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 – *Suicide*

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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 for future developmentof BH related CQMs

This report presents results of the BH CQM Project Phase 2 (TEP Phase 1) effort for the Suicide 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 MU Stage 2 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 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 developing BH CQMs for the Suicide domain.

Table 1. Behavioral Health Domain: *Suicide*

Source	Result
Domain specific NQF endorsed measures	Two measure prioritized from Phase 1 of the BH CQM project
Meaningful Use Stage 1-Final Rule	No measures related to this clinical domain
Meaningful Use Stage 2-Final Rule	Two measures related to this clinical domain
NQF-endorsed measures – future consideration	One measure related to this clinical domain
Non-endorsed Measures (Agency for Healthcare Research and Quality [AHRQ] Database)	12 measure related to this clinical domain were reviewed by TEP, none were recommended
Clinical Evidence	60 articles covering eight broad areas:* • Suicide Risk—Physician Practice/Training • Suicide Risk Assessment—All Categories • Depression and Suicide Risk Assessment • Comorbidities and Suicide Risk Assessment • Substance Use and Suicide Risk Assessment • Elderly and Suicide Risk Assessment • U.S. Military/Veterans—Primary Care Suicide Risk Assessment • Youth and Suicide Risk Assessment

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

Recommendations

Based on the TEP findings, the Suicide domain subgroup recommends:

- Adoption of the following NQF Endorsed Measures in future stages of MU:
  - NQF 0104—Major Depressive Disorder: Suicide Risk Assessment
  - NQF 1365—Child and Adolescent Major Depressive Disorder: Suicide Risk Assessment
- Future development of CQMs:
  - Additional measures for targeted screening and treatment in high risk populations seen in primary care including: patients with a history of substance abuse disorders, mood disorders, previous suicide attempts and patients with certain types of physical illness associated with increased risk of suicide (e.g., history of myocardial infarction, neurological disease, or chronic pain conditions)

The following report provides details concerning the ONC-SAMHSA BH TEP activities and recommendations for the Suicide 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 Technical Expert Panel (TEP) for the Suicide 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 MU 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 in 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 behavioral health diagnoses. Many standardized assessment tools exist for any given behavioral health 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 behavioral health 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: *Suicide*

3.1 Environmental Scan Results

MITRE engaged The Cloudburst Group as the subcontractor for the clinical literature review process based on 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 domain 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 Suicide Literature Scan

- Suicide risk assessment
- Primary care screening for suicide
- Depression screening and suicide
- Depression, suicide screening in adolescents
- Screening, suicide elderly
- Screening substance use, suicide
- Suicide and brief intervention
- PHQ-9 and suicide assessment, primary care
- PHQ-2 for adolescents
- Columbia Youth Screen

Below is a high-level summary of the 51 total results divided under 8 broad categories. Search look-back was 5 years, with a focus on current, 2011/2012 findings. 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
Suicide Risk (Physician Practice/Training)	• Suicide risk assessment tied to physician training and capacity to implement effective suicide risk assessments and treatment follow-up • Critical barriers: lack of physician training, limited time in Primary Care (PC) setting, limited ability to administer screeners, difficulty coordinating follow up with BH • Screenings must be brief, valid, easy to score and initiate dialogue
Suicide Risk Assessment	• 2004 United States Preventive Services Task Force (USPSTF) evidence was insufficient to recommend for or against routine screening by primary care clinicians to detect suicide risk • No “gold standard” tool for suicide risk assessment • Suicide Assessment Five-step Evaluation and Triage(SAFE-T) risk assessment may be most effective screening process for primary care setting • See Appendix C.3 – for an overview of existing assessment tools
Depression and Suicide Risk Assessment	• PHQ-9 is often used but not definitive since it only captures suicidal ideation and not suicide risk • Major depression is associated with increased risk of suicide but many other mental disorders are associated with an even higher risk
Comorbidities and Suicide Risk Assessment	• Key focus on mentally ill patients and increased risk for suicide • Depression is a critical moderator of suicide risk in patients with chronic physical illness

Topics / Search Focus Area	Summary of Findings
Substance Use and Suicide Risk Assessment	• High correlation between Bipolar Disorder and Alcohol Use Disorder and suicide risk call for screening focus on this population • Need for increased attention to address suicide risk in adolescents who have co-occurring disorders, going beyond screening for suicide risk; linking adolescents with treatment resources regardless of severity
Elderly and Suicide Risk Assessment	• Several tools can accurately identify those at risk • Need for increased physician training
Military/Veterans – PC Suicide Risk Assessment	• Half of all service members who died by suicide visited a medical clinic 30 days prior
Youth and Suicide Risk Assessment	• PHQ-2 found to high sensitivity for identifying adolescents with major depression • Studies suggest that if depression found in adolescents, the Columbia Suicidal Severity Rating Scale is effective for identification of suicide risk • Increase focus needed on risk across ethnical and cultural differences • Use of computerized screenings in primary care waiting rooms show effective screening outcomes

3.2 Measure Recommendations

Table 4 provides an overview of current suicide related measures included in the MU program. Table 5 includes an overview of the ONC-SAMHSA BH TEP's recommendations related to developing a BH CQM for the Suicide domain.

Table 4. Behavioral Health Domain: Suicide - CURRENT POLICY

Source	Result
Meaningful Use Stage 1—Final Rule	No measures related to this clinical domain
Meaningful Use Stage 2-Final Rule	Two measures related to this clinical domain • NQF 0104—Major Depressive Disorder: Suicide Risk Assessment • NQF 1365—Child and Adolescent Major Depressive Disorder: Suicide Risk Assessment

Table 5. Behavioral Health Domain: Suicide - FUTURE RECOMMENDATIONS

Source	Recommendations
NQF-endorsed measures - for future consideration	One measure related to this clinical domain • NQF 0111—Bipolar Disorder: Appraisal for Risk of Suicide
Non-endorsed Measures (Agency for Healthcare Research and Quality [AHRQ] Database)	No measures related to this clinical domain
Clinical Evidence	Recommendations for additional research focused on: • Development of standards for capturing suicide related outcomes in EHRs • Additional research on implementation of suicide risk assessments and intervention in acute care settings • Additional research focused on adolescent and pre-adolescent suicide risk and assessments

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

Clinical Quality Measures

The TEP members continued to express strong support for screening of both young and adult patients for suicidal risk (NQF measures 0104 and 1365). In addition, the TEP prioritized its recommendation for inclusion of NQF 0111 in future stages of the MU program. Bipolar disorder is associated with significantly increased risk of suicide; risk of completed suicides is greater for this population than for patients with unipolar depression. Twenty-five to 55% percent of bipolar patients attempt suicide with a 6-20% mortality rate, highlighting the need for consistent suicide risk assessment.

Targeting High Risk Group

One specific goal for the TEP was to document recommendations for additional CQMs that should be developed to support the healthcare system in effectively addressing this domain. The TEP noted that major depression is associated with a lower completed suicide rate than many other mental disorders and suggested that this should not be the only diagnosis targeted for risk assessment. Discussion and clinical evidence scans supported expanding NQF measures 0104 and 0111, either through retooling or development of an additional measure, to appraise for suicide risk in a broader array of patients with increased suicide risk including patients with severe mental illnesses (schizophrenia, bipolar, major depression, personality disorders, post-traumatic stress disorder (PTSD), etc), alcohol or drug use disorder, and patients with a history of previous suicide attempts.

A history of attempts is one of the strongest predictors of future attempts. However, there may currently be difficulty in identifying patients with previous attempts. The Centers for Disease Control and Prevention (CDC), U.S. Department of Veteran Affairs (VA), and U.S. Department of Defense (DoD) have developed and support use of the Self-Directed Violence Classification System (http://www.cdc.gov/violenceprevention/pdf/Self-Directed-Violence-a.pdf) as the standard of capturing suicide attempts. Efforts should be made to promote the collection of standardized data in EHRs. In addition, screening questions such as – "Have you ever, in your whole life, tried to kill yourself or made a suicide attempt?" may be incorporated into current depression screeners used to bridge this knowledge gap.

In addition, the TEP recommended the development of additional measures targeting high risk populations including:

- Patients (adult and adolescent) with a **history** of mood disorder or substance abuse disorder
- Patients with chronic or certain types of physical illness (e.g., history of myocardial infarction, neurological disease, chronic pain conditions, etc.)

Intervention Following Identification of Suicide Risk

The TEP also noted that a suicide risk assessment must always be paired with appropriate follow up with patients identified as being at risk. As intervention is a critical element of quality improvement it was recommended that retooled or newly developed measures include follow up intervention or referral to treatment. Structural CQMs may also be useful for ensuring that appropriate policies and procedures are in place to support follow up with patients in a timely and effective manner.

