# “Collaborative Care” für Depression bei Patienten mit Herzerkrankungen

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# >Ein Jahrzehnt "Collaborative Care"

1999: Improving Quality of Primary Care for Anxiety Disorders (NIMH R01 MH59395)

2000: Improving Depression Treatment in Primary Care (RWJF)

2003: Treatment of Depression Following Cardiac Bypass Surgery (NHLBI R01 HL70000)

2004: Improving Quality of Primary Care for Anxiety Disorders (NIMH R01 MH59395R)

2007: Developing a Collaborative Care Strategy for Depression and Co-Morbid CHF (NIMH R34 MH078030)

2012: Online Treatments for Mood and Anxiety Disorders (NIMH R01 MH093501)

2013: Blended Collaborative Care for Heart Failure and Co-Morbid Depression (NHLBI R01 HL114016)

5 R01s, 1 R34, RWJ

# Koronare Herzerkrankungen Europa

KHK ist Ursache für:

- 4 m Todesfälle (1.9m EU)
- 47% aller Todesfälle
- Hauptgrund für Frauen

Kosten:

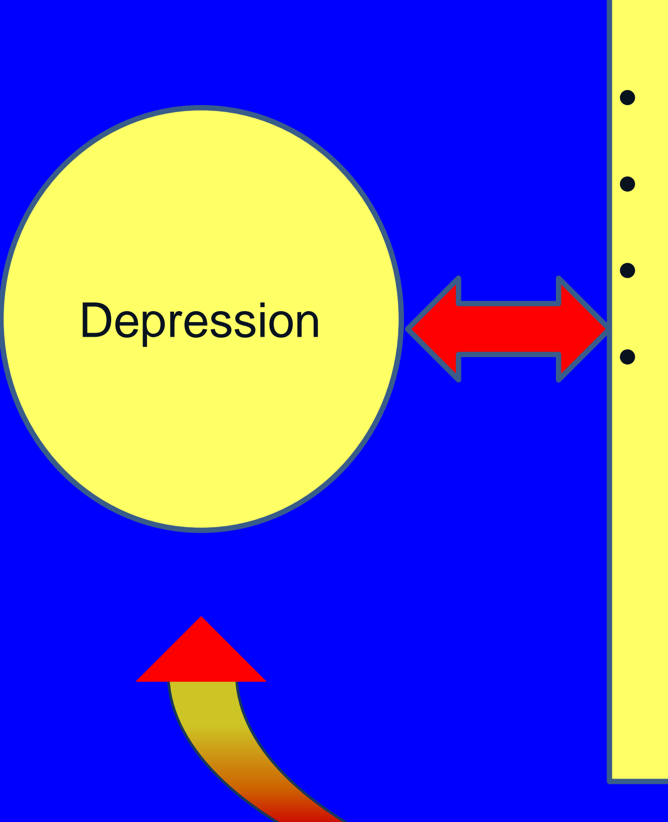
- € 196m p.a. Total
- 54% Krankenkosten

European Society for Cardiology 2012

# KHK Riskofaktoren

- Alter
- Männlich
- **Diabetes**
- Hypertension
- Hyperlipidemia
- **Raucher**
- Familiäre Vorbelastung
- **Bewegungsarmer Lebensstil**

# Depression und KHK




- Rauchen
- Übergewicht
- ↓ Compliance
- Psychophysiologisch:
  Herzrate
  Blutdruck
  Plättchen Aktivität

- KHK im früheren Alter
- ↓ Symptomkontrolle
- ↓ Bewegung
- ↓ Lebensqualität
- ↑ Komplikationen
- ↑ Mortalität

# Studien zur <u>konventionellen</u> Depressionsbehandlung

## ***<u>M-HART (MI)</u>***

Frasure-Smith N. *Lancet* 1997; 350:473

## ***<u>SADHART (MI)</u>***

Glassman AH, et al. *JAMA* 2002; 288:701
0.14 (-0.06-0.35), Sertraline vs. Placebo

## ***<u>ENRICHD (MI)</u>***

Berkman LF, et al. *JAMA* 2003; 289:3106
0.22 (0.11-0.33), CBT/Sertraline vs. UC

## ***<u>CREATE (CAD)</u>***

Lesperance F, et al. *JAMA* 2007; 297:367
0.33 (0.10-0.56), Citalopram vs. Placebo
-0.23 (-0.46-0.00), IPT vs. Clinical Management

# Limitationen der Studien konventioneller Depressionsbehandlung

- Nur ein Antidepressivum
- Keine Berücksichtigung der Patientenwünsche
- Mangelnde Compliance
- Keine Einbeziehung der Hausärtze
- Keine Generalisierbarkeit der Intervention
- Kurze Nachbehandlungszeit
- Wenige koronare Events
- Kleine Studiengrösse

