Evidence Based Collaborative Care

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Psychiatry Grand Rounds
9/24/15
Objectives

• Identify three components of evidence based collaborative care associated with positive outcomes.
• Identify three specific medical or psychiatric diagnoses that have been successfully targeted by collaborative care interventions in the literature.
• Identify three common outcomes positively affected by collaborative care interventions.
Case

• 57yo man with Schizoaffective disorder, on disability, CLL and chronic LBP referred to me by his PCP due to dissatisfaction with his ACT team.

• Three hospitalizations for psychotic sx over the past year.
Case: PCP notes

• “The patient has numerous issues ... states today that he was told not to return to his psychiatric clinic because he cannot pay and was transferred to another clinic which he is yet to attend ... He still has insurance. It is unclear whether the patient is on his psychiatric meds right now. I explained to the patient that it is very, very important for him to follow-up with psychiatry very closely in order to keep his psychiatric conditions under control. I explained to him that the best people to take care of his psych medications were his psychiatry doctors...”

• He seemed to be very anxious, and it was really hard to tease out exactly what his underlying psych issues were and whether it was inappropriate or appropriate to restart him on his ADD medications; although, he did appear to be very hyperactive during this examination, and it is unclear to me what he needs to be on. I would like to...send him to the psychiatric PA, for further consultation with his current issues...”

• “Comes into the clinic today requesting for refills of his antipsychotic medications...He was recently seen by [Psych PA] for evaluation for his psychiatric illnesses. He was asking today for Dexedrine 15 mg bid and Valium. She did not feel comfortable refilling these medications, and she contacted the ACT team who stated that the patient had had some issues with his Psychiatrist. There have been firing Psychiatrists, and the patient was told then that he would need to go to his Psychiatrist to get follow-up prescription for this medication. The patient today still reports feeling very anxious, having a lot of ADHD and would like to switch providers...”
Collaborative Care Defined:
Agency for Healthcare Research and Quality

Collaborative Care

An overarching term describing ongoing relationship between clinicians (e.g., BH and PC) over time. Not a fixed model, but a larger construct consisting of various components which combined create models of collaborative care.
Collaborative Care Defined

<table>
<thead>
<tr>
<th>WHO</th>
<th>2006 Gilbody</th>
<th>2014 Huffman</th>
</tr>
</thead>
</table>
| • Collaborative practice in health-care occurs when multiple health workers from different professional backgrounds provide comprehensive services by working with patients, their families, carers and communities to deliver the highest quality of care across settings. | • A multifaceted intervention with three or more providers working collaboratively within the primary care setting.  
• Specifically:  
  – PCP  
  – MH expert consultant  
  – Case manager | • Systematic Psychiatric Assessment  
• Use of non-physician care manager  
• Specialist-provided, stepped care recommendations |
## Linkages In Care

### 42 RCTs: Components associated with positive outcomes

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Care Management</td>
<td>The coordination of care – it can include assessment, review and follow-up and a care management plan – linking with other services, or defined care pathway.</td>
</tr>
<tr>
<td>Enhanced communication</td>
<td>Includes meetings, shared medical records, patient held medical records, consistent process for notifications, standardized letters, standardized letters, referrals and reports.</td>
</tr>
<tr>
<td>Consultation liaison</td>
<td>A practitioner connection where P1 has an explicit arrangement to provide expert level advice about ongoing care to P2 that is apart from the usual relationship.</td>
</tr>
<tr>
<td>Local protocols</td>
<td>An agreed process that is structured and documented about a specific patient treatment including evidence based algorithms.</td>
</tr>
</tbody>
</table>

Fuller 2011
Essential Components of Evidence Based Collaborative Care

• Care Management
• Enhanced Communication
  • Consultation Liaison
  • Multidisciplinary teams
• Local Protocols
  • Systematic psychiatric assessment
  • Algorithm guided care
Review of Literature: Methods and Result