Suicide "Risk" Versus Ideation

TEP discussions also focused on the importance of measuring suicide "risk" versus suicidal ideation in the development or modification of CQMs going forward. Significant conversation focused on Question 9 of the Patient Health Questionnaire 9 (PHQ-9) which asks how often in the last two weeks the patient has been bothered by 'thoughts that you would be better off dead or of hurting yourself'. The PHQ-9 is widely used in primary care practices to screen for depression. The TEP agreed that this single item, which only addresses suicidal ideation, is not sufficient for a suicide risk assessment. In response to a positive response to Question 9 the clinician would need to perform a full suicide risk assessment.

Ideation is only one component of overall risk for suicide which includes past behavior, diagnoses, family history, plans, means available, intentions, etc. The clinical evidence scan highlighted the "SAFE-T Suicide Assessment Five-Step Evaluation and Triage" guidelines developed by Douglas Jacobs, MD, President and CEO, Screening for Mental Health, Inc., and Associate Clinical Professor of Psychiatry, Harvard Medical School. These guidelines delineate the key items needed to determine "risk" versus ideation and may be a potential starting point for future CQM development.

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.

Development of Outcome Measures

Suicide is the leading cause of death for patients with severe mental illness; reducing suicides is a major goal of SAMHSA and of the Obama Administration (refer to Executive Order, http://www.whitehouse.gov/the-press-office/2012/08/31/fact-sheet-president-obama-signs-executive-order-improve-access-mental-h). The TEP highlighted the need to track self-harm, suicide attempts and completed suicides in order to evaluate quality improvement efforts and to determine where additional resources are most needed. As mentioned above the CDC, VA, and DoD have developed and support use of the Self-Directed Violence Classification System (http://www.cdc.gov/violenceprevention/pdf/Self-Directed-Violence-a.pdf) as the standard of capturing suicide attempts. This may be an appropriate standard for use in the EHR. The TEP recommended additional policy efforts to promote the use of standards for consistently capturing this information in the EHR in order to facilitate the development of accurate outcome measures. In addition, additional research was recommended to develop other metrics for suicide risk that can be used to track risk over time in response to treatment.

Implementation in Acute Care Settings

Approximately 50% of patients who die by suicide saw their primary care provider in the month before their death. The TEP discussed some of the barriers to successful suicide risk screening in acute care settings including: provider burden, discomfort among providers with addressing such a sensitive issue, lack of adequate provider training, and the lack of systems in place to respond

to a positive risk assessment. Additional research is needed on effective methods for implementation of suicide risk assessments in real world primary care settings including:

- Best practices for risk assessment across ages and ethnic and cultural populations
- Methods for overcoming provider resistance to addressing suicide
- Intervention strategies for diverse healthcare settings

Adolescent and Pre-Adolescent Populations

The TEP also highlighted the need for additional research focused on suicide risk assessment in adolescents and pre-adolescents. Specifically research should address identifying high risk populations, methods for assessing risk in these populations, and identification of interventions are effective in primary care.

5 Conclusion

The ONC-SAMHSA Behavioral Health CQM TEP, Suicide subgroup, made recommendations for CQMs suited for the HITECH Meaningful Use of Health IT Incentive program including one developed measure that is currently endorsed by NQF as well as the development of additional measures for suicide risk assessment and follow up in other high risk populations. In addition, the TEP made recommendations for additional research and development to support outcome measurement for suicide and additional research on implementation of risk assessments across populations in ambulatory care settings. While challenges exist for data collection and implementation of Suicide CQMs, opportunities exist to advance quality within this domain.

Appendix A TEP Member List

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*delineates member with specific expertise in the domain of Suicide

** ad hoc

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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

High Priority SUICIDE 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
111	Bipolar Disorder: Appraisal for risk of suicide	Percentage of patients with bipolar disorder with evidence of an initial assessment that includes an appraisal for risk of suicide.	Documentation of an assessment for risk of suicide; to include at least one of the following: • Documented clinician evaluation of the presence or absence of suicidal ideation, intention or plans • Documented reference to comments the patient made that relate to the presence or absence of thoughts of suicide/death • Documented reference to use, or presence in the chart of, a screening tool or patient assessment form that addresses suicide (e.g., PHQ-9; Beck Hopelessness Scale; Beck Scale for	Patients 18 years of age or older with an initial or new episode of bipolar disorder AND Documentation of a diagnosis of bipolar disorder; to include at least one of the following: • Codes 296.0x; 296.1x; 296.4x; 296.5x; 296.6x; 296.7; 296.80; 296.81; 296.82; 296.89; 301.13 documented in body of chart, such as a pre-printed form completed by a clinician and/or codes documented in chart notes/forms	Center for Quality Assessment and Improvement in Mental Health	http://www.qualityforum.org/MeasureDetails.aspx?actid=0&SubmissionId=1242#k=0111&e=1&st=&sd=&mt=&cs=&ss=&s=n&so=a&p=1

NQF #	Measure Title	Measure Description	Numerator Statement	Denominator Statement	Measure Steward	Link to NQF website
			Suicide) AND Timeframe for chart documentation of the assessment for risk of suicide must be present on the date of the initial assessment/evaluation visit	OR • Diagnosis or Impression or “working diagnosis” documented in chart indicating bipolar disorder OR • Use of a screening/assessment tool for bipolar disorder with a score or conclusion that patient has bipolar disorder and documentation that this information is used to establish or substantiate the diagnosis New diagnosis” or a “new episode,” is		

NQF #	Measure Title	Measure Description	Numerator Statement	Denominator Statement	Measure Steward	Link to NQF website
				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.		
1365 MUC80	Child and Adolescent Major Depressive Disorder: Suicide Risk Assessment	Percentage of patient visits for those patients aged 6 through 17 years with a diagnosis of major depressive disorder with an assessment for suicide risk	Patient visits with an assessment for suicide risk	All patient visits for those patients aged 6 through 17 years with a diagnosis of major depressive disorder	American Medical Association	http://www.qualityforum.org/MeasureDetails.aspx?actid=0&SubmissionId=1365#k=1365&e=1&st=&sd=&s=n&so=a&p=1&mt=&cs=&ss=

Domain: Suicide (Suicide Risk Assessment) – Environmental Scan

Search Criteria: Suicide Risk Assessment and Ambulatory

- 30 results initially identified
  - 10 removed (NQF endorsed)
- Final pool = 20 results for review

Full List of Original Results*

(*includes NQF endorsed measures)

Click Here

Search Criteria: Suicide Risk Assessment and Hospital

- 12 results initially identified
  - 11 already shown on ambulatory scan
- Final pool = 1 results for review

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Domain: Suicide (Suicide Risk Assessment/Ambulatory) – Top Results

	Measure Review (M= maybe, X=No, Y = yes)	Prioritized Result Summary
1	X	Depression: the percentage of patients diagnosed with unipolar depression who receive an initial assessment that considers the risk of suicide. 2007 Jan. NQMC:003492 STABLE Project National Coordinating Council - Clinical Specialty Collaboration
2		Post-traumatic stress disorder (PTSD): percent of eligible patients screened at required intervals for PTSD and, if positive PC-PTSD result, who have suicide risk evaluation completed within 24 hours. 2010 Oct. NQMC:006052 Veterans Health Administration - Federal Government Agency [U.S.]
3		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.]
4		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.]
5		Domestic violence: percent of adult and adolescent patients who screened positive for current or past intimate partner violence (IPV) and who answered yes to initial danger assessment questions for whom records indicate that a suicide and homicide assessment was conducted. 2004 Feb. NQMC:001734 Family Violence Prevention Fund - Nonprofit Organization
6		Child and adolescent major depressive disorder: percentage of patients aged 6 through 17 years with a diagnosis of major depressive disorder for whom an antidepressant medication was considered or prescribed during an episode of major depressive disorder. 2008 Sep. NQMC:004440 Physician Consortium for Performance Improvement® - Clinical Specialty Collaboration

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Domain: Suicide (Suicide Risk Assessment/Hospitals) – Top Result

	Measure Review (M= maybe, X=No, Y = yes)	Prioritized Result Summary
1	M	**Schizophrenia: proportion of hospitalized patients assessed for suicide risk (documented in patient record) at discharge.** 2010 May. NQMC:005515 The Danish National Indicator Project - National Government Agency [Non-U.S.]