# The *Bypassing the Blues* Trial:

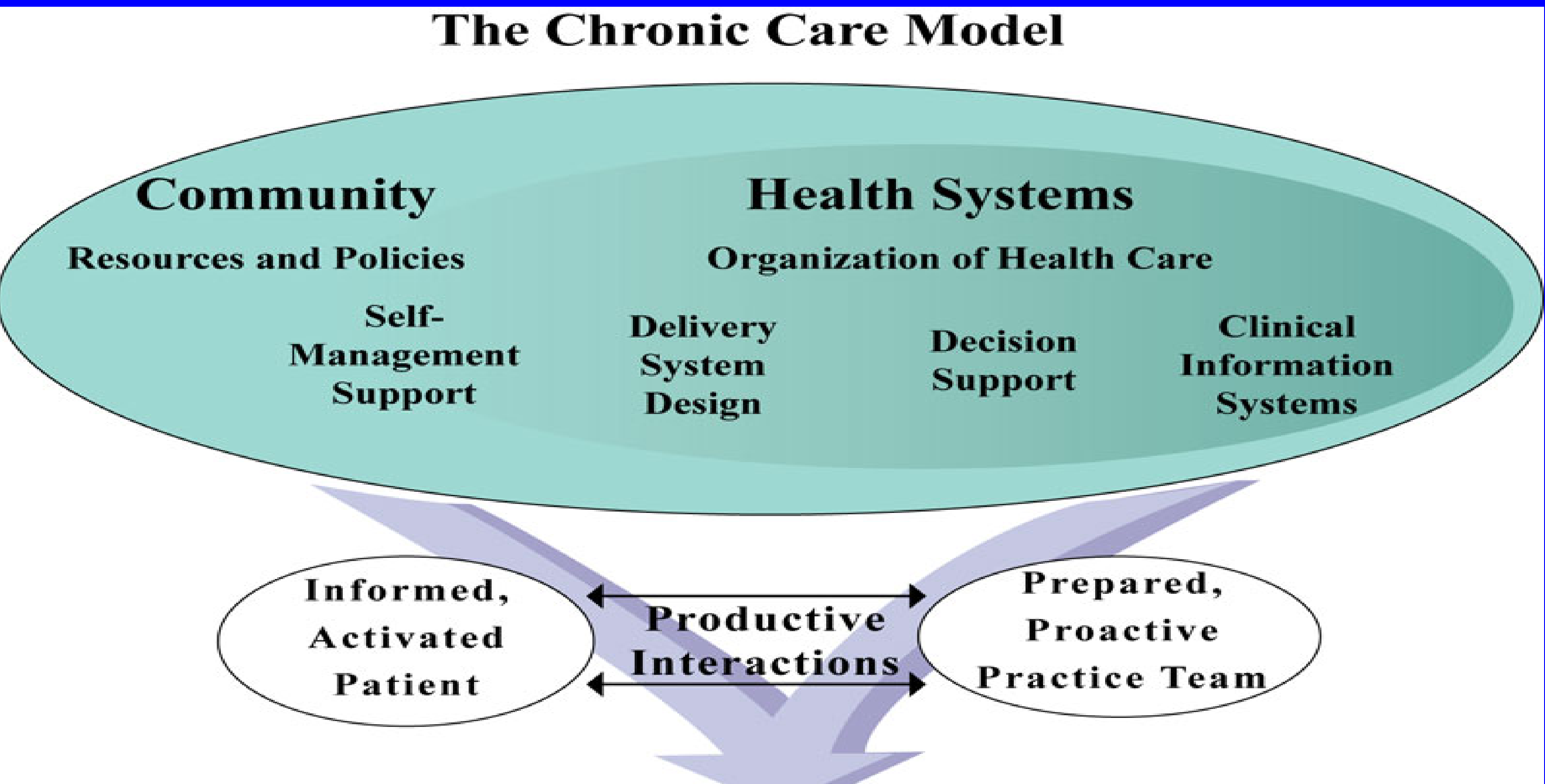
## Telephone-Delivered Collaborative Care for Treating Post-CABG Depression

BL Rollman, B Herbeck Belnap,
PR Houck, S Mazumdar, PJ Counihan,
HC Schulberg, WN Kapoor, CF Reynolds III

University of Pittsburgh School of Medicine

All work supported by NHLBI R01 HL70000

# WAGNER CHRONIC CARE MODEL



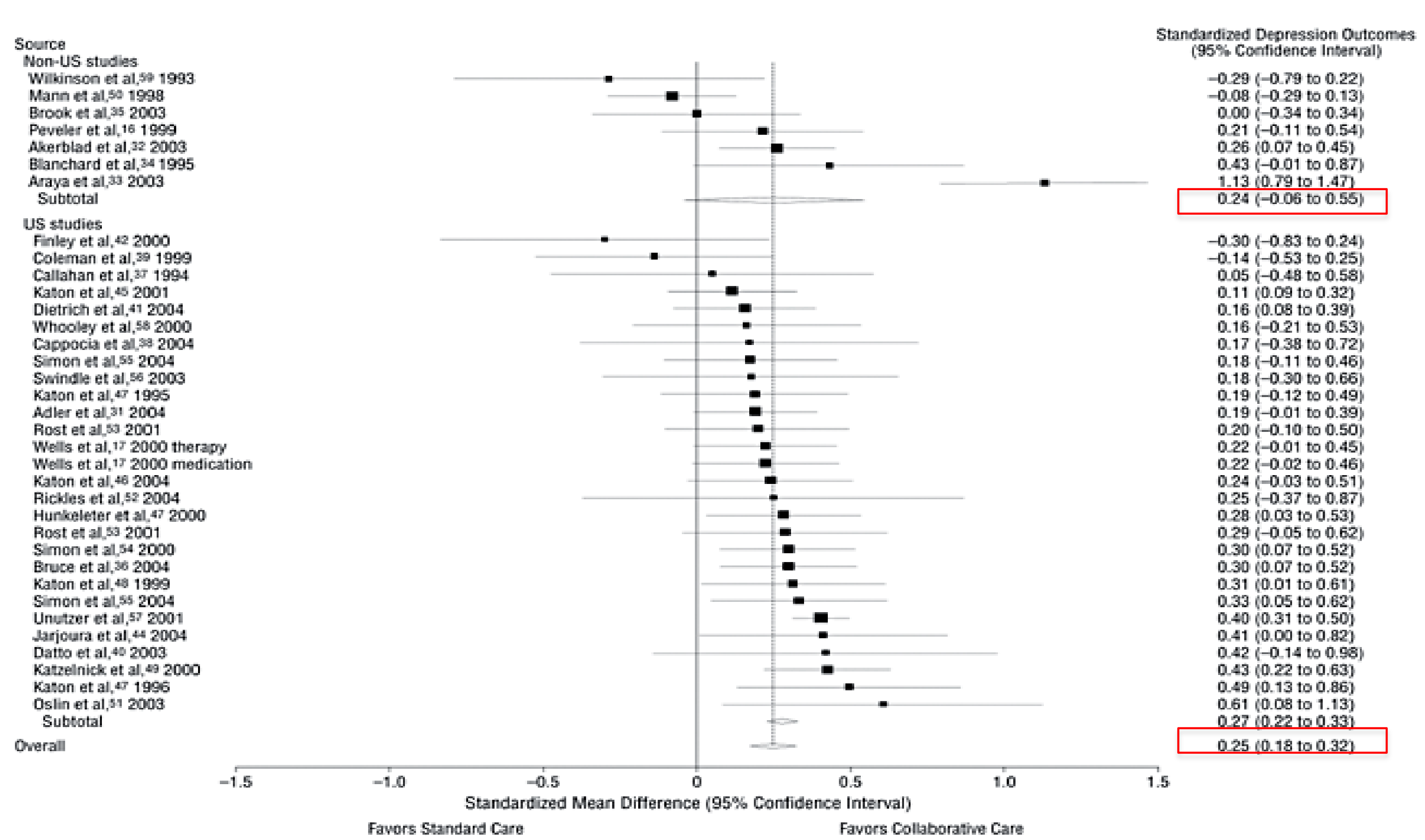

www.improvingchroniccare.org

# *Collaborative Care* - Kooperative Versorgung

- Ganzheitliche Perspektive
- Evidenzbasierte Medizin
- Nähe zum Hausarzt
- Teamversorgung
- Berücksichtigung von Patientenwünschen
- Flexibler, proaktiver Behandlungsplan
- Einsatz von Informationstechnik