- Depression in the Elderly
- Depression and Heart Disease
- Depression and DM
- Depression and Cancer
- Depression and HIV
- Chronic Pain
- Severe Persistent Mental Illness
- Less collaborative interventions
  - Depression screening
  - Consultation Liaison
Depression in the Elderly
IMPACT: Methods

• Population: 1801 older adults (≥60yo) with MDD or dysthymia (Late life depression)
• Setting: 18 primary care clinics from 8 healthcare organizations across 5 states
  • 4 HMOs, 1 VA, 2 University, 1 Private Practice
• Intervention (12 months):
  • Depression Care Specialist (DCS): Nurse or psychologist
    – Collaborated with PCP and psychiatrist
    – Obtained psychosocial history
    – Provided education and behavioral activation
    – Helped identify treatment preferences
    – Weekly or biweekly pt contact
  • Weekly meeting: DCS, psychiatrist and PCP
  • Stepped care algorithm
  • Problem Solving Treatment

Harpole 2005
IMPACT: Outcomes

- Significant outcomes:
  - More likely to use antidepressants or psychotherapy
  - Greater satisfaction with depression care
  - Decreased depression severity (SCL-20)
  - Higher rates of response (50% reduction) and remission (<0.5)
  - Improved health related function (MCS or SF12)
  - Greater overall QOL (0-10)

- Mean age: 71.2 years
- Cost per pt: $553
- More medical comorbidities did not affect outcomes
- Outcomes persisted at 18 and 24 months (NNT 6 and 9)

Unutzer 2002; Harpole 2005; Hunkeler 2006
PROSPECT

Methods:
• Population (N = 598): ≥ 60yo, pos depression screen (CES-D) + 5% neg screen
• Setting: 20 primary care clinics in the Northeast
• Intervention:
  – Depression care manager (RN, psychol, SW)
  – Depression treatment algorithm
  – Helped recognize depression
  – Weekly supervision by psychiatrist
  – Interpersonal therapy

Outcomes:
• Decrease in SI (SSI) (12.9% vs 3%)
• Decrease in depression sx (HDRS)
• Greater rates of response (50% reduction) at all time periods and Remission (HDRS<10) at 4 mo.
• Results significant for all depression and MDD but not minor depression
• Mitigated the mortality risk associated with MDD

Care Management
Local Protocols
Enhanced Communication

Bruce 2004; Gallo 2013
Depression and Heart Disease
COPES

Methods:
• Population (N = 237): 3 months post ACS, pos depression screen (BDI > 10 at 1wk and 3mo)
• Setting: 5 hospitals in northeast
• Intervention:
  – Depression care specialist
  – Patient preference: medication (20%), problem solving therapy (75%) or both (2.5%)
  – Stepped care approach
  – Standardized tracking of depression sx (PHQ-9)
  – Treatment team meetings; psychiatrist or NP

Outcomes:
• Higher percentage of pts receiving antidepressants and psychotherapy
• Higher satisfaction with depression care (excellent, very good)
• Improvement in depression sx (Effect size 0.59)
• Fewer major adverse cardiac events
• Usual care group more likely to report non-depression psychiatric sx

Davidson 2010
CODIACS

Methods:
• Population (N = 150): 2-6 months after ACS, pos depression screen (BDI > 10)
• Setting: 7 healthcare centers across US
• Intervention:
  – Depression Care Specialist
  – Problem solving therapy (80%), meds or both
  – Algorithm driven, stepped care
  – Weekly team meetings with local MD/APP, psychiatrist and therapy supervisor

Outcomes:
• Decrease in depression sx (BDI) and higher remission rates
• No difference in response rates
• No difference in overall healthcare costs (higher MH cost in intervention)
• More robust difference in women and pts with DM

Davidson 2013
Depression and ACS

Collaborative Care meta-analysis (0.25)

SSRI meta-analysis—Published + Unpublished (0.31)

SSRI meta-analysis—Published (0.41)

