacology clinic: measurement, monitoring, feedback and education. Qual Saf Health Care. 2010 Jun;19(3):234-8. Epub 2010 May 10.	Single Study: effectiveness of an intervention to facilitate proactive treatment for MDD in a resident psychopharmacology clinic	Adults	Patients with MDD	Resident Psychopharmacology Clinic	A quality improvement program with administrative process changes to improve flow and a 40-week pre/post study to evaluate the effect of education and feedback was conducted. A systematic assessment and reengineered scheduling system were implemented; Criteria for CSD- relied on a weekly chart review, rather than a formal diagnostic assessment; MCID (minimal clinically important difference) = 5 points; Remission = PHQ-9 < 5; Timeframe= 20 wks pre intervention, 20 wks post intervention	Reengineering the system to improve flow was successful. By linking outcomes collection to completion of billing sheets, outcomes at 90% of visits for MDD throughout the 40-week study were assessed. By centralising our scheduling system, the percentage of active-phase patients with MDD seen for follow-up within 6 weeks was improved from 19% to 59%. In response to feedback, residents did not make significant changes to their overall practice patterns. Patient outcomes did not improve as a result of feedback to residents. Residents did improve their practice patterns for a subset of patients including those without comorbid psychiatric disorders and those whose depressive episodes had lasted <1 year; Improving administrative processes for the treatment of patients with MDD resulted in rapid changes that were associated with improvements in the delivery of evidence-based care. Feedback to residents was more difficult and less successful.	Mod: Relied on resident's diagnosis rather than structured interview

	Journal / Publication Title (citation)	Type / Topic	Target Population /Subpopulations		Study Setting	Study Design	Findings / Implications for Primary Care Settings	Quality of Evidence *(see table at end)
			Age Range	Risk Group				
8	Angstman, K.B. & Williams, M.D. (2012). PHQ-9 Response Curve: Rate of Improvement for Depression Treatment With Collaborative Care Management. Journal of Primary Care & Community Health 3 (3): 115-158	Single study: examine those patients who were in clinical remission at 6 months after enrollment in collaborative care management (CCM)	Adults	patients who were in clinical remission at 6 mo. after enrollment in collaborative care management	Primary Care	n=359 patients who were in clinical remission at 6 months (180 days) after enrollment in collaborative care management. By determining the subsequent PHQ-9 data that were obtained, a PHQ-9 response curve was developed for those patients who did improve; Criteria for CSD = PHQ-9 > 10; Response=N/A; Remission = PHQ-9 < 5; Timeframe= 6 mo.after enrollment in CCM	In a patient with moderately severe depression after 1 month of treatment, it would not be unrealistic to expect the follow-up PHQ-9 to be 40% of the initial PHQ-9 and by 2 months to be 30% of index. If these goals are not met, the data would suggest that the clinician should evaluate the patient to determine what further treatment modalities may be used. The study demonstrated that there appeared to be rapid response to depression treatment, evident by the first month of treatment and more pronounced in severely depressed patients. Also, it demonstrated that in the patients who did respond, there was no difference in the remission rates over the study period when evaluated by the initial severity of the depression.	High
9	Bergus GR, Hartz AJ, Noyes R Jr, Ward MM, James PA, Vaughn T, Kelley PL, Sinift SD, Bentler S, Tilman E. (2005). The limited effect of screening for depressive symptoms with the PHQ-9 in rural family practices J Rural Health. 21(4):303-9.	Single study: investigated whether screening for depressive symptoms improves outcomes for depressed patients seen in rural fee-for-service primary care offices	Adults	depressed patients	Primary Care	n=59 subjects randomized to intervention group (providers of intervention subjects were asked to review the completed PHQ-9) and control group; Criteria for CSD = PHQ-9 > 10; Response= 50% decline in their PHQ-9 scores; Remission = PHQ-9 < 5; Timeframe=4, 10, 24 wks since diagnosed with depression	Patients were randomized to the control (medical providers not informed of the PHQ-9 results) or intervention group (providers asked to review the completed PHQ-9). The intervention and control groups did not significantly differ with respect to changes in PHQ-9 scores at any of the 3 follow-up times. They did not differ with respect to the proportion of subjects who were actively managed with medication or by referral to a mental health specialist: 46% vs 33% (P = .38) for all subjects and 50% vs 50% (P = .96) for subjects with major depression at baseline. Screening for depressive symptoms with the PHQ-9 in 2 rural medical clinics did not significantly increase physicians' active management of depression or lead to improved patient outcomes.	Mod: RCT/Small Sample Size