Coleman K, et al. *Health Aff.* 2009; 28:75

# Meta-Analysis of Collaborative Care on 6-Month Depression Outcomes




Gilbody, S. Arch Intern Med 2006;166:2314-2321

Review: Collaborative care for depression and anxiety problems
Comparison: 1 Collaborative care versus 'usual care' (adults)
Outcome: 1 Improvement in depression symptoms

| Study or subgroup | CC N | Mean(SD) | Usual care N | Mean(SD) | Std. Mean Difference IV,Random,95% CI | Weight | Std. Mean Difference IV,Random,95% CI |
|---|---|---|---|---|---|---|---|
| 1 0 to 6 months | | | | | | | |
| Blanchard 1995 | 43 | 5.88 (2.6) | 39 | 7.15 (3.3) | | 2.2 % | -0.43 [ -0.86, 0.01 ] |
| Bogner 2008 | 32 | 9.9 (10.7) | 32 | 19.3 (15.2) | | 1.7 % | -0.71 [ -1.21, -0.20 ] |
| Bogner 2010 | 29 | 9.6 (9.4) | 29 | 16.6 (14.5) | | 1.6 % | -0.57 [ -1.09, -0.04 ] |
| Bruce 2004 | 116 | 11.24 (7.51) | 107 | 13.61 (8.42) | | 4.5 % | -0.30 [ -0.56, -0.03 ] |
| Chew-Graham 2007 | 44 | 10.3 (13) | 42 | 14.5 (14.5) | | 2.3 % | -0.30 [ -0.73, 0.12 ] |
| Ciechanowski 2004 | 72 | 0.71 (0.6) | 66 | 1.17 (0.53) | | 3.1 % | -0.81 [ -1.15, -0.46 ] |
| Datto 2003 | 24 | 14.8 (11.2) | 24 | 19.3 (10.3) | | 1.4 % | -0.41 [ -0.98, 0.16 ] |
| Dietrich 2004 | 147 | 0.97 (0.8) | 120 | 1.09 (0.74) | | 5.0 % | -0.15 [ -0.40, 0.09 ] |
| Dwight-Johnson 2011 | 42 | 5.81 (5.63) | 35 | 9.64 (5.54) | | 2.0 % | -0.68 [ -1.14, -0.22 ] |
| Ell 2008 | 166 | 7.34 (4.4) | 152 | 8.14 (4.2) | | 5.6 % | -0.19 [ -0.41, 0.04 ] |
| Fritsch 2007 | 143 | 12.8 (7.8) | 131 | 14.8 (8.1) | | 5.1 % | -0.25 [ -0.49, -0.01 ] |
| Gensichen 2009 | 202 | 10.72 (5.43) | 217 | 12.13 (5.6) | | 6.4 % | -0.26 [ -0.45, -0.06 ] |
| Katon 2001 | 181 | 0.74 (0.54) | 170 | 0.78 (0.51) | | 5.9 % | -0.08 [ -0.29, 0.13 ] |
| Katon 2010 | 97 | 0.84 (0.68) | 96 | 1.26 (0.72) | | 4.0 % | -0.60 [ -0.89, -0.31 ] |
| Kroenke 2010 | 110 | 1.01 (0.59) | 113 | 1.31 (0.73) | | 4.5 % | -0.45 [ -0.72, -0.18 ] |
| Landis 2007 | 17 | 10.8 (5.9) | 17 | 10.2 (5.9) | | 1.0 % | 0.10 [ -0.57, 0.77 ] |
| McCusker 2008 | 19 | 0.8 (0.7) | 13 | 0.7 (0.6) | | 0.9 % | 0.15 [ -0.56, 0.85 ] |
| McMahon 2007 | 19 | 15.1 (10.9) | 17 | 18.3 (14) | | 1.1 % | -0.25 [ -0.91, 0.41 ] |
| Oslin 2003 | 27 | 11.1 (6.6) | 30 | 16.3 (9.4) | | 1.6 % | -0.63 [ -1.16, -0.09 ] |
| Richards 2008a | 32 | 8.8 (7.02) | 25 | 13.82 (8.32) | | 1.5 % | -0.65 [ -1.19, -0.11 ] |
| Richards 2008b | 35 | 8.8 (7.02) | 34 | 10.27 (7.51) | | 1.9 % | -0.20 [ -0.67, 0.27 ] |
| Richards 2012 | 159 | 11.1 (7.3) | 190 | 12.7 (6.8) | | 5.8 % | -0.23 [ -0.44, -0.02 ] |
| Rojas 2007 | 106 | 10.9 (6.8) | 102 | 12.5 (6.9) | | 4.3 % | -0.23 [ -0.51, 0.04 ] |
| Ross 2008 | 85 | 5.7 (4.9) | 64 | 6 (5.1) | | 3.4 % | -0.06 [ -0.38, 0.26 ] |
| Simon 2011 | 104 | 0.95 (0.71) | 93 | 1.17 (0.81) | | 4.2 % | -0.29 [ -0.57, -0.01 ] |
| Strong 2008 | 85 | 1.03 (0.79) | 80 | 1.51 (0.81) | | 3.6 % | -0.60 [ -0.91, -0.29 ] |
| Swindle 2003 | 18 | 20.1 (12) | 17 | 22.1 (10.7) | | 1.1 % | -0.17 [ -0.84, 0.49 ] |
| Uebelacker 2011 | 12 | 7.08 (7.29) | 11 | 11.73 (5.98) | | 0.7 % | -0.67 [ -1.51, 0.18 ] |
| Unutzer 2002 | 801 | 0.93 (0.67) | 769 | 1.21 (0.72) | | 9.7 % | -0.40 [ -0.50, -0.30 ] |
| Williams 2007 | 89 | 10.6 (6.9) | 93 | 13.9 (7.8) | | 3.9 % | -0.45 [ -0.74, -0.15 ] |
| **Subtotal (95% CI)** | **3056** | | **2928** | | | **100.0 %** | **-0.34 [ -0.41, -0.27 ]** |

Heterogeneity: Tau² = 0.01; Chi² = 43.63, df = 29 (P = 0.04); I² =34%
Test for overall effect: Z = 9.25 (P < 0.00001)

Archer J et al. 2012, The Cochran Library

# *Bypassing the Blues*

PHQ-2
In-Patient
Post-CABG
Depression
Screen

(-) screen

PHQ-9
Depression Screen
2 weeks after
Hospital Discharge

PHQ-9 $\leq 4$

Non-Depressed Control
(N=150)

PHQ-9>4

Ineligible

PHQ-9<10

(+) screen

PHQ-9
Depression Screen
2 weeks after
Hospital Discharge

PHQ-9 $\geq 10$

Randomize

(N=300)

"Usual Care" for
Depression
(N=150)

Collaborative Care
for Depression
(N=150)

