Screening Cancer Patients for Distress:
What Does the Evidence from 31 Studies Actually Show?

Alex Mitchell    www.psycho-oncology.info

Department of Cancer & Molecular Medicine, Leicester Royal Infirmary

ECRS, Copenhagen, 2012
Science of screening....

Aim of screening?

How to test screening?
## Development of Diagnostic Tests

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Lessons from primary care....

Aim of screening?

How to test screening?
Analysis of decisions made in meta-analyses of depression screening and the risk of confirmation bias: A case study

Felicity A Goodyear-Smith\textsuperscript{1},\textsuperscript{\*}, Mieke L van Dier<sup>2,3</sup>, Bruce Arroll<sup>4</sup> and Chris Del Mar<sup>4</sup>

Abstract

Background: Depression is common in primary care and clinicians are encouraged to screen their patients. Meta-analyses have evaluated the effectiveness of screening, but two author groups consistently reached completely opposite conclusions.

Methods: We identified five systematic reviews on depression screening conducted between 2001 and 2009, three by Goodyear-Smith and colleagues and two by the United States Preventive Task Force. The two author groups consistently reached completely opposite conclusions. We analyzed two contemporaneous systematic reviews, applying a stepwise approach to unravel their methods. Decision points were identified, and discrepancies between systematic reviews authors’ justification of choices made were recorded.

Results: Two systematic reviews each addressing three research questions included 36 randomized controlled trials with different combinations in each review. For the outcome depression screening resulting in treatment, both reviews undertook meta-analyses of imperfectly overlapping studies. Two in particular, pooled each by only one of the reviews, influenced the recommendations in opposite directions. Justification for inclusion or exclusion of studies was absent.

Conclusion: Systematic reviews may be less objective than assumed. Based on this analysis of two meta-analyses we hypothesize that strongly held prior beliefs (confirmation bias) may have influenced inclusion and exclusion criteria of studies and their interpretation. Authors should be required to declare any strongly held prior beliefs within their hypotheses, before embarking on systematic reviews.

Keywords: Meta-analysis, Meta-Analysis as Topic, Bias (Epidemiology), Methods, Depression, Mass screening, Social values, Confirmation bias
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<th>Outcome (predictor variable)</th>
<th>Overall random effects meta-analysis; RR (95% CI)*</th>
<th>Random-effects meta-regression (95% CI)†</th>
<th>Ratio of risk ratios (95% CI)‡</th>
<th>p value‡</th>
<th>$^2$ statistic,§ %</th>
</tr>
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<tr>
<td>Recognition of depression</td>
<td>RR&lt;sub&gt;high risk&lt;/sub&gt; 2.08 (0.90-4.78) RR&lt;sub&gt;unselected&lt;/sub&gt; 1.03 (0.85-1.24)</td>
<td>1.67 (0.89-3.16)</td>
<td>0.10</td>
<td>69</td>
<td></td>
</tr>
<tr>
<td>Population (high risk v. unselected)</td>
<td>RR&lt;sub&gt;nonspecific&lt;/sub&gt; 0.96 (0.85-1.09) RR&lt;sub&gt;depression-specific&lt;/sub&gt; 1.78 (1.12-2.84)</td>
<td>0.59 (0.33-1.04)</td>
<td>0.06</td>
<td>67</td>
<td></td>
</tr>
<tr>
<td>Setting (general hospital v. primary care)</td>
<td>RR&lt;sub&gt;general hospital&lt;/sub&gt; 1.38 (0.79-2.43) RR&lt;sub&gt;primary care&lt;/sub&gt; 1.30 (0.99-1.70)</td>
<td>0.95 (0.45-2.02)</td>
<td>0.89</td>
<td>71</td>
<td></td>
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<tr>
<td>Any intervention for depression</td>
<td>RR&lt;sub&gt;high risk&lt;/sub&gt; 1.50 (0.89-2.53) RR&lt;sub&gt;unselected&lt;/sub&gt; 0.97 (0.81-1.18)</td>
<td>1.37 (0.64-2.94)</td>
<td>0.03</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>Instrument (nonspecific v. depression specific)</td>
<td>RR&lt;sub&gt;nonspecific&lt;/sub&gt; 1.08 (0.89-1.32) RR&lt;sub&gt;depression-specific&lt;/sub&gt; 1.56 (0.87-2.79)</td>
<td>0.67 (0.30-1.50)</td>
<td>0.29</td>
<td>83</td>
<td></td>
</tr>
<tr>
<td>Setting (general hospital v. primary care)</td>
<td>RR&lt;sub&gt;general hospital&lt;/sub&gt; 1.11 (0.84-1.46) RR&lt;sub&gt;primary care&lt;/sub&gt; 1.43 (0.91-2.23)</td>
<td>0.83 (0.39-1.75)</td>
<td>0.58</td>
<td>83</td>
<td></td>
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<tr>
<td>Prescription of antidepressants</td>
<td>RR&lt;sub&gt;high risk&lt;/sub&gt; 1.45 (0.91-2.31) RR&lt;sub&gt;unselected&lt;/sub&gt; 0.86 (0.64-1.15)</td>
<td>1.64 (0.55-4.89)</td>
<td>0.29</td>
<td>85</td>
<td></td>
</tr>
<tr>
<td>Population (high risk v. unselected)</td>
<td>RR&lt;sub&gt;nonspecific&lt;/sub&gt; 1.07 (0.79-1.45) RR&lt;sub&gt;depression-specific&lt;/sub&gt; 1.39 (0.65-2.99)</td>
<td>0.76 (0.24-2.45)</td>
<td>0.58</td>
<td>84</td>
<td></td>
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<td>Setting (general hospital v. primary care)</td>
<td>RR&lt;sub&gt;general hospital&lt;/sub&gt; 0.87 (0.63-1.19) RR&lt;sub&gt;primary care&lt;/sub&gt; 1.32 (0.87-2.01)</td>
<td>0.69 (0.19-2.52)</td>
<td>0.49</td>
<td>86</td>
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<tr>
<td>Outcome of depression¶</td>
<td>Standardized mean difference -0.02 (-0.25-0.20)</td>
<td>31</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Relative risk meta-analysis plot (fixed effects)