	Journal / Publication Title (citation)	Type / Topic	Target Population /Subpopulations		Study Setting	Study Design	Findings / Implications for Primary Care Settings	Quality of Evidence *(see table at end)
			Age Range	Risk Group				
10	John D. & Catherine T. Macarthur Foundation's Initiative on Depression & Primary Care (2009). Depression Management Tool Kit.	Guideline: Step by Step Guide- on Recognition/Diagnosis, Patient Education, Treatment, Monitoring	N/A	MDD	Primary Care	Guideline: Step by Step Guide- on Recognition/Diagnosis, Patient Education, Treatment, Monitoring; Criteria for CSD = PHQ-9 > 10; Response= Drop of 5+ points from baseline; Remission = PHQ-9 < 5; Timeframe= 4, 6 wks after initiation of treatment	Overview of Depression Care Process= Step 1: Recognition & Diagnosis-The clinician suspects that a patient may be depressed. Some patients self-identify, but many others present with somatic complaints. Most clinicians rely on their general impression to recognize these patients; some clinicians use screening tools. Formal assessment follows to confirm diagnosis. Step II: Patient Education-f diagnosis is confirmed, the clinician and staff educate the patient about depression and the care process, engage the patient and determine patient preference for treatment. Step III: Treatment- The clinician and patient select a appropriate management approach for treating depression. Step IV: Monitoring- The clinician and support staff monitor compliance with the plan and improvements in symptoms/function and modify treatment as appropriate to strive for remission.	Mod:Guideline

	Journal / Publication Title (citation)	Type / Topic	Target Population /Subpopulations		Study Setting	Study Design	Findings / Implications for Primary Care Settings	Quality of Evidence *(see table at end)
			Age Range	Risk Group				
11	Lowe, B. et al. (2006). Responsiveness of the PHQ-9 to Psychopharmacologic al Depression Treatment. Psychosomatics 47(1): 62-7	Single study: investigated whether response to therapy was adequately reflected by the PHQ-9 in subgroups (sex, age, different daignostic depression status, comorbidity);	Adults (M=50.3)	depressed outpatients	Primary Care	n=1788 patients (mean-50.3 years) prospective, open-label, non-interventional, observational study of sertraline; Criteria for CSD = PHQ-9 > 10;treatment responder- rating on 4 point PHQ functional impairment scale (0-3) was enhanced by 2 or more points; MCID- 5 points; Remission= N/A; TImeframe= 3 mo.after intitiation of treatment	Both with respect to a clinician-based and a self-reported criterion standard, the PHQ-9 difference scores were considerably greater in groups of therapy responders than in groups of nonresponders. The PHQ-9 change scores did not only reflect the relatively large differences between treatment responders and nonresponders, but also smaller differences, such as different outcomes of patients with and without comorbid physical illness. The PHQ-9 is equally responsive in samples of men and women and patient samples of different ages, respectively. Correspondingly, the PHQ-9 showed responsiveness in samples with different depression diagnostic status. Findings indicate that the PHQ-9 reflects change in depression severity differentially for patients responding to therapy and those who do not. The PHQ-9 qualifies as a practical tool for gauging response to pharmacological treatment in depressed patients.	Mod: non-RCT/large sample
12	Blais, M.A. et al. (2011). A Guide to Applying Rating Scales in Clinical Psychiatry. Psychiatric Times	Educationsl Info: provide information that will enable participants to understand the various rating scales available to psychiatrists as well as how and why to use these scales to assess symptoms and improve patient care.				Reviews definition of psychometric principles (reliability, validity, sensitivity, specificity, sensitivity to change, reliable change index); PHQ-9-RCI score is 5 points (suggesting meaningful change) and total scores of less than 5 indicate symptom remission	Strongly recommends that participants (psychiatrists, psychologists, primary care physicians, physician assistants, nurse practritions, and other health care professionals) integrate rating scales into routine clinical proactice, which will make evaluations more standardized and help manage treatment.	Mod: Guideline