Rollman BL, Herbeck Belnap B, et al. *Psychosomatic Med.* 2009; 71:217

# 7 Pittsburgh-Area Hospitals

Jefferson Regional

Mercy Hospital

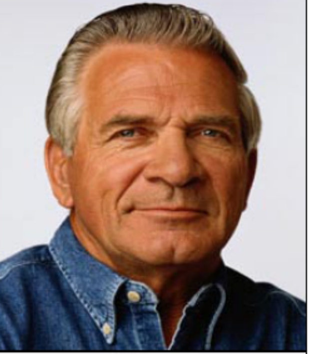
UPMC-Passavant

UPMC-Presbyterian

UPMC-Shadyside

Westmoreland

West Penn Hospital



## On the Road to Recovery from Bypass Surgery?

## Ask About:

**Bypassing the Blues**

*A Study to Improve the Quality of Life Following Cardiac Bypass Surgery*

*Bypassing the Blues* is a National Heart, Lung, and Blood Institute-funded research study.

It's a cooperative effort by doctors, nurses, and other healthcare professionals from several Pittsburgh-area hospitals who are interested in helping cardiac bypass patients live life to its fullest.

If you are eligible to participate in *Bypassing the Blues*, you may begin a program specifically designed to help patients like you avoid or overcome depression following surgery. This program may include telephone counseling, guided use of a work-book or video, medication prescribed by your primary care physician, specialty referral, or a combination of these depending upon your treatment preferences.

Patients still hospitalized following bypass surgery may be eligible to participate. For more information:

Call **412-692-2659** or ask your nurse or doctor about the *Bypassing the Blues* study.

# PHQ-9

INTERVENTION - ACUTE

Site ID | Data Collector ID
Subject ID | Completed Date 10/4/2004

Opening | PHQ-9 | Meds | Med Adherence | Referral | Stressors | Workbook | Treatment Adherence | Plan | Closing

II. Objective

1. PATIENT HEALTH QUESTIONNAIRE - 9

*Over the last 2 weeks, how often have you been bothered by any of the following problems?*

| | Not at all | Several days | More than half the days | Nearly every day |
|---|---|---|---|---|
| A. Little interest or pleasure in doing things. | ☐ | ☐ | ☐ | ☐ |
| B. Feeling down, depressed, or hopeless. | ☐ | ☐ | ☐ | ☐ |
| C. Trouble falling or staying asleep, or sleeping too much. | ☐ | ☐ | ☐ | ☐ |
| D. Feeling tired or having little energy. | ☐ | ☐ | ☐ | ☐ |
| E. Poor appetite or overeating. | ☐ | ☐ | ☐ | ☐ |
| F. Feeling bad about yourself – or that you are a failure or have let yourself or your family down. | ☐ | ☐ | ☐ | ☐ |
| G. Trouble concentrating on things, such as reading the newspaper or watching television. | ☐ | ☐ | ☐ | ☐ |
| H. Moving or speaking so slowly that other people could have noticed? Or the opposite - being so fidgety or restless that you have been moving around a lot more than usual. | ☐ | ☐ | ☐ | ☐ |
| I. Thoughts that you would be better off dead or of hurting yourself in some way. | ☐ | ☐ | ☐ | ☐ |

PHQ Score | Calculate PHQ Score

Go to Meds

Kroenke K. J Gen Intern Med 2001; 16:606-13

# Screening Summary
3/04-9/07

| | |
|---|---|
| Approached Post-CABG | 3,057 |
| PHQ-2 Completed | 2,485 (81%) |
| PHQ-2 (+) Screen | 1,387 (56%) |
| Protocol-Elig./Consented | 1,268 (91%) |
| PHQ-9 Completed (2-wk f/u) | 1,100 (87%) |
| PHQ-9≥10 | 337 (31%) |
| Randomized | 302 (90%) |

# Sociodemographics

| | Depressed N=302 | Non-Dep N=151 | P |
|---|---|---|---|
| Age (SD) | 64 (11) | 66 (10) | .03 |
| Male | 59% | 63% | .38 |
| Caucasian | 91% | 81% | .01 |
| Hypertension | 84% | 81% | .43 |
| Diabetes | 42% | 39% | .50 |
| CHF | 20% | 21% | .38 |

# Bypassing the Blues

## *Telephone-delivered Collaborative Care*

*Care manager* rief regelmässig an:

- 8 Monate lang
- Informationen zur Depression bei KHK
- Abklärung der Patientenwünsche
- Überwachung der Symptome
- Coaching im Umgang mit Depression (Arbeitsbuch)
- Unterstützung bei der Pharmakotherapie
- Hilfe bei Überweisung zum Psychiater/Therapeut

☑ Regelmässige Berichte und ggf. Empfehlungen an Hausarzt

# Pharmacotherapy

- SSRI (first-line), then SNRI or bupropion
- Promote effective dose and duration
- Reduce benzodiazepine use
- Avoid TCAs
- Adjust in response to symptoms (PHQ-9)
- Monitor side effects

Rollman BL, Herbeck Belnap B et al. Psychosomatic Med. 2009; 71:217-30

# "Case Review"

## Wann und wer?

- Wöchentlich
- *Care manager*
- *Clinical Team* (Internist, Psychiater, Psychologe)

## Was?

Konzentrierung auf neue & hoch-symptom. Patienten

Discussion der Behandlungsempfehlungen:

- Self-management Materialien
- Medikamenteneinstellung
- Verhaltensveränderungen
- Lebensstiländerungen (Diät, Bewegung, etc.)
- Überweisung zum Psychiater/Therapeuten