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Domain: Suicide (Suicide Screening) – Environmental Scan

Search Criteria: Suicide Screening and Ambulatory

- 26 results initially identified
  - 10 removed (NQF endorsed)
- Final pool = 16 results for review

Full List of Original Results*

(*includes NQF endorsed measures)

Click Here

Search Criteria: Suicide Risk Assessment and Hospital

- 12 results initially identified
  - 12 already shown on ambulatory scan
- Final pool = 0 results for review

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Domain: Suicide (Suicide Screening/Ambulatory) – Top Results

	Measure Review (M= maybe, X=No, Y = yes)	Prioritized Result Summary
1	☐	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.]
2	☐	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.]
3	☐	Post-traumatic stress disorder (PTSD): percent of eligible patients screened at required intervals for PTSD and, if positive PC-PTSD result, who have suicide risk evaluation completed within 24 hours. 2010 Oct. NQMC:006052 Veterans Health Administration - Federal Government Agency [U.S.]
4	☐	Domestic violence: percent of adult and adolescent patients who screened positive for current or past intimate partner violence (IPV) and who answered yes to initial danger assessment questions for whom records indicate that a suicide and homicide assessment was conducted. 2004 Feb. NQMC:001734 Family Violence Prevention Fund - Nonprofit Organization
5	☐	Depression: the percentage of patients diagnosed with unipolar depression who receive an initial assessment that considers the risk of suicide. 2007 Jan. NQMC:003492 STABLE Project National Coordinating Council - Clinical Specialty Collaboration

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	Journal / Publication Title (citation)	Year of Pub.	Type / Topic	Target Population/Subpopula		Study Setting	Screening Tools/ Measures	Results / Summary Notes	Findings / Implications for Primary Care Settings	Weighted Relevance		
				Age Range	Risk Group					HI	MD	LO
	Suicide Risk - Physician Practice / Training											
1	American Association of Suicidology Task Force (2012). Preventing Suicide through Improved Training in Suicide Risk Assessment and Care: An American Association of Suicidology Task Force Report Addressing Serious Gaps in U.S. Mental Health Training.	2012	Review of current state of training in Suicidology			Clinical Setting		Competence in the assessment of suicidality as an essential clinical skill consistently overlooked - "a huge challenge to clinical suicide prevention is the actual competency of clinical practitioners"	Recommendations made to address insufficient training in mental health professions regarding assessment and management of suicidal patients		M1	
2	Lake C R, Baumer J . Academic psychiatry's responsibility for increasing the recognition of mood disorders and risk for suicide in primary care. Curr Opin Psychiatry. 2010;23:157 – 66.	2010	Article - solutions to better meet healthcare needs of depressed patients in primary care			Primary Care Setting	Series of four verbal questions proposed to screen for depression/ suicide risk	A verbal four-question, 90 sec. screen for depression may be acceptable for routine use in primary care. Self-administered instruments best as supplements to face-to-face questions by PCP. Self-reports may reduce attention to patients' affect.	Introduction of very brief screening instrument to medical students on psychiatry and primary care clerkships could increase the recognition of depression and reduce death by suicide. There is a lack of controlled data to support all assumptions.		M3	
3	Norris, D. and M. S. Clark (2012). Evaluation and treatment of the suicidal patient. Am Fam Physician 85(6): 602-605.	2012	Article - physician practice for suicidality			Primary Care Setting		Evidence shows that asking high-risk patients about suicidal intent leads to better outcomes and does not increase the risk of suicide.	Four recommendations for practice: (1)ask directly about suicidal ideation; (2) screen for depression, anxiety, alcohol use to gauge symptom severity; (3) suicide contracts should be eschewed; (4) treatment should include pharmacological and psychological components.		M3	
4	Hung, E. K., R. L. Binder, et al. (2012). "A method for evaluating competency in assessment and management of suicide risk." Acad Psychiatry 36(1): 23-28.	2012	Study - Competency-Assessment Instrument for Suicide Risk-Assessment (CAI-S)			Clinical Settings	CAI-S developed on the basis of the literature on suicide risk-assessment and management.	The CAI-S showed good internal consistency, reliability, and inter-rater reliability.	Valid instrument for assessing training in suicide-risk.			L2
5	Hooper, L., S. Epstein, et al. (2012). "Predictors of Primary Care Physicians' Self-reported Intention to Conduct Suicide Risk Assessments." The Journal of Behavioral Health Services and Research 39(2): 103-115.	2012	Study objective to describe what factors relate to suicide risk assessments in primary care settings.			Primary Care Setting	Data were collected from 404 randomly selected primary care physicians after their interaction with CD-ROM vignettes of actors portraying major depression with moderate levels of severity.	Data from the study revealed that physician-participants inquired about suicide 36% of the time.	Primary care physicians should consider using a screening instrument for depression and suicide assessment with all of their patients, in particular those from at-risk or vulnerable populations (e.g., older adults or patients with comorbid medical conditions) who are less likely to report suicidal ideations.			

	Journal / Publication Title (citation)	Year of Pub.	Type / Topic	Target Population/Subpopula		Study Setting	Screening Tools/ Measures	Results / Summary Notes	Findings / Implications for Primary Care Settings	Weighted Relevance		
				Age Range	Risk Group					HI	MD	LO
	Suicide Risk Assessment											
6	National Collaborating Centre for Mental Health (2011). Self-harm: Longer-term management in adults, children and young people. National Institute for Health and Clinical Excellence.	2011	Review of four suicide risk assessment tools & findings from six cohort studies	Adults, children, and young people	People with previous self-harm behavior	Studies mostly in ER after self-harm incident	1)Beck Hopelessness Scale 2)Scale for Suicide Ideation 3)Suicide Intent Scale 4)Suicide Assessment Scale	Beck Hopelessness Scale had highest sensitivity (91%) but also identified 76 false positives for every true positive. Limitations include high false positive rates in scales with the highest sensitivity, small samples of suicidal ideators, long follow-up periods.	Because of limitations, use of scales to predict risk of suicide cannot be recommended in clinical practice.	H1		
7	McDowell, A. K., T. W. Lineberry, et al. (2011). Practical suicide-risk management for the busy primary care physician. Mayo Clin Proc 86(8): 792-800.	2011	Review - suicide assessment in primary care		Patients dying by suicide visit primary care physicians more than twice as often as mental health clinicians	Primary Care Setting	Treatment of depression by primary care physicians is improving, but opportunities remain in addressing suicide-related treatment variables.	PROSPECT collaborative care model more effective than treatment as usual in reducing suicide risk in patients over 60. 2009 US Preventive Health Services Task Force recommendations no longer advise general screening for depression unless collaborative/ supportive care staff models (nurse care managers) or other systematic depression treatment approach in place.	Multiple studies support use of PHQ-9 for screening in primary care settings. The Suicide Assessment Five-Step Evaluation and Triage (SAFE-T) provides framework for performing suicide risk assessment and is publicly available. Collaborative care models for treating depression have the potential to improve depression outcomes and decrease suicide risk.	H3		
8	Haney EM, O'Neil ME, Carson S, Low A, Peterson K, Denneson LM, Oleksiewicz C, Kansagara D. (2012, March). "Suicide Risk Factors and Risk Assessment Tools: A Systematic Review." Washington (DC): Department of Veterans Affairs.	2012	Lit Review by Evidence-based Synthesis Program Center, VA-ESP Project	Adults	Vet and Military	VA Health System	PAI subscales BDI-II	Identification of assessment tools effective for assessing risk of engaging in suicidal self-directed violence in Veteran and military populations	An adapted and shortened version of the PAI subscales and the BDI-II could both potentially be used in primary care settings, though given length and administration considerations, the BDI-II may be more easily implemented in such settings.	H1		
9	Bostwick, J. and S. Rackley (2012). Addressing Suicidality in Primary Care Settings. Current Psychiatry Reports: 1-7.	2012	Review of current state of training and screening for suicide in primary care			Primary Care Setting	SAFE-T, backed up with internet tool kits, offer state-of-the-art assessment methods. ?	Collaborative care models have shown promise in addressing mood symptoms and reducing suicidality in targeted patients in the primary care setting, particularly in high risk populations, such as adolescents, the elderly, and returning military.	No gold standard instrument for suicide assessment. Best practice would include employing a tool such as the Suicide Assessment Five-Step Evaluation and Triage (SAFE-T), a compilation of known risk factors and protective factors, combined with a clinical interview	H1		