Callahan CM, Dittus RS, Tierney WM. Primary care p  
1.09 (0.84, 1.41)

Christensen KS, Toft T, Frostholm L, et al. The FI  
1.37 (1.01, 1.87)

Dowrick C, Buchan I. Twelve month outcome of depre  
0.82 (0.32, 2.07)

Magruder–Habib K, Zung WW, Feussner JR. Improving  
1.97 (1.08, 3.69)

Moore JT, Silimperi DR, Bobula JA. Recognition of  
2.58 (1.46, 4.77)

Whooley MA, Stone B, Soghikian K. Randomized trial  
1.01 (0.75, 1.36)

Williams JWJ, Mulrow CD, Kroenke K. Case-finding f  
1.35 (0.79, 2.43)

Hoepner EW, Nycz GR, Kessler JD, et al. The usefu  
0.98 (0.72, 1.32)

combined [fixed]  
1.19 (1.04, 1.36)
Results disappointing
Acceptability overlooked
Who should screen?
When should we screen?
What follows screening?
Universal Screening
Unselected application to all consecutive patients

Per Attendee

Without Screening
4.3% correctly identified

with Screening
6.4% correctly identified

Screening sensitivity
RR=1.48

Per Depressed Person

Without Screening
36% correctly identified

with Screening
41% correctly identified

Diagnostic sensitivity
RR=1.14

Per Attendee

Without Screening
75% correctly identified

with Screening
73% correctly identified

Screening specificity
RR=0.97

Per Non-Depressed

Without Screening
87% correctly identified

with Screening
84% correctly identified

Diagnostic specificity
RR=0.96
Screening Target

Clinical Disorder

Distress / symptoms

Meetable Unmet Needs
Prevalence of depression in Oncology settings

70 studies involving 10,071 individuals; 14 countries.

16.3% (95% CI = 13.9% to 19.5%)

Mj 15%
Mn 19%
Adl 20%
Anx 10%
Dysthymia 3%
Depression Anxiety

- < 2 years
- 2 to 10 years
- > 10 years

Depression
- < 2 years: 1.99
- 2 to 10 years: 1.32
- > 10 years: 1.05

Anxiety
- < 2 years: 1.12
- 2 to 10 years: 1.29
- > 10 years: 1.46
* Relative Risks in LTCS (>2yrs)

RR of Depression LTCS vs Healthy Controls

= 1.16 (0.98-1.36)

* RR of anxiety LTCS vs Healthy Controls

= 1.35 (1.19-1.53)
Instructions
In the first four columns, please mark the number (0-10) that best describes how much emotional upset you have been experiencing in the past week, including today. In the final column please indicate how much you need help for these concerns.