CODIACS RCT *

COPES RCT *

Fluoxetine RCT

SADHART RCT—Sertraline

MIND-IT RCT—Mirtazapine/Citalopram

CREATE RCT—Citalopram

CREATE RCT—IPT

ENRICHD RCT

Hedges’ $G$

Davidson 2013
Bypassing the Blues

Methods:
• Population (N = 302): Discharged post-CABG, pos depression score (PHQ ≥ 10); Plus 151 non-depressed comparison.
• Setting: 7 hospitals in Pittsburgh, PA
• Intervention:
  – Nurse care manager (telephone)
  – Review history and psychoeducation
  – Patient preference: workbook, pharmacotherapy, watchful waiting, referral to MH
  – Weekly case reviews sessions (CM, psych, internist)

Outcomes:
• Improved depression (HDRS) and higher response (NNT 5)
• Improved mental health related QOL (SF36 MCS) and function (DASI)
• No difference in physical health related QOL (SF36 PCS)
• No difference in re-hospitalization rates
• Greater response in male sex
• QOL and function did not reach the level of non-depressed comparator
Depression and DM
Pathways

Methods:
• Population (N = 329): DM and pos. depression screen (PHQ ≥ 10) and persistent sx (SCL-90 > 1.1) at 2 weeks
• Setting: 9 primary care clinics in Washington
• Intervention:
  – Based on IMPACT
  – Depression care specialist
  – Stepped care treatment algorithm; patient preference driven
  – Problem Solving therapy
  – Every other week meetings: DCS, psych, pychol
  – Frequent contact with PCP

Outcomes:
• Significantly lower depression scores (SCL-90); greater in antidepressant naïve
• Greater satisfaction with depression care
• No difference in response at 50% but greater response at 40% decrease in SCL-90 score
• Higher rates of MH visits, adequate antidepressant doses and antidepressant adherence
• No difference in HbA1c

Katon 2004
Depression and DM Adherence

Methods:
• Population (N = 180): Dx of DM2 and prescription for oral hypoglycemic and antidepressant
• Setting: 3 primary care clinics in Philadelphia
• Intervention:
  – Care manager
  – Education and guideline based treatment recommendations to patients
  – Collaboration with PCP
  – Identify and address patient level barriers to adherence
  – Monitor progress and identify target sx

Outcomes:
• Improved adherence to antidepressants and oral hypoglycemics
• Improvement in depression (PHQ-9) and higher rate of remission (PHQ-9 < 5)
• Improvement in HbA1c and higher rate of goal HbA1c (<7)

Bogner 2012
Depression and Chronic Illness

Methods:
• Population (N = 214): Poorly controlled DM (HbA1c > 8.5), CAD (BP > 140/90 or LDL > 130) or both and positive depression screen (PHQ-9 ≥ 10).
• Setting: 14 primary care clinics in Washington
• Intervention:
  – Nurse care manager
  – Collaboration with PCP to establish management goals
  – Structured visits to monitor response
  – Medication treatment protocols
  – Coaching and motivation enhancement for adherence

Outcomes:
• Greater improvement in depression (SCL-20; effect size 0.67) and greater response rate (50% reduction)
• Greater improvement in HbA1c (0.58), LDL (6.9) and SBP (5.1)
• Greater improvement in QOL
• Higher satisfaction with DM, CAD and depression care
• More likely to have a change in insulin, antihypertensive or antidepressant dose.
• No difference in diet or exercise adherence

Katon 2010
Depression and Cancer
SMaRT Oncology

Methods:
• Population (N = 196): cancer dx with at least 6mo prognosis, MDD diagnosed by screen, SCID and SCL-20 > 1.75.
• Setting: Large tertiary oncology center in Scotland, UK
• Intervention (3 months):
  – Nurse depression specialist
  – Education about depression and treatment options
  – Problem solving treatment
  – Weekly monitoring with PHQ-9
  – Weekly review with psychiatrist
  – Communication of pt preferences to PCP