	Journal / Publication Title (citation)	Year of Pub.	Type / Topic	Target Population/Subpopula		Study Setting	Screening Tools/ Measures	Results / Summary Notes	Findings / Implications for Primary Care Settings	Weighted Relevance		
				Age Range	Risk Group					HI	MD	LO
10	Fowler, James Christopher (2012). Suicide risk assessment in clinical practice: Pragmatic guidelines for imperfect assessments. Psychotherapy, Vol 49(1), 81-90.	2012	Practice review of suicide risk assessments			Clinical Setting	Focused on the challenges of conducting sensitive and accurate assessments of the relative risk for suicide attempts and completed suicides.	"we are not yet in possession of evidence-based diagnostic tests that can accurately predict suicide risk on an individual level without also creating an inordinate number of false-positive predictions."	Overarching goal of assessments should be therapeutic alliance, negotiating a collaborative approach to assessing risk. Suicide Assessment Five-step Evaluation and Triage (SAFE-T) recommended as a pragmatic multidimensional assessment protocol incorporating best known risk and protective factors.	H3		
11	Posner, K., Ph.D. et al. (2011). The Columbia-Suicide Severity Rating Scale: Initial validity and internal consistency findings from three multisite studies with adolescents and adults. The American Journal of Psychiatry 168(12): 1266-1277	2011	Review examining psychometric properties of Columbia-Suicide Severity Rating Scale (C-SSRS)	Adolescents and Adults		Clinical Setting	Columbia-Suicide Severity Rating Scale (C-SSRS) - designed to quantify the severity of suicidal ideation and behavior.	Three multisite studies: a treatment study of adolescent suicide attempters (N=124); a medication efficacy trial with depressed adolescents (N=312); and study of adults presenting to an emergency department for psychiatric reasons (N=237). C-SSRS demonstrated high sensitivity and specificity for suicidal behavior classifications.	C-SSRS is suitable for assessment of suicidal ideation and behavior in clinical and research settings.		M2	
12	Bryan, C. J. (2011). The clinical utility of a brief measure of perceived burdensomeness and thwarted belongingness for the detection of suicidal military personnel. Journal of Clinical Psychology 67(10): 981-992.	2011	Study to investigate clinical utility of INQ-10 for detection of suicide ideation among deployed service members	Adults	Deployed Service Members	Military Setting	10-item Interpersonal Needs Questionnaire (INQ-10) self-report questionnaire measures: thwarted belongingness (TB) and perceived burdensomeness (PB).	Research supports robust relationship between PB and TB with full range of suicidality. The INQ-10's two subscales proved useful in improving the likelihood of accurately detecting suicide ideation among deployed service members.	Given the INQ-10's ability to substantially improve the detection rate of suicide ideation, it is possible that it could be used clinically to aid in the detection of service members who deny suicidality despite elevated risk.	H3		
13	US Preventive Services Task Force (2004). Screening for Suicide Risk: Recommendation and Rationale.	2004						U.S. Preventive Services Task Force recommends screening in adolescents and adults in clinical practices that have systems in place to ensure accurate diagnosis, effective treatment, and follow-up.	U.S. Preventive Services Task Force (USPSTF) concludes that the evidence is insufficient to recommend for or against routine screening by primary care clinicians to detect suicide risk in the general population.		M1	

	Journal / Publication Title (citation)	Year of Pub.	Type / Topic	Target Population/Subpopula		Study Setting	Screening Tools/ Measures	Results / Summary Notes	Findings / Implications for Primary Care Settings	Weighted Relevance		
				Age Range	Risk Group					HI	MD	LO
14	Jacobs D. (2007). A Resource Guide for Implementing The Joint Commission 2007 Patient Safety Goals on Suicide 2007. http://www.sprc.org/sites/sprc.org/files/library/jcsafetygoals.pdf	2007	SAFE-T developed based on Joint Commission Goal 15A: The organization identifies clients at risk for suicide				SAFE-T	In collaboration w ith the Suicide Prevention Resource Center, Screening for Mental Health designed the SAFE-T, a suicide assessment protocol consistent with the American Psychiatric Association Practice Guidelines for the Assessment and Treatment of Patients with Suicidal Behaviors.	To meet implementation expectations for Requirement 15A, best practice for suicide screening would include employing a tool such as the Suicide Assessment Five-step Evaluation and Triage (SAFE-T), a compilation of known risk factors and protective factors combined with a clinical interview.		M1	
	Depression and Suicide Risk Assessment											
15	Gensichen, J., A. Teising, et al. (2010). Predictors of suicidal ideation in depressive primary care patients. Journal of Affective Disorders 125(1–3): 124-127.	2012	Study to identify predictors for suicidal ideation in patients with major depression in primary care	18 to 80	626 patients, all with major depression	Primary Care Setting	PHQ-9 SF-36 Physical Pain Scale	Depression severity is a predictor for suicidal ideation in primary care patients with major depression. In addition, physical pain appears to be a predictor.	Confirming previous findings linking major depression and suicide ideation. Study did not find any association between physical comorbidity and suicidal ideation, in contradiction to previous studies.	H2		
16	Dube, P., K. Kurt, et al. (2010). The p4 screener: evaluation of a brief measure for assessing potential suicide risk in 2 randomized effectiveness trials of primary care and oncology patients. Prim Care Companion J Clin Psychiatry 12(6).	2010	Study to evaluate preliminary evidence for the P4 screener as a brief measure to assess potential suicide risk	Adults	Primary Care Oncology Pts.	Primary Care Setting	P4 screener asks about the "4 P's": (1) past suicide attempts, (2) suicide plan, (3) probability of completing suicide, and (4) preventive factors.	P4 screener was prospectively evaluated in 2 randomized effectiveness trials of primary care (January 2005-June 2008; N = 250) and oncology patients (March 2006-August 2009; N = 309). Potential suicide ideation was assessed at 5 time points in both trials.	Preliminary findings suggest that the P4 screener may be useful in assessing potential suicide risk in the clinical care of depressed patients.	H2		
17	Uebelacker LA, German NM, Gaudiano BA, Miller IW. (2011). Patient Health Questionnaire Depression Scale as a Suicide Screening Instrument in Depressed Primary Care Patients: A Cross-Sectional Study. Prim Care Companion CNS Disord,13(1).	2011	Cross-sectional study, to examine the concordance between PHQ-9 suicide item and the suicide item on the mood module of Clinical Interview	Adults	166 patients from 2 primary care clinics, all with elevated depression symptoms	Primary Care Setting	PHQ-9	Specificity of the PHQ-9 suicide screening item was 0.84 and sensitivity was 0.69 for the sample as a whole.	Routine use of the PHQ-9 may be useful in primary care practice to identify individuals at risk for suicide who would not otherwise have been identified.	H2		

	Journal / Publication Title (citation)	Year of Pub.	Type / Topic	Target Population/Subpopula		Study Setting	Screening Tools/ Measures	Results / Summary Notes	Findings / Implications for Primary Care Settings	Weighted Relevance		
				Age Range	Risk Group					HI	MD	LO
18	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	Retrospective reports of fist suicide attempt	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	Findings suggest that the reports of older adolescents regarding their suicide attempts are corroborated by their prospective reports of depression in childhood and earlier adolescence; findings support retrospective measures of suicidal behavior, namely suicide attempts, may be a valid method of assessment.	H2		
19	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				"Perfect Depression Care:Model'	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	
20	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		

	Journal / Publication Title (citation)	Year of Pub.	Type / Topic	Target Population/Subpopula		Study Setting	Screening Tools/ Measures	Results / Summary Notes	Findings / Implications for Primary Care Settings	Weighted Relevance		
				Age Range	Risk Group					HI	MD	LO
21	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		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		

	Journal / Publication Title (citation)	Year of Pub.	Type / Topic	Target Population/Subpopula		Study Setting	Screening Tools/ Measures	Results / Summary Notes	Findings / Implications for Primary Care Settings	Weighted Relevance		
				Age Range	Risk Group					HI	MD	LO
	Comorbidities and Suicide Risk Assessment											
22	Webb RT, Kontopantelis E, Doran T, Qin P, Creed F, Kapur N. (2012). Suicide risk in primary care patients with major physical diseases: a case-control study. Arch Gen Psychiatry, 69(3):256-64.	2012	UK Study, case-control data drawn from approx. 10.6 million complete patient records	Adults	Major physical disease, recruited in Family Practices	UK Family Practices		Among all patients, coronary heart disease, stroke, chronic obstructive pulmonary disease, and osteoporosis were linked with elevated suicide risk and, with the exception of osteoporosis, the increase was explained by clinical depression.	Findings indicate that clinical depression is a strong confounder of increased suicide risk among physically ill people.		M2	
23	. Shemesh E, Annunciate RA, Rubinstein D, Sultan S, Amphora J, Sandra M, Weatherly BD, Fleabanes JR, Cotter G, Ehud R. (2009) Screening for depression and suicidality in patients with cardiovascular illnesses. Am J Cardio, Nov 1;104(9):1194-7	2009	Study	Adults	Cardiovascular risk	Cardiology Clinics	PHQ-9	One thousand three patients were screened; 886 had complete Patient Health Questionnaire data. Of the 886, 12% (109 patients) expressed suicidal ideation.	Suicidal ideation to be identified using AHA depression screening recommendations	H2		
24	Larsen, K. K., E. Aero, et al. (2010). Myocardial Infarction and Risk of Suicide / Clinical Perspective.Circulation 122(23): 2388-2393	2010	Case-control study to examine Myocardial Infarction and Suicide Risk	Adults	All persons aged 40 to 89 years who died by suicide from 1981 to 2006, matched to	Clinical Setting	Data from 5 nationwide longitudinal registers in Denmark. Identified 19857 persons who committed suicide and 190058 controls.	Risk of suicide highest during the first month after discharge for MI for patients with no history of psychiatric illness and for patients with a history of psychiatric illness. Risk remained high for at least 5 years after MI.	Results suggest the importance of screening patients with MI for depression and suicidal ideation.		M2	
25	Courted, P. (2010). Suicidal risk in recurrent depression. Encephala 36 Supple 5: S127-131.	2010	Article on recurrent depression and suicide prevention in France			All			Assessment of the suicidal risk should involve psychiatric comorbidities that facilitate the act - particularly alcohol misuse and lack of social support.		M3	
	Substance Use and Suicide Risk Assessment											