CABG STUDY INTERVIEW - [Intervention CR]
File Edit Insert Records Window Help
Type a questi
INTERVENTION CASE REVIEW
CABG ID#
First Name
CONFIDENTIAL
Subject Select
Contact History
Mental Health History
Medications
Treatment 1
Treatment 2
PHQ Scores
PHQ Items 1-6
PHQ Items 7-9
Select Assessor
First Name
Last Name
Erin
Lillian
Carol
Susan
Sharon
Select Participant
CABG ID First Name Recruitment Date Last Contact Last PHQ Score
151199 Ronald 4/27/2007 12:21:54 PM 5/17/2007 11
211117 Edward 4/26/2007 10:58:50 AM 5/22/2007 10
351186 Elsie 4/17/2007 10:16:33 AM 5/17/2007 3
211095 John Wade 4/11/2007 9:41:13 AM 5/22/2007 6
151173 Thomas 4/6/2007 12:01:08 PM 5/21/2007 13
211084 Helen 4/2/2007 1:33:28 PM 5/8/2007 4
84645 Rose M 3/27/2007 11:40:49 AM 4/26/2007 15
211069 Frank 3/21/2007 9:31:13 AM 5/15/2007 3
211066 Lewis 3/16/2007 1:42:18 PM 5/15/2007 4
84621 MaryAnn 3/2/2007 3:07:25 PM 5/11/2007 10
211040 Thomas 2/28/2007 10:34:09 AM 5/14/2007 1
31980 Henry 1/23/2007 10:03:43 AM 5/10/2007 1
21975 Harvey 1/22/2007 11:29:16 AM 5/8/2007 11
21938 Charles 12/18/2006 11:06:28 AM 5/17/2007 7
73995 Carole 12/16/2006 1:27:48 PM 5/14/2007 12
84540 Michael 12/4/2006 5:03:02 PM 5/22/2007 0
23986 Eugene 11/22/2006 10:02:46 AM 2/2/2007 18
151017 Henry 11/15/2006 2:11:45 PM 3/20/2007 0
151014 Morris 11/13/2006 11:47:17 AM 5/22/2007 4
31879 Charles 11/13/2006 11:14:57 AM 5/23/2007 11
21874 Meyer 11/10/2006 1:44:20 PM 4/17/2007 7
21872 Raymond 11/10/2006 10:27:55 AM 4/26/2007 0
31857 James 11/1/2006 1:29:28 PM 5/1/2007 1
15991 Morgan 10/30/2006 12:04:41 PM 5/7/2007 3
94495 Janice 10/25/2006 10:31:15 AM 5/4/2007 13
84491 Carolyn 10/23/2006 12:43:03 PM 5/22/2007 14
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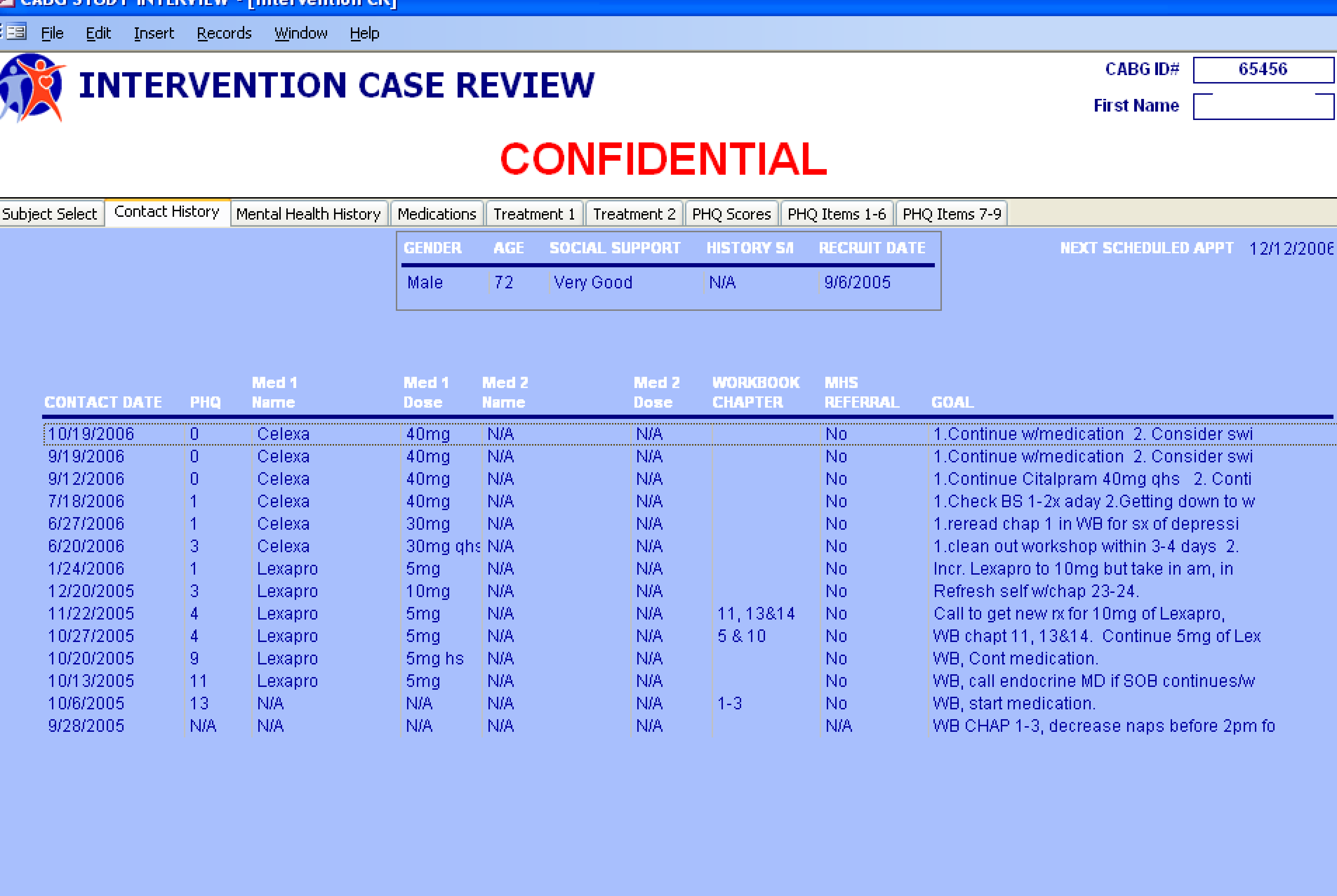
CABG STUDY INTERVIEW - [Intervention CR]

File Edit Insert Records Window Help

# INTERVENTION CASE REVIEW

CABG ID# 65456

First Name

CONFIDENTIAL

Subject Select | Contact History | Mental Health History | Medications | Treatment 1 | Treatment 2 | PHQ Scores | PHQ Items 1-6 | PHQ Items 7-9

| GENDER | AGE | SOCIAL SUPPORT | HISTORY SA | RECRUIT DATE |
|---|---|---|---|---|
| Male | 72 | Very Good | N/A | 9/6/2005 |