Outcomes:
• Higher rates of therapeutic antidepressants
• No difference in rate of PCP or MH specialist visits
• Improved depression (SCL-20) and anxiety (SCL-10) with higher response and remission rates; persisted at 6 and 12 months
• Improved fatigue but no change in pain or physical functioning
• Gain of 0.063 QALY per pt with cost of $10,556 per QALY gained (vs. $10,000-$20,000 for anti-cancer treatments)

Strong 2008
ADAPt-C

Methods:
• Population (N = 472): Cancer dx more than 90 days ago plus depression (PHQ-9 ≥ 10), dysthymia (SCID) or both. Predominantly Hispanic and low SES.
• Setting: LA County and USC medical center oncology clinics
• Intervention:
  – Based on IMPACT
  – Cancer depression care specialist
  – Stepped care treatment algorithm; patient preference driven
  – Problem Solving therapy and community services navigation
  – Weekly phone supervision and prescriptions by psychiatrist

Outcomes:
• More received depression treatment (OR 30.88)
• Greater depression response rate (50% reduction in PHQ-9)
• Improved function (FACT-G): emotional, social/family
• Improved Health Status (SF-12): mental and physical
• Borderline pain reduction (Brief Pain Inventory; p = 0.05)
Depression and HIV
HITIDES

Methods:
• Population (N = 249): Individuals with HIV and positive depression screen (PHQ ≥ 10)
• Setting: Three VA HIV clinics (Atlanta, Little Rock, Houston)
• Intervention:
  – RN depression care manager, pharmacist, psychiatrist (off site)
  – Education, activation, assessment of barriers
  – Depression sx (PHQ-9) and substance abuse monitoring
  – Stepped care model for depression with web based decision support
  – Communicated with treating clinicians via EMR

Outcomes:
• No difference in depression scores (SCL-20)
• Higher rates of response (50% reduction; OR 2.50) and remission (< 0.5; OR 2.25) at 6 months but not 12 months
• Lower HIV related symptom severity (SDM)
• No difference in health related QOL (QWB-SA), health status (SF-12), antidepressant prescribing or HIV or depression medication adherence

Pyne 2010
Integrated Depression Care in HIV

• Methods: Retrospective Cohort
• Population (N = 123): Patients referred by ID doctor to co-located psychiatric care.
• Setting: ID clinic in Boston
• Intervention:
  – Case manager
  – Formalized communication between psychiatrist and ID provider and monthly case review
  – Standard screening and referral process
  – Algorithm (STAR-D) based antidepressant prescription
  – Routine sx monitoring

Outcomes:
• Increased antidepressant use
• Decreased depression symptoms (BDI)
• Significant increase in CD4 count and decrease in viral load

Coleman 2012
Chronic Pain
SEACAP

Methods:
• Population (N = 401): Patients with MSK pain at least moderate severity and disability for ≥ 12 weeks. Excluded fibromyalgia.
• Setting: 3 Urban and 2 rural Portland VAMC PCP clinics
• Intervention:
  – Psychologist care manager and intervention internist
  – PCP education workshops
  – Identified barriers to care and treatment goals
  – Group therapy
  – Communicate recommendations via drafter orders, EMR alert or email. Stepped care recommendations for complex issues.
  – Q2 month reassessment of sx

Outcome:
• Improved pain related disability and higher response rate (NNT 12.7)
• Improved pain intensity and depression in pts with initial PHQ-9 ≥ 10
• No improvement in QOL or satisfaction with care
• More prescriptions for antidepressants, NSAIDs, topical analgesics and long vs. short acting opiates
• No difference in admissions, ED visits, MH, PCP or pain visits but more likely to see PT
• $1192 per pt

Dobscha 2009
SCAMP

Methods:
• Population (N = 250): Low back, hip or knee pain for ≥ 3 months and positive depression screen (PHQ ≥ 10).
• Setting: 6 community based and 5 VA clinics in Indianapolis, IN.
• Intervention:
  – Nurse care manager and physician depression specialist
  – 3 steps:
    • Optimized antidepressant therapy, algorithm driven
    • Pain self management training
    • Continuation phase
  – Routine PHQ-9 monitoring