	Journal / Publication Title (citation)	Year of Pub.	Type / Topic	Target Population/Subpopula		Study Setting	Screening Tools/ Measures	Results / Summary Notes	Findings / Implications for Primary Care Settings	Weighted Relevance		
				Age Range	Risk Group					HI	MD	LO
26	Oquendo, M. A., D. Currier, et al. (2010). Increased risk for suicidal behavior in comorbid bipolar disorder and alcohol use disorders: results from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). J Clin Psychiatry 71(7): 902-909.	2010	Study - Survey analysis of Epi Survey on Alcohol and related conditions	Adults	Bipolar Disorder and Alcohol Use Disorder			1643 individuals with a lifetime diagnosis of Bipolar Disorder were identified from 43,093 general population respondents who were interviewed in the 2001–2002 National Epidemiologic Survey on Alcohol and Related Conditions.	More than half (54%) of respondents who met criteria for BD also reported AUD. Suicidal behavior is more likely in bipolar respondents who also suffer from AUD. Interventions to reduce suicide risk in BD need to address the common and high-risk comorbidity with AUD. Individuals with comorbid AUD were at greater risk for suicide attempt than those without AUD.	H2		
27	Schilling, E. A., R. H. Aseltine Jr, et al. (2009). Adolescent Alcohol Use, Suicidal Ideation, and Suicide Attempts. Journal of Adolescent Health 44(4): 335-341.	2009	Study - association between self-reported alcohol use / suicide attempts adolescents who did and did not report suicidal ideation past year	Adolescents	31,953 students attending schools in the United States	School	Self-reported suicide attempts regressed on suicidal ideation/measures of alcohol use, controlling for levels of depressive symptoms and demographics	Heavy episodic drinking was associated with increased risk of suicide attempt equally among those who did and did not report suicidal ideation.	Study identified the use of alcohol while sad or depressed as a marker for suicidal behavior in adolescents who did not report ideating prior to an attempt, and hence, may not be detected by current strategies for assessing suicide risk.		M2	
28	Effinger, J. M. and D. G. Stewart (2012). "Classification of Co-occurring Depression and Substance Abuse Symptoms Predicts Suicide Attempts in Adolescents." Suicide and Life-Threatening Behavior: no-no.	2012	Study 2009 NSDUH suicide attempts if depressed and met criteria for clinical substance use	12 to 17 year olds who participated in the NSDUH survey (17,705)	Adolescent participants who began using substances before 13 and currently met abuse criteria for any substance	ED		Individuals with co-occurring sub-threshold presentations of depression and substance use have nearly identical suicide risk attempts as those with clinical depression levels.	Research highlights the enhanced likelihood of suicidal behavior among adolescents with co-occurring pathologies even when depression symptoms are relatively low. When an adolescent has co-occurring disorders, regardless of the severity, a routine aspect of treatment should adolescent with treatment resources as a step toward suicide prevention.	H2		
29	Aseltine Jr, R. H., E. A. Schilling, et al. (2009). "Age Variability in the Association Between Heavy Episodic Drinking and Adolescent Suicide Attempts: Findings From a Large-Scale, School-Based Screening Program." Journal of the American Academy of Child & Adolescent Psychiatry 48(3): 262-270.	2009	Study - Screening for Suicide and HED in School settings	11 and 19 years	.	School Setting	Screening data from 32,217 students, in 225 schools analyzed	Heavy episodic drinking was significantly associated with self-reported suicide attempts (odds ratio 1.78, $p < .05$) controlling for depressive symptoms, with increased suicide risk found among younger adolescents engaged in HED.	Heavy episodic drinking is a clear risk factor for suicidal behavior among younger adolescents, beyond the risk conveyed by depressive symptoms. Results provide support to AACAP's practice parameters calling for attention to substance abuse in the assessment of suicide risk and suggest routine screening for HED by physicians to improve suicide risk, esp. among younger adolescents.	H2		

	Journal / Publication Title (citation)	Year of Pub.	Type / Topic	Target Population/Subpopula		Study Setting	Screening Tools/ Measures	Results / Summary Notes	Findings / Implications for Primary Care Settings	Weighted Relevance		
				Age Range	Risk Group					HI	MD	LO
30	Ribeiro, J. D., S. R. Braithwaite, et al. (2012). "Examining a Brief Suicide Screening Tool in Older Adults Engaging in Risky Alcohol Use." Suicide and Life-Threatening Behavior: no-no.	2012	Australian Study recruited from 54 randomly selected general practitioners' (GP) offices in Western Australia.	60 - 101		Primary Care Settings	Depressive Symptom Inventory-Suicidality Subscale (DSI-SS - brief four questions about suicidal ideation in past 2 weeks —shown to have good reliability and validity	Findings support the viability of the measure in older adults, regardless of alcohol use status.	Results from the multiple-group analyses presented in this article provide support for the generalizability of the DSI-SS in both risky and nonrisky drinkers		M2	
	Elderly and Suicide Risk Assessment		.									
31	Fassberg, M. M., K. A. van Orden, et al. (2012). "A systematic review of social factors and suicidal behavior in older adulthood." Int J Environ Res Public Health 9(3): 722-745.	2012	Systematic review of studies that examined associations between social factors and suicidal behavior in elderly	65 and older				Limited number of studies points to the need for further research. Social factors of positive social connectedness = degree of positive involvement with family, friends, and social groups. Limited social connectedness associated with suicidal ideation, non-fatal suicidal behavior, suicide in later life.	Primary prevention programs designed to enhance social connections as well as a sense of community could potentially decrease suicide risk, especially among men.	H1		
32	Heisel MJ, Duberstein PR, Lyness JM, Feldman MD. (2010). Screening for suicide ideation among older primary care patients. J Am Board Fam Med., Mar-Apr;23(2):260-9.	2010	Study - cross-sectional cohort	65 yrs or older	626 primary care patients (235 men, 391 women) in Northeastern US	Primary Care Setting	15-item Geriatric Depression Scale (GDS), including a 5-item GDS subscale designed to screen for suicide ideation	Assessed presence of suicide ideation with items from the Hamilton Rating Scale for Depression and the Structured Clinical Interview. Patients expressing suicide ideation (n = 69) scored higher on the GDS and GDS-SI than those who did not (n = 557).	The GDS and GDS-SI accurately identify older patients with suicide ideation.	H2		
33	Cheng, S. T., E. C. Yu, et al. (2010). The geriatric depression scale as a screening tool for depression and suicide ideation: a replication and extension. Am J Geriatric Psychiatry 18(3): 256-265.	2010	Study- examines whether the Geriatric Depression Scale (GDS) can predict clinician-rated suicide ideation, by item # and age variation	Young-Old (aged 60-74 years) and Old-Old (aged 75 years or older) adults.	Analyses were conducted separately for young-old and old-old adults.	Clinical Setting	GDS 15, 5 and 4-item versions	A single, self-report suicide-ideation item performed better than all multi-item GDS measures.	All are reasonable tools for detecting the presence of suicide ideation; however, to improve the effectiveness of screening, brief measures of suicide risk should also be included. Even a 1-item measure of suicide ideation can improve clinical decisions.	H2		
34	Vannoy, S. D., M. Tai-Seale, et al. (2011). Now what should I do? Primary care physicians' responses to older adults expressing thoughts of suicide. J Gen Intern Med 26(9): 1005-1011	2011	Study - Identify patterns in physician-patient communication regarding suicide how good a job do primary care physicians do in	65 years and older and their primary care physicians		Primary Care Setting		Physicians in this sample recognized and implicitly acknowledged suicide risk in their older patients, but all seemed unable to go beyond mere assessment.	The absence of treatment plans may reflect a lack of a coherent framework for managing suicide risk, insufficient clinical skills, and availability of mental health specialty support.		M3	