NEXT SCHEDULED APPT 12/12/2006

| CONTACT DATE | PHQ | Med 1 Name | Med 1 Dose | Med 2 Name | Med 2 Dose | WORKBOOK CHAPTER | MHS REFERRAL | GOAL |
|---|---|---|---|---|---|---|---|---|
| 10/19/2006 | 0 | Celexa | 40mg | N/A | N/A | | No | 1.Continue w/medication 2. Consider swi |
| 9/19/2006 | 0 | Celexa | 40mg | N/A | N/A | | No | 1.Continue w/medication 2. Consider swi |
| 9/12/2006 | 0 | Celexa | 40mg | N/A | N/A | | No | 1.Continue Citalpram 40mg qhs 2. Conti |
| 7/18/2006 | 1 | Celexa | 40mg | N/A | N/A | | No | 1.Check BS 1-2x aday 2.Getting down to w |
| 6/27/2006 | 1 | Celexa | 30mg | N/A | N/A | | No | 1.reread chap 1 in WB for sx of depressi |
| 6/20/2006 | 3 | Celexa | 30mg qhs | N/A | N/A | | No | 1.clean out workshop within 3-4 days 2. |
| 1/24/2006 | 1 | Lexapro | 5mg | N/A | N/A | | No | Incr. Lexapro to 10mg but take in am, in |
| 12/20/2005 | 3 | Lexapro | 10mg | N/A | N/A | | No | Refresh self w/chap 23-24. |
| 11/22/2005 | 4 | Lexapro | 5mg | N/A | N/A | 11, 13&14 | No | Call to get new rx for 10mg of Lexapro, |
| 10/27/2005 | 4 | Lexapro | 5mg | N/A | N/A | 5 & 10 | No | WB chapt 11, 13&14. Continue 5mg of Lex |
| 10/20/2005 | 9 | Lexapro | 5mg hs | N/A | N/A | | No | WB, Cont medication. |
| 10/13/2005 | 11 | Lexapro | 5mg | N/A | N/A | | No | WB, call endocrine MD if SOB continues/w |
| 10/6/2005 | 13 | N/A | N/A | N/A | N/A | 1-3 | No | WB, start medication. |
| 9/28/2005 | N/A | N/A | N/A | N/A | N/A | | N/A | WB CHAP 1-3, decrease naps before 2pm fo |

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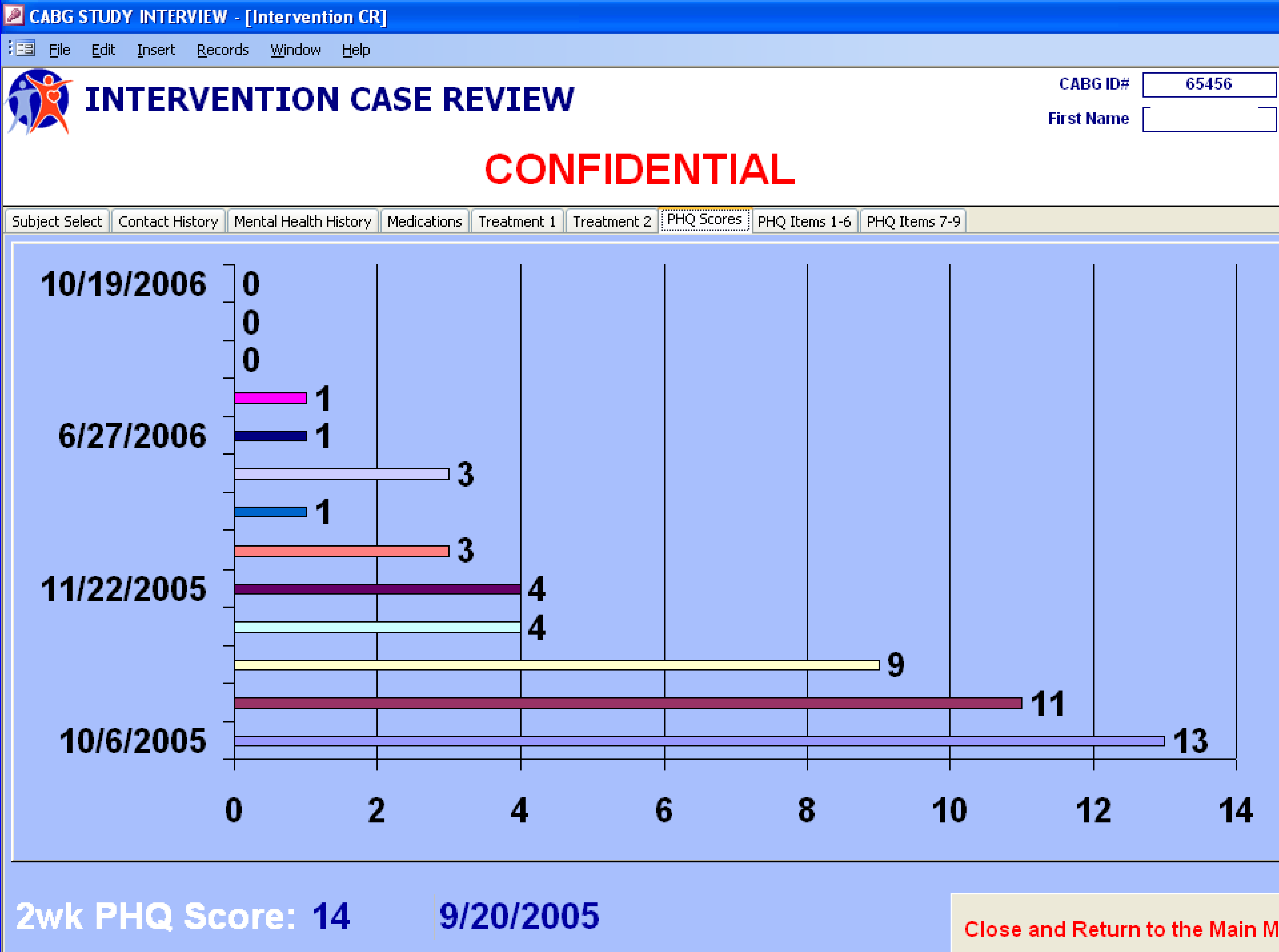
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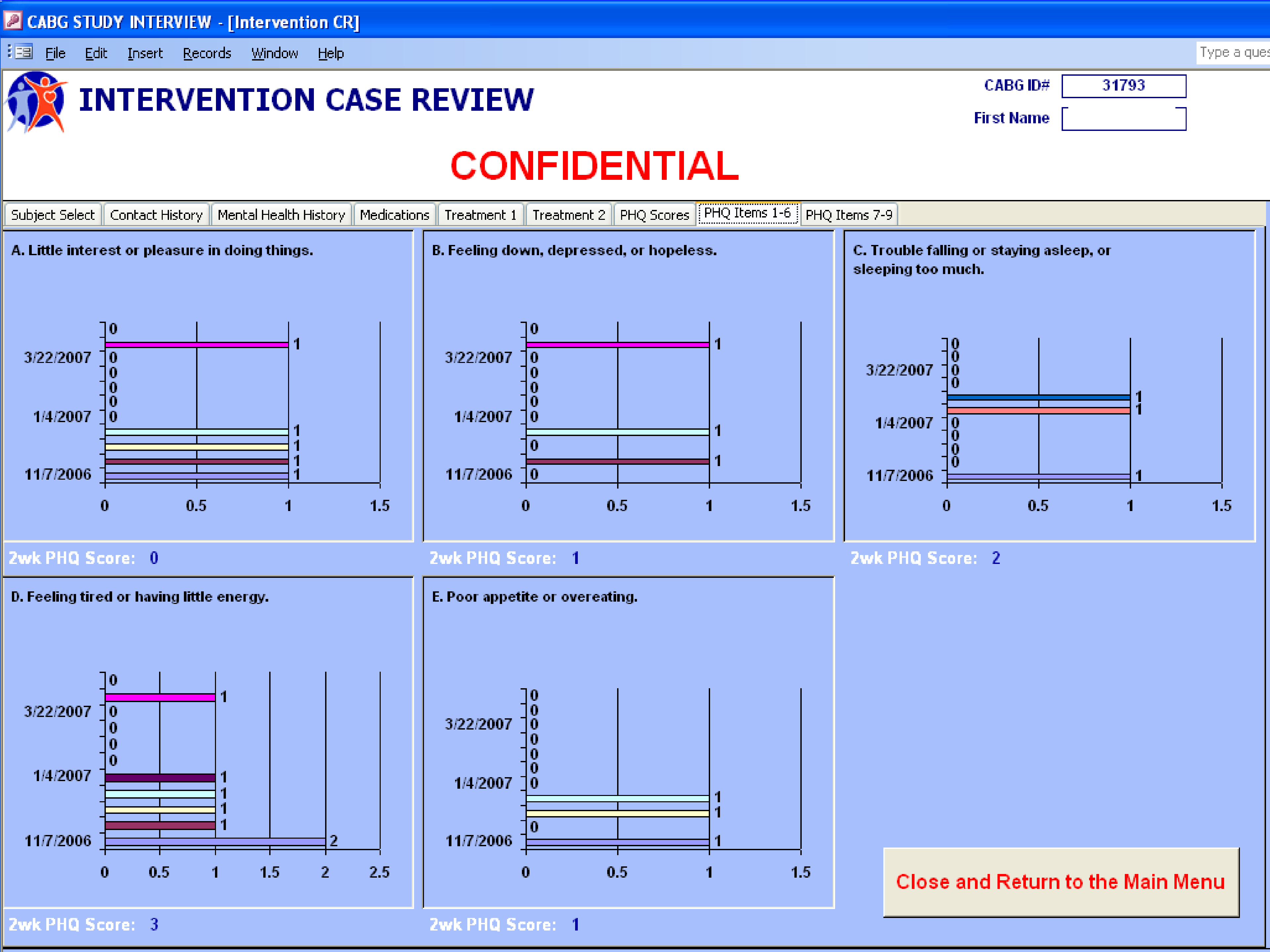
File Edit Insert Records Window Help
INTERVENTION CASE REVIEW
CABG ID# 65456
First Name
CONFIDENTIAL
Subject Select
Contact History
Mental Health History
Medications
Treatment 1
Treatment 2
PHQ Scores
PHQ Items 1-6
PHQ Items 7-9
10/19/2006
6/27/2006
11/22/2005
10/6/2005
0
0
0
1
1
3
1
3
4
4
9
11
13
0 2 4 6 8 10 12 14
2wk PHQ Score: 14
9/20/2005
Close and Return to the Main M