Outcomes:
• Enhanced Communication
• Improved depression (SCL-20; effect size 0.67), higher rates of response (50% reduction; NNT 4.8) and remission
• Improved pain (BPI) severity (effect size 0.54) and interference (ES 0.62), higher rate of pain response (30% reduction; NNT 4.1)
• Better secondary pain scores (Roland disability), anxiety (GAD-7) and QOL (SF-36)
• More antidepressant use, but no difference in opioid or non-opioid pain meds
• Slightly higher MH use, ED visits and hospital days
• Results noted at 1 month and lasted through 12 month intervention

Kroenke 2009
Serious Persistent Mental Illness (SMI)
PCARE

Methods:
• Population (N = 407): Individuals with SMI
• Setting: Urban community mental health Center in Atlanta
• Intervention:
  - Nurse care manager:
    • Manualized care management
    • Provided education about medical issues, motivational interviewing and support for self-management
    • Liaised with medical and MH providers, coached pts and accompanied to appts
    • Assisted with enrollment in entitlement programs, transportation and other barriers

Outcomes:
• Increase in indicated preventative services (physical exam, education, vaccination, screening)
• More primary care visits and more likely to identify a PCP
• Higher MH related function (SF-36 MCS) and trend towards improved physical function (PCS)
• Higher condition specific quality indicators (DM, HTN, HL, CAD; RAND CQI)
• Decrease in Framingham CAD risk Index

Figure 2. Change in Receipt of Indicated Preventive Services

Druss 2010
VA SMI

Methods:
- Population (N = 120): Patients without PCP referred by MH provider.
- Setting: VA MH clinic
- Intervention:
  - Integrated team of Family MD, NP and nurse case manager
  - Provided patient education emphasizing preventative services
  - Liaise with MH providers, weekly team meetings
  - Case management: Phone reminders, transportation, delivering meds or equipment, psychosocial support

Outcomes:
- More primary care visits and less ED visits
- Increase in indicated preventative services
- Increased satisfaction with care, especially continuity
- Improvement in physical function (PCS of SF-36)
- No difference in mental health function (MCS), depression (SCL-20) sx or addiction
- No difference in cost

Druss 2001
Higher depression response at 6 and 12 mo
NNT 5 and 6 respectively

Nonsignificant difference in HbA1c
## Summary: Treat what they target

<table>
<thead>
<tr>
<th>Condition</th>
<th>Medical Indicators</th>
<th>QOL</th>
<th>Function</th>
<th>Pain</th>
<th>Satisfaction with care</th>
<th>Process Med use</th>
<th>Adherence</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression in Elderly</td>
<td>+ NNT 6, 9</td>
<td>?</td>
<td>Mortality</td>
<td>+</td>
<td></td>
<td>+</td>
<td>+</td>
<td>- $533/pt</td>
</tr>
<tr>
<td>Depression and CAD</td>
<td>+ ES 0.59, NNT 5</td>
<td>+</td>
<td>card events</td>
<td>+</td>
<td></td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Depression and DM</td>
<td>+</td>
<td>+/-</td>
<td></td>
<td>+</td>
<td></td>
<td>+</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Depression and Cancer</td>
<td>+</td>
<td></td>
<td></td>
<td>+/-</td>
<td></td>
<td>+</td>
<td>+</td>
<td>+/- $10K per QALY</td>
</tr>
<tr>
<td>Depression and HIV</td>
<td>+/-</td>
<td>+/-</td>
<td>Sx, CD4, VL</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Chronic Pain</td>
<td>+ ES 6.7 NNT 4.8, 12.7</td>
<td>+/-</td>
<td></td>
<td>+</td>
<td></td>
<td>+</td>
<td>+</td>
<td>- $1192/pt</td>
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<tr>
<td>SMI</td>
<td>-</td>
<td></td>
<td></td>
<td>+</td>
<td></td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
</tbody>
</table>
Interventions that are NOT collaborative care