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				Age Range	Risk Group					HI	MD	LO
35	Alexopoulos GS, Katz IR, Bruce ML, Heo M, Ten Have T, Raue P, Bogner HR, Schulberg HC, Mulsant BH, Reynolds CF (2005). Remission in depressed geriatric primary care patients: a report from the PROSPECT study. Am J Psychiatry. 2005 Apr; 162(4):718-24.	2005	Study = Prevention of Suicide in Primary Care Elderly: Collaborative Trial (PROSPECT)	60 years of age or older	major or minor depression	Primary Care Setting		Collaborative care patients were more likely to receive treatment and had higher rates of remission of major depression at 4 (26.6% vs 15.2%), 8 (36.0% vs 22.5%), and 24 months (45.4% vs 31.5%). Suicidal ideation in the collaborative care group was 2.2 times less likely after 24 months than in the treatment-as-usual group.	The adoption and widespread use of collaborative care models for depression could result in reduced suicide rates nationally.	H2		
36	Alexopoulos, G. S., C. F. Reynolds, 3rd, et al. (2009). Reducing suicidal ideation and depression in older primary care patients: 24-month outcomes of the PROSPECT study. Am J Psychiatry 166(8): 882-890.	2009	Study - Randomized, controlled Prevention of Suicide in Primary Care Elderly: Collaborative Trial (PROSPECT)	60 years of age or older	Major or minor depression	Primary Care Settings	Depression care manager worked with primary care physicians to provide algorithm-based care management intervention on suicidal ideation and depression in older primary care patients	Patients receiving intervention had a higher likelihood of receiving antidepressants and/or psychotherapy (84.9%-89% versus 49%-62%) and had a 2.2 times greater decline in suicidal ideation over 24 months.	Sustained collaborative care maintains high utilization of depression treatment, reduces suicidal ideation, and improves outcomes.	H2		
37	Bao, Y., G. S. Alexopoulos, et al. (2011). Collaborative Depression Care Management and Disparities in Depression Treatment and Outcomes Depression Treatment and Outcomes. Arch Gen Psychiatry 68(6): 627-636.	2011	Study to examine effects of PROSPECT on treatment disparities by education and race/ethnicity in older depressed primary care patients.	60 years of age or older	Depression	Primary Care Settings	Depression care manager with primary care physicians to provide algorithm-based care management intervention on suicidal ideation and depression in older primary care patients	PROSPECT intervention had a larger and more lasting effect in less-educated patients. Intervention benefitted non-Hispanic white pa-patients more than minority patients.	PROSPECT intervention substantially reduced disparities by patient education but did not mitigate racial/ethnic disparities in depression treatment and outcomes.	H2		
38	IMPACT: Building the Team. http://impact-uw.org/implementation/	2012	Online resource describing the IMPACT collaborative care model	60 years of age or older	Depression	Primary Care Settings	Patients assigned to IMPACT care had access to a depression care specialist who coordinated care with their primary care physician over the 12-month intervention.	Outcomes of IMPACT study: At 12 months, about half of the patients receiving IMPACT care reported at least a 50 percent reduction in depressive symptoms, compared with only 19 percent of those in usual care.			M2	
39	Dennis M. et al. (2005). Self-harm in older people with depression. The British Journal of Psychiatry 186(6): 538-539.	2005	Study - non-fatal self-harm in older adults	Older adults	Depression			48 older people with depression referred following an episode of self-harm compared with 50 similarly aged people with depression who had no history of self-harm.	Those in the self-harm group were more likely to have a poorly integrated social network and were more hopeless.		M2	

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40	Van Orden, K. and Y. Conwell (2011). Suicides in Late Life. Current Psychiatry Reports 13(3): 234-241.	2011	Review article	Older Adults			GDS - Geriatric Depression Scale	Two recent studies examined effectiveness of the GDS in detection of suicidal ideation, given GDS does not include an item specifically assessing suicidal or death ideation but is a frequently used screener for depression.	Taken together, results of these studies indicate that short forms of the GDS are as effective as the long form in detecting suicidal ideation, but the most effective detection strategy involves adding an item that specifically asks about the presence of suicidal thoughts.	H2		
41	Marty, M. A., D. L. Segal, et al. (2012). Analysis of the Psychometric Properties of the Interpersonal Needs Questionnaire (INQ) Among Community-Dwelling Older Adults. Journal of Clinical Psychology:	2012	Study evaluated validity of INQ-18, a measure of thwarted belongingness (TB) and perceived burdensomeness (PB)	64–96 years.		Community Setting	18-item Interpersonal Needs Questionnaire (INQ-18)	Findings show clear evidence of the internal consistency of the scores on the INQ, as measured by Cronbach's alpha coefficients, similar to previously reported coefficients in other samples (e.g., Bryan, 2010; Cukrowicz et al., 2011; Freedenthal et al., 2011; Van Orden, Witte, Gordon et al., 2008).	The findings from the current study provided support for the use of the INQ as a valid measure of TB and PB.	H2		
	US Military/Veterans -Primary Care Suicide Risk Assessment											
43	(2012). Clinic Visits Common Before Service Members' Suicide. Psychiatric News, April 06, 2012.	2012	Study = DoD National Ctr Telehealth and Defense Ctr Excellence for Psych Health/TBI	All active-duty service members from Army, Navy, Air Force, Marines from 2001 through 2010.	19,955 diagnosed self-inflicted injuries; 3,463 hospitalized with injuries or poisoning classified as "likely self-harm."	Military Care Setting		Study looked at death and medical records. from 2001 - 2010. 1,939 service members died by suicide, 45% of military service members who died by suicide visited outpatient medical clinics in the 30 days prior to their deaths. 8.2% sought medical care in nonmilitary health care facilities even with full military health insurance.	Only 7.3 percent of the individuals who later died by suicide visited a mental health or psychiatric clinic in the month prior to suicide, but 26.2 percent showed up in family or primary care offices. 7% appeared in substance abuse clinics. "The study reminds us to be aware of the risk of suicide even when the focus of the visit is not a mental health issue".			L3
	Youth and Suicide Risk Assessment											
43	Children and Youth Death by Suicide (2009). WISQARS, Office of Statistics and Programming, National Center for Injury Prevention and Control, Centers for Disease Control and Prevention National Center for Health Statistics (NCHS), National Vital Statistics System	2009	CDC Children and Youth Death by Suicide - 2009 Report	10 to 24 years				Of the reported suicides in the 10 to 24 age group, 84% of the deaths were males and 16% were females. Girls, however, are more likely to report attempting suicide than boys. Native American/Alaskan Native and Hispanic youth have the highest rates of suicide-related fatalities.	Suicide is the 3rd leading cause of death for 10 -24 year-olds. Psychiatric symptoms develop more than a year prior to death in 63% of completed teen suicides. In only 4% of cases, psychiatric symptoms develop within the 3 months immediately prior to the suicide.		M1	

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				Age Range	Risk Group					HI	MD	LO
44	Christiansen, E. and K. J. Larsen (2012). Young people's risk of suicide attempts after contact with a psychiatric department – a nested case-control design using Danish register data. Journal of Child Psychology and Psychiatry 53(1): 16-25.	2012	Review analysis - Suicide Risk - Danish Youth	Youth		Clinical Setting	Complete extraction of Danish register data for every individual born in the period 1983–1989 was made. Of these 403,431 individuals, 3,465 had attempted suicide.	72,765 individuals was used to analyze the risk of suicide attempts after contact with a psychiatric department. Child/adolescent's risk of suicide attempt peaks immediately after discharge from last contact with a psychiatric department. The risk of suicide attempt is highest for children and adolescents suffering from personality disorders, depression and substance use disorders.	Children and adolescents with previous contact with a psychiatric department and parental income in the lowest third have a significantly higher risk of suicide attempt. Suicide attempters were more likely to have been given several different diagnoses and several different psychopharmacological drugs prior to their attempted suicide.	H1		
45	Bevans, K. B., G. Diamond, et al. (2012). Screening for Adolescents' Internalizing Symptoms in Primary Care: Item Response Theory Analysis of the Behavior Health Screen Depression, Anxiety, and Suicidal Risk Scales. Journal of Developmental & Behavioral Pediatrics 33(4): 283-290	2012	Study - to validate the BHS Depression, Anxiety, and Suicidal Risk Scales among adolescents in primary care.	12 to 21 years	426 adolescents	Primary Care Settings	Behavioral Health Screen (BHS)	Models found to fit the data, supporting the comprehensive measurement of internalizing symptoms with minimal gaps and redundancies.	BHS is an accurate and efficient tool for identifying adolescents with internalizing suicidal risk symptoms in primary care settings.		M2	
46	Richardson, L. P., C. Rockhill, et al. (2010). Evaluation of the PHQ-2 as a brief screen for detecting major depression among adolescents. Pediatrics 125(5): e1097-1103.	2010	Study -examined validity of PHQ-2	13 to 17 years	499 randomly selected adolescents enrolled in an integrated healthcare system	Primary Care Settings	PHQ-2	Adolescents from three urban pediatric clinics (most adolescents were female and black). 75% had evidence of other mental health problems or history of major depression in the past year. PHQ-2 score of >=3 sensitivity 74%, specificity 75% for detecting youth who met Diagnostic/Stat Manual of Mental Disorders.	PHQ-2 has good sensitivity and specificity for detecting major depression. These properties, coupled with the brief nature of the instrument, make this tool promising as a first step for screening for adolescent depression in primary care.	H2		
47	Borner, I., J. W. Braunstein, et al. (2010). Evaluation of a 2-Question Screening Tool for Detecting Depression in Adolescents in Primary Care. Clin Pediatric (Phila) 49(10): 947-953.	2010	Study to examine use of PHQ-2 for depression screening	13 to 17 years	Recruited from various metropolitan pediatric outpatient clinics	Primary Care Settings	Patient Health Questionnaire (PHQ)-2	Significant relationship between the second question of the PHQ-2 and the two established measures of depression. Use of both questions resulted in lower classification accuracy (67%) but higher sensitivity (.85) and a slightly lower specificity of (.51) than either question alone.	These results support the use of this measure as a brief screener for adolescent depression in primary care.	H2		