	Journal / Publication Title (citation)	Type / Topic	Target Population /Subpopulations		Study Setting	Study Design	Findings / Implications for Primary Care Settings	Quality of Evidence *(see table at end)
			Age Range	Risk Group				
13	McMillan, D., Gilbody, S., Richards, D. (2010). Defining successful treatment outcome in depression using the PHQ-9: A comparison of methods. J Affect Disord. 127(1-3):122-9.	Single study: compared a range of definitions of clinically significant change (original definition, asymptomatic criterion, reliable and clinically significant change criteria a, b and c) in a clinical trial of a community-level depression intervention	Adults (M = 43.3)	depressed patients	Primary Care	n=114 patients; patients randomised to case management or usual care conditions; Criteria for MDD=scored ≥ 5 on SCID; Timeline=2 mo. post randomisation; asymptomatic range=≤ 4; original validation study of the PHQ-9 defined clinically significant change as a post-treatment score of ≤9 + improvement of 50%; significant change criteria= A) non-clinical range as scores more than 2 SDs standard deviations below the mean of a clinical sample, B) the non-clinical range as a score within two standard deviations of the non-clinical mean and C) the score at which the probability of coming from a clinical and non-clinical distribution is equal	The standard definition showed good agreement (kappa > 60) with the other definitions and had moderate, though acceptable, agreement with the diagnostic interview (kappa=0.58). The standard definition corresponded closely to reliable and clinically significant change criterion c, the recommended method of quantifying improvement when clinical and non-clinical distributions overlap; The close agreement between the standard definition and reliable and clinically significant change criterion c provides some support for the standard definition of improvement. However, it may be preferable to use a reliable change index rather than 50% improvement. Remission status, based on the asymptomatic range and a lower PHQ-9 score, may provide a useful additional category of clinical change.	High

Quality of Evidence	Criteria
High	Randomized controlled trials (RCTs), multiple target populations, meta-analysis
Moderate	Non-RCT's with control for confounders, limited target population
Low	Non-RCT's with no comparison groups, small sample size, imprecise estimate of effect

Acronyms

AHRQ	Agency for Healthcare Research and Quality
ASPE	Assistant Secretary for Planning and Evaluation
BH	Behavioral Health
BHeM	Behavioral Health eMeasures
BP	Blood Pressure
CDC	Centers for Disease Control and Prevention
CEO	Chief Executive Officer
CQAIMH	Center for Quality Assessment and Improvement in Mental Health
CQM	Clinical Quality Measure
CMS	Centers for Medicare and Medicaid Services
CSD	Clinically Significant Depression
CGI	Clinical Global Impressions Scale
DHHS	Department of Health and Human Services
FACP	Fellow, American College of Physicians
FASAM	Fellow, American Society of Addiction Medicine
EDC	Education Development Center
EHR	Electronic Health Record
HAM-D	The Hamilton Depression Rating Scale
HITECH	Health Information Technology for Economic and Clinical Health Act of 2009
HITPC	Health Information Technology Policy Committee
HRSA	Health Resources and Services Administration
IHS	Indian Health Service
ICSI	Institute for Clinical Systems Improvement
IT	Information Technology
MADRS	Montgomery-Asberg Depression Scale
MD	Medical Doctor
MPH	Masters in Public Health
MSW	Masters in Social Work

NIAAA	National Institute on Alcohol Abuse and Alcoholism
NICHD	National Institute of Child Health and Health Development
NIDA	National Institute on Drug Abuse
NIH	National Institutes of Health
NIMH	National Institute of Mental Health
NINR	National Institute of Nursing Research
NIST	National Institute of Standards and Technology
NCBDDD	National Center on Birth Defects and Developmental Disabilities
NORC	National Organization for Research at the University of Chicago
NQMC	National Quality Measures Clearinghouse
NPRM	Notice of Proposed Rulemaking
NQF	National Quality Forum
ONC	Office of the National Coordinator for Health Information Technology
ONDIEH	Office of Noncommunicable Disease, Injury and Environmental Health
PhD	Philosophaie Doctorate
PHQ	Patient Health Questionnaire
PRO	Patient Recorded Outcome
PROMIS	Patient Reported Outcomes Measurement Information System
PsyD	Doctor of Psychology
QIDS-SR	Quick Inventory of Depressive Symptomology – Self-Report
RHI	Resolution Health, Inc.
SAMHSA	Substance Abuse and Mental Health Services Administration
ScD	Doctor of Science
TEP	Technical Evaluation Panel
TJC	The Joint Commission
US	United States of America
VA	Department of Veterans Affairs
VHA	Veterans Health Administration
VP	Vice President