1. Distress
2. Anxiety
3. Depression
4. Anger
5. Help

Extreme
None
Desperately
Can manage by myself
Embedded in screening programme

UHL Chemotherapy Emotion Quick Screen

1. PATIENT DETAILS
   Name (or addressograph) __________________________
   Ward/Dept __________________________

2. EMOTION THERMOMETERS
   Instructions:
   In the first four columns, please mark the number (0-10) that best describes how much emotional upset you have been experiencing in the past week, including today. In the final column please indicate how much you need help for these concerns.

   1. Distress
   2. Anxiety
   3. Depression
   4. Anger
   5. Help

3. CONCERNS CHECKLIST
   Instructions:
   Please ask the patient to tick any of the following that has been a cause of distress over the past week, including today. Also ask for the most pressing concerns.

   Practical Concerns
   Personal Concerns
   Emotional Concerns
   Physical Concerns
   □ Family issues
   □ Appearance
   □ Anger / irritability
   □ Breathing
   □ Issues with Health Staff
   □ Self-care
   □ Nervousness / anxiety
   □ Eating / weight
   □ Finance / Bills
   □ Loss of Independence
   □ Depression / hopelessness
   □ Tasting
   □ Lack of Information
   □ Loss or Role
   □ Worry about cancer
   □ Fatigue / Exhaustion
   □ Problems with medication
   □ Sexual Identity Issues
   □ 0.64 experiences
   □ Sleep problems
   □ Others
   □ Spiritually Issues
   □ Self-esteem / confidence
   □ Nausea
   □ Others
   □ Other (state)
   □ Other (state)
   □ Headaches
   □ Other (state)
   □ Pain
   □ Other (state)

   (1st) Most Pressing
   (2nd) Most Pressing
   (3rd) Most Pressing

4. ACTION TAKEN FOR EACH CONCERN
   □ No action
   □ Declined Help
   □ Help Given
   □ Other (state)
   □ Referral
   □ Other (state)
   □ No action
   □ Declined Help
   □ Help Given
   □ Other (state)

Clinician __________________________
Designation __________________________
Specialty __________________________
Date __________________________
Two computerized screeners:
Supportscreen
Quicatouch
SupportScreen (n=2000)

- Talking with the doctor: 20.3%
- How my family will cope: 20.4%
- Finding reliable clinical information: 22.6%
- Solving problems due to my illness: 23.1%
- Transportation: 23.2%
- Bowel movement/constipation: 24.4%
- Losing control of things that matter to me: 24.8%
- Questions and fear about end of life: 25.1%
- Feeling irritable or angry: 25.2%
- Copay, MediCal, MediCare, other major insurance: 25.9%
- Needing help coordinating my medical care: 26.2%
- Finding community resources near where I live: 26.8%
- Feeling down or depressed: 27.2%
- Getting medicine(s): 29.1%
- Managing my emotions: 29.3%
- Feeling anxious or fearful: 29.4%
- Pain: 30.4%
- Understanding my treatment options: 32.7%
- Fatigue (feeling tired): 32.9%
- Talking about use of food/herbal supplements: 34.5%
- Finances: 34.6%
- Sleeping: 34.6%
- Side-effects of treatments: 35.2%
- Worry about the future: 35.6%
Screening testing

Development

Testing
Testing Screening methods

Accuracy (efficacy)

Vs Tools

Vs Criterion

RESEARCH

Simplicity

Brevity

Scoring

Interpretation

Acceptability

Patients

Staff

Relatives

CLINICAL

QoL

Distress

Depression

Effectiveness

RESEARCH

Tools

Screening methods

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Acceptability

Patients

Staff

Relatives
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Accuracy of Distress Thermometer and Other Ultra-Short Methods of Detecting Cancer-Related Mood Disorders: Pooled Results From 38 Analyses

Diagnosis of anxiety and depression in cancer: evidence for the introduction of a new screening tool using the Hospital Anxiety Depression Scale-HADS.

Diagnostic validity of the Hospital Anxiety Depression Scale (HADS) in cancer and palliative settings: A meta-analysis

Meta-analysis of screening and case finding tools for depression in cancer: Evidence based recommendations for clinical practice on behalf of the Depression in Cancer Cancer care group

Research report

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Dep_Onc

Dep_Pall

Distress

ARTICLE INFO

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Distress
Screening in Cancer....implementation

Randomized

Non-Randomized
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Screening for cancer-related distress: Summary of evidence from tools to programmes

Pernille Enold Bredstrup1, Christoffer Johansen1,2 & Alex J. Mitchell1

1Department of Psychological Cancer Research, Institute of Cancer Epidemiology, Danish Cancer Society, Copenhagen, Denmark. 2National Centre for Cancer Rehabilitation Research, Institute of Public Health, University of Southern Denmark, Odense, Denmark and 1Department of Cancer Studies and Molecular Medicine, Leicester Royal Infirmary, University of Leicester, UK.