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48	Gardner, W., J. Klima, et al. (2010). Screening, triage, and referral of patients who report suicidal thought during a primary care visit. Pediatrics 125(5): 945-952.	2010	Observational study of services provided to youths screened positive for suicidal ideation on computerized screen	11 to 20 years	Patients were 1547 youths aged seen in an urban primary care system during 2005/06.	Primary Care settings	Data included clinical records, provider notes, and patients' responses to the screen	Total of 209 (14%) youths reported suicidal thought in the previous month. Social workers able to triage 205 (98%) youths. Triage occurred on the visit day for 193 youths (94%)	Youths who visit primary care clinics are willing to disclose suicidal ideation on a computerized screen. Triage occurred on the visit day for 193 youths. Pediatric primary care found to be feasible setting to screen for suicidal youths and link them with mental health services.		M2	
49	Wintersteen M., PhD (2010). Standardized screening for suicidal adolescents in primary care. Pediatrics Vol. 125 No. 5, pp. 938 -944	2010	Study - to determine if standardized screening for suicide risk in pediatric primary care increased detection/referrals suicidal youth	12 to 17.9 years		Primary Care settings	Physicians in 3 primary care practices received brief training in suicide risk, and 2 standardized questions were inserted into their electronic health record assessments	Psychosocial interview questions in electronic record automatically populated. Referral rates extracted from records, Rates of inquiry about suicide risk increased 219%. Increase in case detection was 392% across all 3 clinics. Referral rates of suicidal youth to outpatient care increased at rate equal to detection rates,	Standardized screening for suicide risk in primary care can detect youth with suicidal ideation and prompt a referral to a behavioral. health care center before suicide attempt . For physicians already in practice, even relatively short educational interventions increases comfort, skill, willingness to assess suicidality (Ask and they will tell)		M2	
50	Hacker, K., R. Penfold, et al. (2012). Impact of electronic health record transition on behavioral health screening in a large pediatric practice. Psychiatr Serv 63(3): 256-261.	2012	Study to determine whether transitioning from paper to electronic health records affected behavioral health screening rates	Pediatrics	.	Primary Care settings	Patients in a large Northeastern pediatric practice	Rate of behavioral health screening increased from 70% to 91% during the baseline period but six months before EHR implementation-training period associated with 28% decline in adjusted screening rates (83.3% to 55.5%). Only 50% of eligible youths were screened in the first month after implementation.	Practice changes resulting from electronic record adoption were highly disruptive of care, and disruptions took several years to resolve completely.		M3	
51	King, C. A., R. M. Hill, et al. (2012). Adolescent Suicide Risk Screening: The Effect of Communication About Type of Follow-Up on Adolescents' Screening Responses. Journal of Clinical Child & Adolescent Psychology: 1-8.	2012	Experimental study examined the effect of communication about type of screening follow-up (in-person follow-up vs. no in-person follow-up)	13–17	245 adolescents seeking medical emergency service	Primary Care / ED settings	Screening measures assessed primary risk factors for suicidal behavior, including suicidal thoughts, depressive symptoms, alcohol use, delinquent behavior.	No main effect of follow-up condition on adolescents' screening scores; however, significant interactions between follow-up condition and public assistance status were evident.	Adolescents whose families did not receive public assistance reported significantly higher levels of suicidal ideation if assigned to in-person follow-up. Findings suggest response biases impact some adolscents responses to suicide risk screenings. Important to improve reliability and validity of adolescent suicide risk screening.		M2	

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				Age Range	Risk Group					HI	MD	LO
52	Anand, V., A. E. Carroll, et al. (2012). Automated Primary Care Screening in Pediatric Waiting Rooms. Pediatrics 129(5): e1275-e1281.	2012	Study to determine rates of positive risk screens during typical well-care visits among children and adolescents in primary care waiting room.	Children and Adolescents	Cohort of 16 963 patients: 408,601 questions were asked in 31,843 visits.	Primary Care Settings	Child Health Improvement through Computer Automation (CHICA) pediatric clinical decision support system, given to patients/families in waiting rooms.	Of questions asked, 89% had a response. Of those, 11% identified positive risk screens in both the younger children and the adolescent age groups.	Clinical decision support system integrated with electronic medical records offer a good strategy for implementing screening in waiting rooms. Suicide assessment not included in screens but results indicate use of computerized risk screenings.			L2
53	Ballard, E. D., A. Bosk, et al. (2012). Patients' Opinions About Suicide Screening in a Pediatric Emergency Department. Pediatric Emergency Care 28(1): 34-38	2012	Qualitative study to understand how children react to suicide screening in an emergency department	10 to 21 years	Presenting with both psychiatric/ nonpsychiatric complaints to an urban pediatric ED - Recruited for suicide	ED		Patients' mean age was 14.6 years and 56% of the sample was female. All patients answered the suicide risk question, 96% of 156 patients supported the idea that nurses should ask youth about suicide in the ED.	Pediatric patients in the ED support suicide screening after being asked a number of suicide-related questions. Further work should evaluate the impact of suicide screening on referral practices and link screening efforts with evidence-based interventions.		M2	
54	Joe, S., R. S. Baser, et al. (2009). 12-Month and Lifetime Prevalence of Suicide Attempts Among Black Adolescents in the National Survey of American Life. Journal of the American Academy of Child & Adolescent Psychiatry 48(3): 271-282.	2009		Adolescents			National Survey of American Life - First nationally representative study on the prevalence and psychiatric correlates of suicidal ideation and suicide attempts among African American and Caribbean black adolescents in the U.S. Consistent with previous studies	Study from the NSAL that found that African American teens, especially girls, are at increased risk for suicide attempts, even if they have not been diagnosed with a mental disorder. Almost half of the National Survey of American Life-Adolescent respondents who reported a suicide attempt had never met criteria for any of the DSM-IV disorders by the time of their attempts.	Clinicians should be trained to screen for suicidal behavior, even among those without DSM-IV disorders, when treating black adolescents, particularly female subjects. In addition, preventive efforts should consider ethnic differences in suicide risk and targeting nonclinical settings.		M2	
55	Diamond G., M. B. Wintersteen, et al. (2011). "Youth Suicide Prevention in Primary Care: The Pennsylvania Model ".	2011	YSP-PC implemented a web-based screening tool 10 - 15 min. to completed, scored before a visit and training to primary care staff about suicide risk assessment and treatment for youth suicide	Youth		Primary Care Setting	BHS - PC Behavioral Health Screen - Primary Care Treatments. CBT and family therapy. Report is generated with scores that provider reviews before meeting with patient.	The YSP-PC project implemented the Behavioral Health Screen– Primary Care (BHS-PC) designed to assess all domains recommended for a well visit for adolescents between the ages of 12 and 24. Questions include: demographics, medical, school, family, safety, substance use, sexual risk, nutrition and eating, anxiety, depression, suicide, psychosis, trauma	Physician suicide education is one of the two empirically proven and successful suicide prevention strategies that results in a significant reduction in the suicide rate (Lethal means restriction is the other intervention). Training - *Recognizing and Responding to Suicide Risk in Primary Car,* targets adolescent provider (SPRC/AFSP Best Practice Registry)		M3	

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56	American Academy of Child and Adolescent Psychiatry (AACAP) (200&). Practice parameter for the assessment and treatment of children and adolescents with depressive disorders.	2007	Practice Guidelines	Children and Adolescents				The psychiatric assessment of children and adolescents should routinely include screening questions about depressive symptomatology. Imperative to evaluate self-harm symptoms at initial and subsequent assessments. Low burden tools to track suicidal ideation behavior i.e. Columbia Suicidal Severity Rating Scale can be used.	If the screening indicates significant depressive symptomatology, clinician should perform thorough evaluation of depressive and other comorbid psychiatric medical disorders, the evaluation must include assessment for the presence of harm to self or others.		M1	
57	Newton AS, Hamm MP, Bethell J, Rhodes AE, Bryan CJ, Tjosvold L, Ali S, Logue E, Manion (2010). Pediatric suicide-related presentations: a systematic review of mental health care in the emergency department. Ann Emerg Med. Dec;56(6):649-59.	2010	Meta-analysis review of effectiveness of interventions for pediatric patients with suicide-related ED visits	Children and Adolescents		ED		Included 7 randomized controlled trials and 3 quasi-experimental studies. Transition intervention results: 1) Increased adherence with service referral in patients who received community nurse home visits compared with simple placement referral at discharge, 2) reduced risk of subsequent suicide after brief ED intervention and post discharge contact, 3) reduced suicide-related hospitalizations when ED visits were followed up with interim, psychiatric care	Transition interventions that follow screening for suicide risk appear most promising for reducing suicide-related outcomes and improving post-ED treatment adherence.	H2		
58	Cooper, G. D., P. T. Clements, et al. (2011). A Review and Application of Suicide Prevention Programs in High School Settings. Issues in Mental Health Nursing 32(11): 696-702.	2011	Comprehensive Review	Adolescents		Schools	Three prominent screening tools in use today: Suicidal Ideation Questionnaire (SIQ), Suicide Risk Screen (SRS), and Columbia Suicide Screen (CSS).	SIQ developed late 1980s, has 83–100% sensitivity, 40–70% specificity. SRS in use since late 1990s, 87–100% sensitivity, 54–60% specificity. CSS most recent and has 75% sensitivity 83% specificity. Scott et al. (2009) demonstrated Columbia Suicide Screen's ability to identify adolescents at-risk for suicide that were not identified by school professionals.	Scott et al. (2010) work on the Columbia Suicide Screen modified scoring algorithms and substantially diminished false positives with little effect on identifying high risk adolescents in school settings. Research shows that youth suicide almost always occurs in the context of an active, often treatable, mental illness, such as depression, that has frequently gone unrecognized or untreated (Scott et al., 2008). This view forms the ideological basis for programs such as the Columbia Teen Screen.	H1		