CABG STUDY INTERVIEW - [Intervention CR]
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Type a ques
INTERVENTION CASE REVIEW
CABG ID# 31793
First Name
CONFIDENTIAL
Subject Select
Contact History
Mental Health History
Medications
Treatment 1
Treatment 2
PHQ Scores
PHQ Items 1-6
PHQ Items 7-9
A. Little interest or pleasure in doing things.
3/22/2007
1/4/2007
11/7/2006
2wk PHQ Score: 0
B. Feeling down, depressed, or hopeless.
3/22/2007
1/4/2007
11/7/2006
2wk PHQ Score: 1
C. Trouble falling or staying asleep, or sleeping too much.
3/22/2007
1/4/2007
11/7/2006
2wk PHQ Score: 2
D. Feeling tired or having little energy.
3/22/2007
1/4/2007
11/7/2006
2wk PHQ Score: 3
E. Poor appetite or overeating.
3/22/2007
1/4/2007
11/7/2006
2wk PHQ Score: 1
Close and Return to the Main Menu

# Care Manager Contacts

## Median (Range)

| Intervention Time | All N=150 | Men N=81 | Women N=69 |
|---|---|---|---|
| 3 Months | 5 (0-11) | 5 (0-11) | 5 (0-11) |
| 6 Months | 8 (0-17) | 8 (0-17) | 7 (0-16) |
| 8 Months | 10 (0-28) | 10 (0-28) | 10 (0-23) |
| 3+ Calls at 6 Months | 85% | 91% | 78%* |

* P=0.02

# Intervention Components

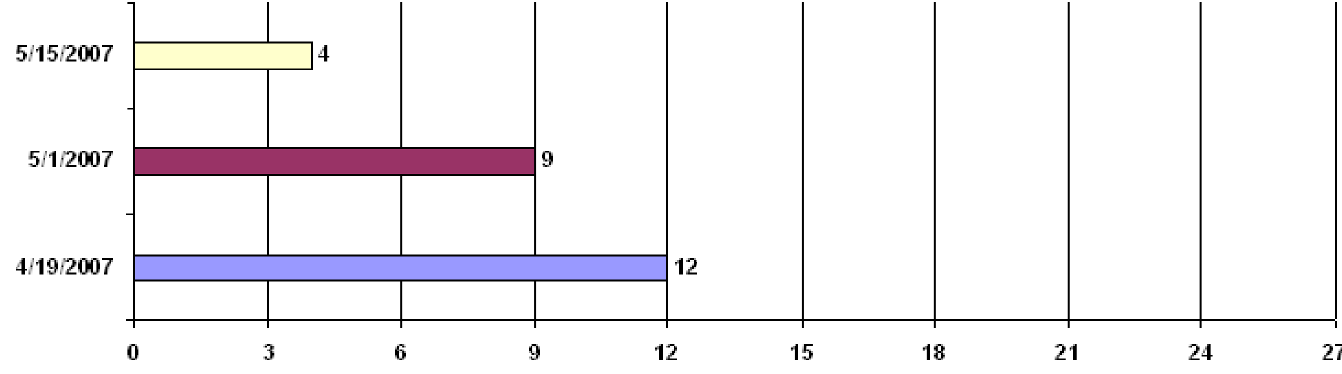
| | Men (N=81) | Women (N=69) | P |
|---|---|---|---|
| Workbook | | | |
| 3-Month | 72% | 71% | .94 |
| 8-Month | 91% | 78% | .02 |
| Medications | | | |
| 3-Month | 37% | 57% | .02 |
| 8-Month | 43% | 59% | .05 |
| MHS | | | |
| 3-Month | 9% | 6% | .51 |
| 8-Month | 19% | 16% | .68 |