Abstract
A number of studies have addressed the development and testing of tools for measuring cancer-related distress except for studies of diagnostic validity, knowing on the effect or effecting of psychological cancer distress on psychological well-being is limited. We aimed to describe and critically discuss the findings of randomized trials of the effect of screening and to identify components necessary for future studies of the effectiveness of screening programmes. Methods: A search was made of the Embase, Medline and Web of Knowledge databases from inception to September 2010. Our inclusive criteria was randomized controlled trials concerning the effect of screening for psychological distress on psychological outcomes. We compared the randomized trials on the following aspects: design and setting, sample, screening and intervention, effects on psychological distress, staff attitudes, screening results, possible confounding factors and other methodological limitations. Results: of the seven identified randomized trials the effect of screening for psychological distress, three showed an effect on psychological well-being, one showed an effect only among patients depressed at baseline, and two studies showed no effect. Several of the trials had methodological weaknesses and they were heterogeneous in design and suffer from direct comparisons are difficult. Further, randomization was necessary to examine comparative validity of different screening approaches and to evaluate the efficacy of the screening trials involving treatment with associated treatment. Trials should include distress as a patient outcomes, use appropriate samples, include a detailed, theory-based distress intervention, offer staff training and finally track staff and patient use of subsequent interventions. Provisional work suggests that screening for psychological distress holds promise and is often clinically valuable, but it is too early to conclude anything that psychological screening tests affect the psychological well-being of cancer patients.

Distress can be defined as the experience of significant emotional upset and arise from various psychological and pharmacological conditions [1,2]. It is a common but treatable complication of cancer, and it can persist at any stage in the cancer pathway [3]. It may consist predominantly of depression, anxiety or anger or present in a mixed, broadly defined state [4]. In recent work, the point prevalence of distress was 30–50%, depending on the method of assessment [5]. The distress is the key emotional patient reported outcome measure rather than depression has the advantage of lower perceived stigma and social expression in patients. It is appreciated that distress is poorly operationalized, and there is therefore a risk of categorizing patients who have short-lived, "normal" emotional responses to cancer as ill [6]. The National Comprehensive Cancer Network has proposed one definition [7]. Other bodies refer to the term "anxiety disorder" or a psychiatric disorder from the International Classification of Diseases, 10th Edition, for the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition. For the purposes of deciding whether to offer professional help, it is useful to draw a distinction, for example into minimal, mild, moderate and severe, with an, slight, moderate or severe functional impairment, respectively (table 1). Accurate, sensitive, valid and reliable evidence suggests that the presence of distress

Corresponding author: Linda E. Carlson, PhD, Department of Psychological Cancer Research, Institute of Cancer Epidemiology, University of Southern Denmark, Odense, Denmark. E-mail: linda.carlson@kemi.au.dk.

Screening for Distress and Unmet Needs in Patients With Cancer: Review and Recommendations

Linda E. Carlson, Amy Willer, and Alex J. Mitchell

A B S T R A C T

Purpose
The review summarizes the need for and process of screening for distress and assessing unmet needs of patients with cancer as well as the possible benefits of implementing screening.

Methods
How the review included relevant literature were examined and summarized using structured literature searches. Psychometric properties of commonly used distress screening tools, psychometric properties of relevant cancer needs assessment tools, and implementation of distress screening programs that assessed patients' reported outcomes (PROs).

Results
Distress and unmet needs are common problems in cancer settings, and programs that routinely screen for and treat distress are feasible, particularly when staff are supported and feels with specialized psychological services assist. Many distress screening and support tools have been studied to preliminary validation, but few have been compared head to head in independent settings. Research investigating the overall effectiveness of screening for distress in terms of improved recognition and treatment of distress and associated problems is not yet conclusive, but screening seems to improve communication between patients and clinicians and may enhance psychological referrals. Direct effects on quality of life are uncertain, but screening may help improve the quality of life issues.

Conclusions
Involving all stakeholders and frontline clinicians when planning screening for distress programs is recommended. Training frontline staff to deliver screening programs is crucial, and training to regularly evaluate outcomes, including PROs, process of care, referrals, and economic costs and benefits is essential.

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WHAT IS SCREENING FOR DISTRESS?