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				Age Range	Risk Group					HI	MD	LO
59	Hawton, K., K. E. Saunders, et al. (2012). "Self-harm and suicide in adolescents." Lancet 379(9834): 2373-2382.	2012	Artucke on self-harm and suicide as major public health problems in adolescents	Adol				Prevention of self-harm and suicide needs both universal measures aimed at young people in general and targeted initiatives focused on high-risk groups. There is little evidence of effectiveness of either psychosocial or pharmacological treatment, with particular controversy surrounding the usefulness of antidepressants. Restriction of access to means for suicide is important.	Challenges include the development of greater understanding of the factors that contribute to self-harm and suicide in young people, especially mechanisms underlying contagion and the effect of new media.		M2	
60	O'Mara, R. M., R. M. Hill, et al. (2012). "Adolescent and parent attitudes toward screening for suicide risk and mental health problems in the pediatric emergency department." Pediatr Emerg Care 28(7): 626-632.	2012	Study to investigate adolescent/parent attitudes toward screening adolescents for suicide risk in ED	Adol	294 adol's and 300 parents compete questionairre	ED		Parents and adolescents reported positive attitudes toward screening for suicide risk and other mental health problems in the ED, with the majority responding that it should be a routine part of ED care	Suicide risk and drug and alcohol misuse were rated as more important to screen for than any of the other mental health problems by both parents and adolescents.			

Summary Comments: Suicide Domain

This scan focused on Suicide risk assessment using the following key terms for searches: Suicide Risk Assessment, Primary Care screening for Suicide, Depression screening and Suicide, Screening for Depression and Suicide in Adolescents, Screening for Suicide in the Elderly, Screening for Substance Use and Suicide, PHQ-9 and suicide assessment in primary care, PHQ-2 for adolescents, Columbia Youth Screen. The search look-back was five years, with a focus on current, 2011/2012 findings.

The Suicide Domain Lit Scan falls into these eight broad categories:

1. Suicide Risk - Physician Practice / Training
2. Suicide Risk Assessment – All categories
3. Depression and Suicide Risk Assessment
4. Comorbidities and Suicide Risk Assessment
5. Substance Use and Suicide Risk Assessment
6. Elderly and Suicide Risk Assessment
7. US Military/Veterans -Primary Care Suicide Risk Assessment
8. Youth and Suicide Risk Assessment

Each citation was rated as having High, Medium or Low relevancy for the development of clinical behavioral health measures for primary care settings. The chart below defines the meaning of each rating score level.

H1 – Highly relevant, systematic review of studies, provides current direction for measure development process	M1 - Moderately relevant review of studies in relation to measure development process	L1 – Low relevance review of studies but some guidance in relation to measure development process
H2 – Highly relevant, robust single study, provides current direction for measure development process	M2 - Moderately relevant single study in relation to measure development process (based on topic relevance or strength of study)	L2 - Low relevance study but some guidance in relation to measure development process (based on topic relevance or strength of study)
H3 – Highly relevant to the domain/field	M3 – Moderately relevant to domain/field	L3 – Low relevance but some guidance for domain/field

Summary Points for each category:

1. Suicide Risk - Physician Practice / Training -

- Suicide risk assessment tied to physician training and capacity to implement effective suicide risk assessments and treatment follow-up. Critical barriers: lack of adequate physician training, limited time in primary care setting, limited ability to administer instruments and difficulty coordinating care with behavioral health service network
- CAI-S found to be valid for assessing suicide risk training in clinicians
- Screenings in primary care settings must be brief, valid, easy to score, and initiate dialogue regarding patient's desire for death, risk and protective factors

2. Suicide Risk Assessment – All categories

- No gold standard found for suicide risk assessment
- Multiple studies support use of PHQ-9 screening in primary care settings
- Columbia-Suicide Severity Rating Scale (C-SSRS) and 10-item Interpersonal Needs Questionnaire (INQ-10) self-report questionnaire measures presented as effective screening tools
- Suicide Assessment Five-step Evaluation and Triage(SAFE-T)risk assessment may be most effective screening process for primary care setting
- Collaborative care models presented as effective approach for improving depression, suicide risk outcomes
- 2004 U.S. Preventive Services Task Force evidence was insufficient to recommend for or against routine screening by primary care clinicians to detect suicide risk

3. Depression and Suicide Risk Assessment

- Screening for depression and suicide, using PHQ-9, well documented in primary care practice though still not definitive, as this tool does not capture all who may be at risk for suicide (lower specificity)
- Suicide risk increases with depression severity but may not be linked to physical illness (opposite findings shown in MI patients and suicide risk studies below)
- P4 - four question screener shown to be useful screener for suicide risk in patients diagnosed with depression

4. Comorbidities and Suicide Risk Assessment

Studies investigate patients who are both depressed and physically ill and/or have had a heart attack, finding that depression is a critical moderator / predictor for increased suicide risk in this population. Key focus on MI patients and increased suicide risk.

5. Substance Use and Suicide Risk Assessment

- High correlation between Bipolar Disorder and Alcohol Use Disorder and suicide risk call for screening focus on this population.

- Need for increased attention to address suicide risk in adolescents who have co-occurring disorders, going beyond screening for suicide risk; linking adolescents with treatment resources regardless of severity.

6. Elderly and Suicide Risk Assessment

- The GDS, GDS-SI and INQ screening tools accurately identify older patients with suicide ideation, finding that the single, self-report suicide-ideation item performed better than all multi-item GDS measures.

- Need for increased physician training was again recognized, as well as strength of collaborative care models in screening and treatment approach to reduce suicide risk

(PROSPECT and IMPACT model of care). Racial disparities of outcomes a concern in at least one study.

7. US Military/Veterans -Primary Care Suicide Risk Assessment

- Current, clear evidence shows that almost half of all military service members who died by suicide visited outpatient medical clinics 30 days prior to their deaths, many of those clinics outside of the VA system. Further evidence indicates need for suicide screening for military members beyond mental health symptomology.

8. Youth and Suicide Risk Assessment

- PHQ-2 found to have high sensitivity and specificity for detecting major depression in adolescents as first step screening. Studies suggest that if depression found in adolescents, Columbia Suicidal Severity Rating Scale could be used to identify suicide risk.
- Transition intervention results found to be effective treatment protocols after positive suicide screening include after brief ED intervention and limited post-discharge follow-up.
- Studies show an increasing focus on variation in suicide risk across ethnic and cultural differences, pointing attention towards the need to screen/treat black female adolescent for suicide risk even if there are no mental health or depression symptoms.
- Use of computerized screenings in primary care waiting rooms show effective screening outcomes and one study found that teens who have been screened for suicide in ED waiting rooms are in favor and supportive of that practice.

Acronyms

AHRQ	Agency for Healthcare Research and Quality
ASPE	Assistant Secretary for Planning and Evaluation
BH	Behavioral Health
BHeM	Behavioral Health eMeasure
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
FACP	Fellow, American College of Physicians
FASAM	Fellow, American Society of Addiction Medicine
EDC	Education Development Center
EHR	Electronic Health Record
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
MD	Medical Doctor
MPH	Masters in Public Health
MSW	Masters in Social Work
NCQA	National Committee for Quality Assurance
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
PC	Primary Care
PDM	Prescription Drug Misuse
PhD	Doctorate of Philosophy
PHQ	Patient Health Questionnaire
PRO	Patient Recorded Outcome
PROMIS	Patient Reported Outcomes Measurement Information System
PsyD	Doctor of Psychology
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
USPSTF	United States Preventive Services Task Force
VA	Department of Veterans Affairs
VHA	Veterans Health Administration
VP	Vice President