A National Agenda for Research in Collaborative Care

- Care Management
- Local Protocols
- Enhanced Communication
Systematic screening for depression:

Evidence

- Care Management
- Local Protocols
- Enhanced Communication

Detection

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Feedback</th>
<th>Control</th>
<th>Risk Ratio</th>
<th>Weight</th>
<th>Risk Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Devonick 1995</td>
<td>6/51</td>
<td>5/63</td>
<td></td>
<td>5.8%</td>
<td>0.82 [0.33, 2.02]</td>
</tr>
<tr>
<td>German 1987</td>
<td>123/325</td>
<td>203/484</td>
<td></td>
<td>18.5%</td>
<td>0.98 [0.74, 1.28]</td>
</tr>
<tr>
<td>Hooper 1994</td>
<td>117/222</td>
<td>121/720</td>
<td></td>
<td>17.5%</td>
<td>0.98 [0.77, 1.23]</td>
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<tr>
<td>Linn 1990</td>
<td>25/189</td>
<td>4/59</td>
<td></td>
<td>5.7%</td>
<td>2.12 [1.15, 8.49]</td>
</tr>
<tr>
<td>Nsagura-Habib 1990</td>
<td>16/48</td>
<td>6/59</td>
<td></td>
<td>7.1%</td>
<td>2.78 [1.13, 6.50]</td>
</tr>
<tr>
<td>Noors 1978</td>
<td>28/59</td>
<td>10/46</td>
<td></td>
<td>10.4%</td>
<td>2.58 [1.41, 4.70]</td>
</tr>
<tr>
<td>Whooler 2000</td>
<td>56/162</td>
<td>58/169</td>
<td></td>
<td>15.3%</td>
<td>1.01 [0.75, 1.36]</td>
</tr>
<tr>
<td>William 1999</td>
<td>30/653</td>
<td>11/215</td>
<td></td>
<td>9.2%</td>
<td>1.32 [0.67, 2.60]</td>
</tr>
</tbody>
</table>

Total (95% CI): 2211 | 1983

Intervention

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Feedback</th>
<th>Control</th>
<th>Risk Ratio</th>
<th>Weight</th>
<th>Risk Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Callahan 1994</td>
<td>01/127</td>
<td>17/94</td>
<td></td>
<td>14.1%</td>
<td>3.53 [1.93, 6.43]</td>
</tr>
<tr>
<td>Devonick 1995</td>
<td>7/51</td>
<td>7/62</td>
<td></td>
<td>6.8%</td>
<td>1.24 [0.61, 2.55]</td>
</tr>
<tr>
<td>German 1987</td>
<td>105/325</td>
<td>152/484</td>
<td></td>
<td>18.3%</td>
<td>0.95 [0.77, 1.16]</td>
</tr>
<tr>
<td>Lewis 1996</td>
<td>125/227</td>
<td>100/227</td>
<td></td>
<td>18.5%</td>
<td>1.25 [1.04, 1.51]</td>
</tr>
<tr>
<td>Linn 1990</td>
<td>14/100</td>
<td>4/59</td>
<td></td>
<td>6.1%</td>
<td>1.75 [0.86, 3.55]</td>
</tr>
<tr>
<td>Nsagura-Habib 1990</td>
<td>22/48</td>
<td>16/57</td>
<td></td>
<td>12.9%</td>
<td>1.62 [0.97, 2.74]</td>
</tr>
<tr>
<td>Westhola 1990</td>
<td>6/42</td>
<td>6/46</td>
<td></td>
<td>6.2%</td>
<td>1.10 [0.38, 3.18]</td>
</tr>
<tr>
<td>Whooler 2000</td>
<td>55/162</td>
<td>72/169</td>
<td></td>
<td>17.3%</td>
<td>0.85 [0.65, 1.12]</td>
</tr>
</tbody>
</table>