The National Comprehensive Cancer Network Distress Management Guidelines Panel defines distress as a "multidimensional unpleasant emotional experience of a psychological (cognitive, behavioral, emotional) world, and/or physical nature that may interfere with the ability to cope with cancer, its physical symptoms and its treatment. Distress exists along a continuum, ranging from common normal feelings of vulnerability, sadness, and fear, to problems that can become disabling such as depression, anxiety, panic, somatization, isolation and spiritual crisis" [1,2]. In this framework, distress related to cancer diagnosis and treatment is explicitly ruled out to be a number of common practical, physical, and psychological problems. Elevated levels of distress have been linked with reduced health-related quality of life [3,4], poor satisfaction with medical care [5], and possibly reduced survival [6], although a mortality effect may be confirmed in later stages [7].

Distress is not a specific clinical term that appears in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, which is used to assign formal psychiatric diagnoses, but is part of the checklist of criteria associated with that disorder is a qualifier for several mood disorders, including major depression and adjustment disorder. One reason for its inclusion in the cancer care is that the term distress is often more useful for cancer than psychiatric terms such as anxiety or depression. It is easily understood by the lay person and does not carry the stigma often associated with diagnosing mental illness and terms such as psychosocial, psychosocial, and emotional. It is usually well understood by non-medical health workers, facilitators, and patient advocates.
<table>
<thead>
<tr>
<th>Author</th>
<th>Study Design</th>
<th>Sample</th>
<th>Screening Beneficial?</th>
<th>Acceptability of Screening?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maunsell et al, 1996</td>
<td>2 arm screen vs no screen RCT (telephone screening using GHO-10 every 28 days (12 calls))</td>
<td>255 breast patients intervention n=128; control n=127</td>
<td>No</td>
<td>Not studied</td>
</tr>
<tr>
<td>Mills et al (2009) UK</td>
<td>2 arm screen (no feedback) vs no screen RCT (structured QOL diary completed at home each week for 16 weeks)</td>
<td>115 patients with inoperable lung cancer intervention n=57; control n=58</td>
<td>No (slightly)</td>
<td>High</td>
</tr>
<tr>
<td>Braeken et al (2011) Germany</td>
<td>2 arm screen vs no screen RCT: (allocation ratio of 1:1) Radiotherapists SIPP screening</td>
<td>268 cancer patients; 263 completed the SIPP screening at baseline. 259 completed repeat SIPP screening and process measures.</td>
<td>Not yet reported</td>
<td>Mixed</td>
</tr>
<tr>
<td>Klinkhammer-Scholle et al (2012) Germany</td>
<td>2 arm screen RCT (Computerized QOL assessment)</td>
<td>200 women with primary breast cancer intervention n=99; control n=100 in usual care. 84 and 85 had complete data at 6 months.</td>
<td>Yes</td>
<td>Not reported</td>
</tr>
<tr>
<td>Hollingsworth et al (2012) UK</td>
<td>2 arm screen vs no screen RCT: (allocation ratio of 1:1) DT &amp; problem list by radiographer/nurse.</td>
<td>220 patients (49% breast, 27% urological, 24% other cancer sites) were randomised. 107/112 randomised to the DTS/PL completed it, taking about 25 minutes.</td>
<td>No</td>
<td>High</td>
</tr>
<tr>
<td>Randomized</td>
<td>Feedback vs No Feedback</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melachlan et al, 2001</td>
<td>2 arm feedback vs no feedback RCT (allocation: 2:1 intervention: control) touch-screen computer prior to consultation at baseline, 2 and 6 months</td>
<td>450 cancer outpatient intervention n=296; control n=154</td>
<td>Partial (in depressed patients)</td>
<td>Not studied</td>
</tr>
<tr>
<td>Sarno (1998) US</td>
<td>2 arm feedback vs no feedback RCT research assistants using SDS, HADS, KPS.</td>
<td>48 newly diagnosed patients with advanced lung cancer intervention n=104; control n=152</td>
<td>Yes</td>
<td>Not studied</td>
</tr>
<tr>
<td>Denno et al, 2002 Netherland</td>
<td>Randomized feedback vs no feedback crossover trial EORTC QLC C30</td>
<td>214 palliative chemotherapy intervention n=100; control n=114</td>
<td>No</td>
<td>Not studied</td>
</tr>
<tr>
<td>Velikova et al, 2004 UK</td>
<td>3 arm feedback vs no feedback no screen RCT (allocation ratio: 2:1:1 in favour of intervention group and stratified by cancer site) Touch-screen screening measure (EORTC QLC-C30, HADS)</td>
<td>286 patients intervention n=144; AC n=70; control n=72</td>
<td>Yes</td>
<td>Mixed</td>
</tr>
<tr>
<td>Rosenbloom et al, 2007 USA</td>
<td>3 arm feedback vs no feedback RCT, stratified by diagnosis, all groups completed questionnaires prior to regular consultation Structured interview and discussion (); interviewed by nurse after questionnaire completed (baseline, 1, 2 months)</td>
<td>213 patients with advanced breast, lung or colorectal, regional or distant spread, receiving chemotherapy intervention n=144; AC n=70; control n=72</td>
<td>No</td>
<td>Not studied</td>
</tr>
<tr>
<td>Carbon et al (unpublished data) Canada</td>
<td>2 arm feedback vs personalized feedback RCT: (allocation ratio of 1:1) Completed DT, FT, PT, PSSCAN Part C</td>
<td>3133 patients Computerized n=1591; personalized n=1602</td>
<td>No</td>
<td>High</td>
</tr>
</tbody>
</table>
Implementation Studies

- Pre-post screening (non-randomized)
- Screening randomized RCTs
  - Screen vs No Screen condition
  - Feedback vs No feedback
- Screening Observational
  - Audit of screen +ve
  - Screen +ve vs Screen -ve
24 studies

- 10 non-randomized (pre-post screening)
  - Sequential cohort
- 14 randomized
  - Screen vs No Screen condition
  - Feedback vs No feedback
  - Screen + Screen with follow-up (n=2)
22+2 studies (Pre-meta)

- 10 non-randomized (pre-post screening)

⇒ 8 / 10 “some” positive outcomes

⇒ 2 / 10 patient wellbeing as result of screening
Implementation Studies – Pre-Meta

- 22+2 studies (Pre-meta)
  - 12(+2) randomized
    - 5 screen vs No Screen condition
      => 1 / 5 positive
    - 7 feedback vs No feedback
      => 4 / 7 positive

- Overall => 13 positive; 1 negative (Mills); 7 neutral
Implementation Studies – Pre-Meta

- Of 22 studies
  - 7 positive
  - 7 partially positive / mixed
  - 7 neutral
  - 1 negative (Mills)
Implementation Studies

- 9 studies Distress => Referral
- 6 studies QoL => Communication
Distress Screening => Effect on referral
Mills et al (2009) 0.84 (0.56, 1.23)
Hilarius et al (2008) 0.94 (0.62, 1.44)
Detmar et al (2002) 1.18 (0.88, 1.60)
Velikova et al (2004) 1.26 (0.95, 1.67)
Pruyn et al (2004) 1.36 (0.80, 2.32)
Taenzer et al, (2000) 2.09 (0.98, 4.72)

combined [fixed] 1.17 (1.00, 1.37)

Risk difference meta-analysis plot [fixed effects]

QoL screening =>
Effect on Communication
Screening....local implementation

Local non-randomized example
UHL Chemotherapy Emotion Quick Screen

1. PATIENT DETAILS
   Name (or address/phone) ____________________________
   Ward/Dept ____________________________

2. EMOTION THERMOMETERS
   **Instructions**
   In the first four columns, please mark the number (0-10) that best describes how much emotional upset you have been experiencing in the past week, including today. In the final column, please indicate how much you need help with these concerns.

   - Depression
   - Anxiety
   - Anger
   - Help
   - Temporarily

3. CONCERNS CHECKLIST
   **Instructions**
   Please ask the patient to tick any of the following that has been a cause of distress over the past week, including today. Also ask for the most pressing concerns.

<table>
<thead>
<tr>
<th>Practical Concerns</th>
<th>Personal Concerns</th>
<th>Emotional Concerns</th>
<th>Physical Concerns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family issues</td>
<td>Appearance</td>
<td>Anger / Inability</td>
<td>Breathing</td>
</tr>
<tr>
<td>Issues with Health Staff</td>
<td>Self-care</td>
<td>Nervousness / Anxiety</td>
<td>Eating / weight</td>
</tr>
<tr>
<td>Pressure or pain</td>
<td>Loss of independence</td>
<td>Depression / hopelessness</td>
<td>Tolerating</td>
</tr>
<tr>
<td>Loss of role</td>
<td>Anxiety</td>
<td>Fatigue / Exhausion</td>
<td>Loss of appetite</td>
</tr>
<tr>
<td>Problems with medication</td>
<td>Pain experiences</td>
<td>Single experience</td>
<td>Pain</td>
</tr>
<tr>
<td>Sexual activity</td>
<td>Grief /bereavement</td>
<td>Confusion</td>
<td>Headaches</td>
</tr>
<tr>
<td>Spiritual issues</td>
<td>Memory / concentration</td>
<td>Unrest</td>
<td>Headaches</td>
</tr>
<tr>
<td>Others</td>
<td>Self-esteem/confidence</td>
<td>Headaches</td>
<td>Headaches</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pain</td>
</tr>
</tbody>
</table>