Total (95% CI): 1082 | 1190

Total events: 417 (Feedback), 384 (Control)
Heterogeneity: Tau² = 0.19; Q = 15.68, df = 7 (P = 0.00001); I² = 58%
Test for overall effect: z = 2.86 (P = 0.006)
## Systematic screening for depression

<table>
<thead>
<tr>
<th>Guidelines</th>
<th>Evidence</th>
</tr>
</thead>
</table>
| • 2002 US Preventative Task Force (USPTF): Recommends screening for depression in clinical practices that have systems to ensure accurate diagnosis, effective treatment, and follow-up.  
  • US Agency for Healthcare Research and Quality (AHRQ) and UK National Institute for Clinical Excellence (NICE) have similar guidelines. | • 2005 Cochrane review: “There is substantial evidence that routinely administered case finding/screening questionnaires for depression have little or no impact on detection and management of depression by clinicians.”  
  • 2009 AHRQ report: “Screening programs without staff-assisted depression care supports are unlikely to improve depression outcomes.” |
Consultation-Liaison

- Care Management
- Local Protocols
- Enhanced Communication

Meta analysis all psychiatric consultation models in primary care

**Somatoform disorders: Effect size 0.614**

<table>
<thead>
<tr>
<th>Study name</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hunkeler, 2006</td>
<td>Combined</td>
</tr>
<tr>
<td>Unutzer, 2002</td>
<td>Combined</td>
</tr>
<tr>
<td>Katon, 2004</td>
<td>Psychological symptoms</td>
</tr>
<tr>
<td>Katzelnick, 2000</td>
<td>Combined</td>
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<tr>
<td>Katon, 1992</td>
<td>Combined</td>
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<tr>
<td>Katon, 1999</td>
<td>Combined</td>
</tr>
<tr>
<td>Smith, 1986</td>
<td>Health Care Use</td>
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<tr>
<td>Katon, 1995</td>
<td>Combined</td>
</tr>
<tr>
<td>Smith, 1995</td>
<td>Combined</td>
</tr>
<tr>
<td>Van der Feltz-Cornelis, 2006</td>
<td>Combined</td>
</tr>
</tbody>
</table>

**Collaborative Care**

- Immediate verbal feedback to PCP
- Consultation Letters (Pt and PCP)
1. The term collaborative care is used to describe a lot of different things.

2. But, effective collaborative care interventions have a common definition.
   - Care Management
   - Local Protocols
   - Enhanced Communication

3. Less comprehensive interventions have less supportive evidence, but they are frequently combined in reviews.

4. True collaborative care has evidence for many positive outcomes; mostly treating specific targets.
Collaborative Care at Duke

Care Management

Enhanced Communication

Local Protocols
Collaborative Care at Duke

Outcomes for Patients with 2 or More PHQ-9 Scores (N = 19)

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average starting PHQ-9 score</td>
<td>17.1</td>
</tr>
<tr>
<td>Average final PHQ-9 score</td>
<td>8.84</td>
</tr>
<tr>
<td>Remission Rate</td>
<td>31% (6/19)</td>
</tr>
<tr>
<td>PHQ-9 &lt; 5</td>
<td></td>
</tr>
<tr>
<td>Response Rate</td>
<td>53% (10/19)</td>
</tr>
<tr>
<td>≥ 50% decrease in PHQ-9 score</td>
<td></td>
</tr>
</tbody>
</table>

Diagram:

- Patients screened: N = 146
- Positive Depression Screen (PHQ > 9) N = 146
  - Appointment Pending N = 8
  - Referred N = 49
    - Not Appropriate N = 2
      - No Contact / No Show Intake N = 11
    - Declined N = 4
    - Enrolled N = 24
      - Medication N = 11
      - PST* N = 7
      - Meds & PST N = 4
      - Watchful Waiting N = 2

*PST = Problem Solving Therapy
References

• Hunkeler EM. Et al. Long term depression outcomes from the IMPACT randomized trial for depressed elderly patients in primary care. BMJ. 2006: doi:10.1136/bmj.38683.710255.BE.
Questions?