   *(1st) Most Pressing | *(2nd) Most Pressing | *(3rd) Most Pressing*

4. ACTION TAKEN FOR EACH CONCERN

   - No action
   - Declined help
   - Help given
   - Referral
   - Other (state)

   **Clinician** ____________  **Designation** ____________  **Specialty** ____________  **Date** ____________

   Please file with additional information in notes & return feedback form completed.

---

UHL Chemotherapy Emotion Quick Screen Feedback Form

**INSTRUCTIONS**
We would be grateful if you can fill in this form after each application (for each patient) of the Quick Screen, so that we can evaluate its success. Please return a copy for all patients not just those with high scores. This form can be completed by any relevant clinical nurse specialist. Please return to the address below (For enquiries ring 0191 2256281)

**PATIENT RESULTS**

<table>
<thead>
<tr>
<th>Study No.</th>
<th>Cancer Type (Amount)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment intent</td>
<td>Adjunct</td>
</tr>
</tbody>
</table>

- What was the score on the Emotion Thermometers? 
  - Depression
  - Anxiety
  - Anger
  - Help

- What were the three most pressing concerns? 
  - (1) ____________  (2) ____________  (3) ____________  OR None

- What was your clinical impression BEFORE screening? (Please select one)
  - Depressed
  - Anxious
  - Angry
  - Unhappy
  - Well
  - Other

- What was your clinical impression AFTER screening? (Please select one)
  - Depressed
  - Anxious
  - Angry
  - Unhappy
  - Well
  - Other

- What was your clinical rating of the severity of the psychological issues and of the severity of the physical health issues?
  - (0) Not applicable
  - (1) Normal, not at all
  - (2) Borderline mental health issues
  - (3) Borderline physical health issues
  - (4) Moderately ill
  - (5) Severely ill
  - (6) Among the most extremly ill patients

**ACTION TAKEN FOR EACH CONCERN**

1. No action needed
2. No action taken
3. Declined help
4. Declined help
5. Help given
6. Help given
7. Referral
8. Referral
9. Other (state)
10. Other (state)

**Clinician** ____________  **Designation** ____________  **Nursing Medical Specialty** ____________  **Urology** ____________  **Date** ____________

Please file for notes and return P3 to Literature Giringer (For Alex Mitchell)
The slide illustrates diagnostic accuracy according to score on the DT.
Radiotherapy Uptake (6mo)

- 800 Patients Approached
  - 200 Not Willing (25%)
    - TAU
  - 600 Patients Willing (75%)
    - 50 Staff Willing (50%)
    - 530 Data Collected (87%)

- Screen Data
Communication

Distress/ Depression

43% of CNS reported the tool helped them talk with the patient about psychosocial issues

28% said it helped inform their clinical judgement
### Pre-Post Screen - Distress

<table>
<thead>
<tr>
<th></th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity of</td>
<td>49.7%</td>
<td>55.8%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>=&gt;+5%</td>
</tr>
<tr>
<td>Specificity of</td>
<td>79.3%</td>
<td>79.8%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>=&gt;+1%</td>
</tr>
<tr>
<td>PPV was</td>
<td>67.3%</td>
<td>70.9%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>=&gt;+4%</td>
</tr>
<tr>
<td>NPV was</td>
<td>64.1%</td>
<td>67.2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>=&gt;+3%</td>
</tr>
</tbody>
</table>

There was a non-significant trend for improve detection sensitivity (Chi² = 1.12, P = 0.29).
Acceptability

Clinicians felt screening was useful in 43.0% of assessments, not useful in 35.9%, and unsure or neutral in 21.1%.

Don't know — No — Yes

Communication — Practical — Recognition
Screening in Cancer....implementation

What lessons?
Take home Message:

- Evidence from Screening implementation is mixed
  - Sometimes +ve PROMs
  - Rarely negative effects
  - Often negligible effect

=> What is holding back screening success?
Barriers to Screening Success

1 patients

2. clinician
Barriers to Screening: Patients
PATIENTS. How Many Want Any Ps Help? (n=1844)

- Shim et al (2008) [Distressed]: 0.66 (0.52, 0.77)
- van Scheppingen et al (2011) [Distressed]: 0.57 (0.44, 0.70)
- Mitchell et al (2012) [Distress or Depressed]: 0.56 (0.48, 0.64)
- Sharpe et al (2004) [Depressed]: 0.49 (0.41, 0.58)
- Luutonen et al (2011) [Depressed]: 0.47 (0.36, 0.58)
- Carlson et al (2010) [Distressed]: 0.46 (0.41, 0.51)
- Söllner et al (2004) [Distress]: 0.43 (0.33, 0.54)
- Tuinman et al (2008) [Distressed]: 0.43 (0.34, 0.53)
- Graves et al (2007) [Distressed]: 0.33 (0.27, 0.40)
- Ryan et al (2011) [Depressed]: 0.32 (0.22, 0.43)
- Morasso et al (2010) [Distressed]: 0.31 (0.16, 0.50)
- Clover et al (2010) [Distressed]: 0.29 (0.24, 0.35)
- Baker-Glenn et al (2010) [distressed]: 0.27 (0.20, 0.35)

combined: 0.43 (0.37, 0.49)
Barriers to Screening: Clinicians
<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Diagnosis Yes</th>
<th>Diagnosis No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distress</td>
<td>59% helped</td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>33% helped</td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>39% helped</td>
<td></td>
</tr>
<tr>
<td>Anger</td>
<td>30% helped</td>
<td>None of above</td>
</tr>
<tr>
<td>Any of above</td>
<td>46% helped</td>
<td>20% helped</td>
</tr>
</tbody>
</table>
CLINICIANS. Who Offers Any Ps Help? (n=2557)

![Proportion meta-analysis plot]

- Söllner et al (2004) 0.32 (0.21, 0.45)
- Morasso et al (2010) 0.42 (0.31, 0.54)
- Mitchell et al (2012) [help or referral] 0.23 (0.19, 0.28)
- Fritsche et al (2004) 0.51 (0.40, 0.61)
- Shimizu et al (2005) 0.50 (0.41, 0.58)
- Plass and Koch (2001) 0.47 (0.38, 0.56)
- Bramsen et al (2008) 0.45 (0.35, 0.55)
- van Scheppingen et al (2011) [help or referral] 0.32 (0.21, 0.45)
- Siedentopf et al (2009) 0.23 (0.19, 0.28)
- Kadan-Lottick et al (2005) 0.22 (0.17, 0.27)
- Ellis et al (2009) [Referral] 0.42 (0.31, 0.54)
- Bogaarts et al (2011) [Referral] 0.38 (0.27, 0.49)
- Keller et al (2004) [Referral] 0.34 (0.23, 0.46)
- Carlson et al (2010) [Referral] 0.30 (0.25, 0.35)
- Shimizu et al (2009) [Referral] 0.25 (0.18, 0.33)
- Verdonck-de Leeuw et al (2009) [Referral] 0.21 (0.05, 0.51)
- Mitchell et al (2012) [Referral] 0.19 (0.14, 0.25)
- van Scheppingen et al (2011) [Referral] 0.14 (0.07, 0.25)
- combined 0.40 (0.31, 0.50)
BOTH. How Many Receive Ps Help? (n=2557)

Proportion meta-analysis plot [random effects]

- Kadan-Lottick et al (2005) 0.89 (0.77, 0.96)
- Plass and Koch (2001) 0.60 (0.46, 0.72)
- Siedentopf et al (2009) 0.46 (0.35, 0.58)
- Fritsche et al (2004) 0.43 (0.28, 0.59)
- Bogaarts et al (2011) 0.38 (0.27, 0.49)
- Söllner et al (2004) 0.35 (0.26, 0.45)
- Shimizu et al (2005) 0.28 (0.18, 0.41)
- Shimizu et al (2009) 0.25 (0.18, 0.33)
- Merckaert et al (2009) 0.21 (0.17, 0.25)
- Morasso et al (2010) 0.16 (0.05, 0.33)
- Sharpe et al (2004) 0.15 (0.10, 0.22)
- McDowell et al (2010) 0.14 (0.11, 0.18)
- Combined 0.35 (0.25, 0.46)

proportion (95% confidence interval)
Maria Hewitt, Julia H. Rowland Mental Health Service Use Among Adult Cancer Survivors: Analyses of the National Health Interview Survey

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FURTHER READING:

Screening for Depression in Clinical Practice
An Evidence-Based guide
Alex J. Mitchell & James C. Coyne

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