# Physician Update of Patient Status 5/29/2007

Name Recruit Date ***3/16/2007*** Nurse Care Manager

Past Diagnosis of Depression ***Yes*** Past Treatment of Depression ***Yes***

| Date | *PHQ Score | Current Antidepressant 1 | Dose | Current Antidepressant 2 | Dose | Mental Health Referral |
|---|---|---|---|---|---|---|
| ***5/15/2007*** | ***4*** | ***Effexor*** | ***150mg*** | ***N/A*** | ***N/A*** | ***No*** |
| ***5/1/2007*** | ***9*** | ***Effexor*** | ***150 mg*** | ***N/A*** | ***N/A*** | ***No*** |
| ***4/19/2007*** | ***12*** | ***Effexor*** | ***150 mg*** | ***N/A*** | ***N/A*** | ***No*** |
| ***4/10/2007*** | ***N/A*** | ***Effexor*** | ***150 mg*** | ***N/A*** | ***N/A*** | ***N/A*** |




**PHQ-9 Interpretation**

| PHQ-9 Score | Depression Severity |
|---|---|
| **0-4** | **Minimal** |
| **5-9** | **Mild** |
| **10-14** | **Moderate** |
| **15-19** | **Moderately Severe** |
| **20-27** | **Severe** |

**Patient Health Questionnaire*

*Kroenke K, Spitzer RL, Williams JBW. The PHQ-9 Validity of a Brief Depression Severity Measure. JGIM. 2001;16:606-613.*

**4/4/2007 Baseline PHQ Score - 14**

# Improves Mental Health Related Quality of Life

MOS SF-36 MCS

Intervention (n=150)
Usual Care (n=152)
Nondepressed (n=151)

ES: 0.30 (0.17-0.52; P=0.01)

MCS

65
60
55
50
45
40

0
2
4
6
8

Month

Rollman BL, Herbeck Belnap B, et al. *JAMA*. 2009; 302:2095

# Reduces Mood Symptoms

HRS-D
18
16
14
12
10
8
6
4
2
0
2
4
6
8
Month

Intervention (n=150)
Usual Care (n=152)
Nondepressed (n=151)

*
*

*ES: 0.30 (0.08-0.53; P=0.009)*

Rollman BL, et al. JAMA. 2009; 302:2095-2103

# Differential Impact by Gender

| | |
|---|---|
| SF-36 MCS | |
| HRS-D | |
| SF-36 PCS | |
| DASI | |

-0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0

Favors UC    Effect Size    Favors Intervention

**SF-36 MCS (1′ Outcome)**
- All: 0.30 (0.17-0.52) P=0.01
- Male: 0.53 (0.23-0.84) P<0.001
- Female: 0.08 (-0.28-0.43) P=0.68

**HRS-D**
- All: 0.30 (0.08-0.53) P=0.009
- Male: 0.39 (0.09-0.69) P=0.01
- Female: 0.23 (-0.13-0.59) P=0.20

**SF-36 PCS**
- All: 0.26 (0.03-0.48) P=0.03
- Male: 0.57 (0.26-0.87) P<0.001
- Female: -0.04 (-0.40-0.31) P=0.82

**DASI**
- All: 0.32 (0.09-0.54) P=0.006
- Male: 0.55 (0.24-0.85) P<0.001
- Female: 0.10 (-0.25-0.46) P=0.58

Rollman BL, et al. JAMA. 2009; 302:2095-2103

# Reduces Post-CABG Pain

SF-36 Bodily Pain Scale

54
52
50
48
46
44
42
40
38
36

*
*
*
*
*
**
**
**
**

Depressed/intervention (n=150)
Depressed/usual care (n=152)
Nondepressed (n = 151)

0
2
4
8
12

Month

N at each assesment

| | 0 | 2 | 4 | 8 | 12 |
|---|---|---|---|---|---|
| INT: | 150 | 121 | 123 | 126 | 115 |
| UC: | 152 | 135 | 135 | 126 | 116 |
| ND: | 151 | 134 | 142 | 141 | 135 |

Morone NE, Herbeck Belnap B, et al. *JGIM* 2012;72:620

# Impact by Age

| | Age<br><60<br>N=58 | Age<br>≥ 60<br>N=92 | ES |
|---|---|---|---|
| ≥ 50% Decline from baseline HRS-D | 43% | 57% | 0.27<br>(-0.06-0.60) |
| HRS-D score ≤ 7 at 8-month | 41% | 53% | 0.24<br>(-0.09-0.57) |

Schulberg HC, Herbeck Belnap et al. *AJGP 2011*

# Conclusions

Compared to "usual care" for post-CABG depression, telephone-delivered collaborative care is <u>cost-effective</u> and <u>*improves*</u>:

- Mental HRQoL
- Physical functioning
- Mood symptoms
- Pain

# Highly Cost-Effective

## ICER: -$9,889 per QALY vs. Usual Care
## (95% CI: -$11,940 to -$7,838)



Donohue J, Herbeck Belnap B et al. *Psychosomatic Med.* 2012

# Developing a Collaborative Care Strategy for Depression and Co-Morbid CHF

BL Rollman, B Herbeck Belnap,
S Mazumdar, PR Houck, F He, RJ Alvarez,
HC Schulberg, CF Reynolds III, DM McNamara

University of Pittsburgh School of Medicine

All work supported by NIMH R34 MH078030

# Heart Failure

- 5,700,000 Americans affected
- Annually:
  - 660,000 newly diagnosed cases
  - 1,100,000 hospital discharges
  - 277,000 deaths
    - 1 in 9 death certificates list HF
    - Mortality essentially unchanged since ‘96

2011 AHA Heart and Stroke Statistical Update

# Depression and HF

- Depression and HF often co-morbid
  - Co-occur in ~1/3 of patients
- Depression associated with:
  - ⬆ Morbidity and mortality
  - ⬇ Quality of life

Lichtman et al. *Circulation* 2008; 118:1768
Freedland, et al. *Heart Fail Clin* 2011; 7:11
Rutledge, et al. *J Am Coll Cardiol* 2006; 48:1527

AHA Science Advisory

# Depression and Coronary Heart Disease

## Recommendations for Screening, Referral, and Treatment

## A Science Advisory From the American Heart Association Prevention Committee of the Council on Cardiovascular Nursing, Council on Clinical Cardiology, Council on Epidemiology and Prevention, and Interdisciplinary Council on Quality of Care and Outcomes Research

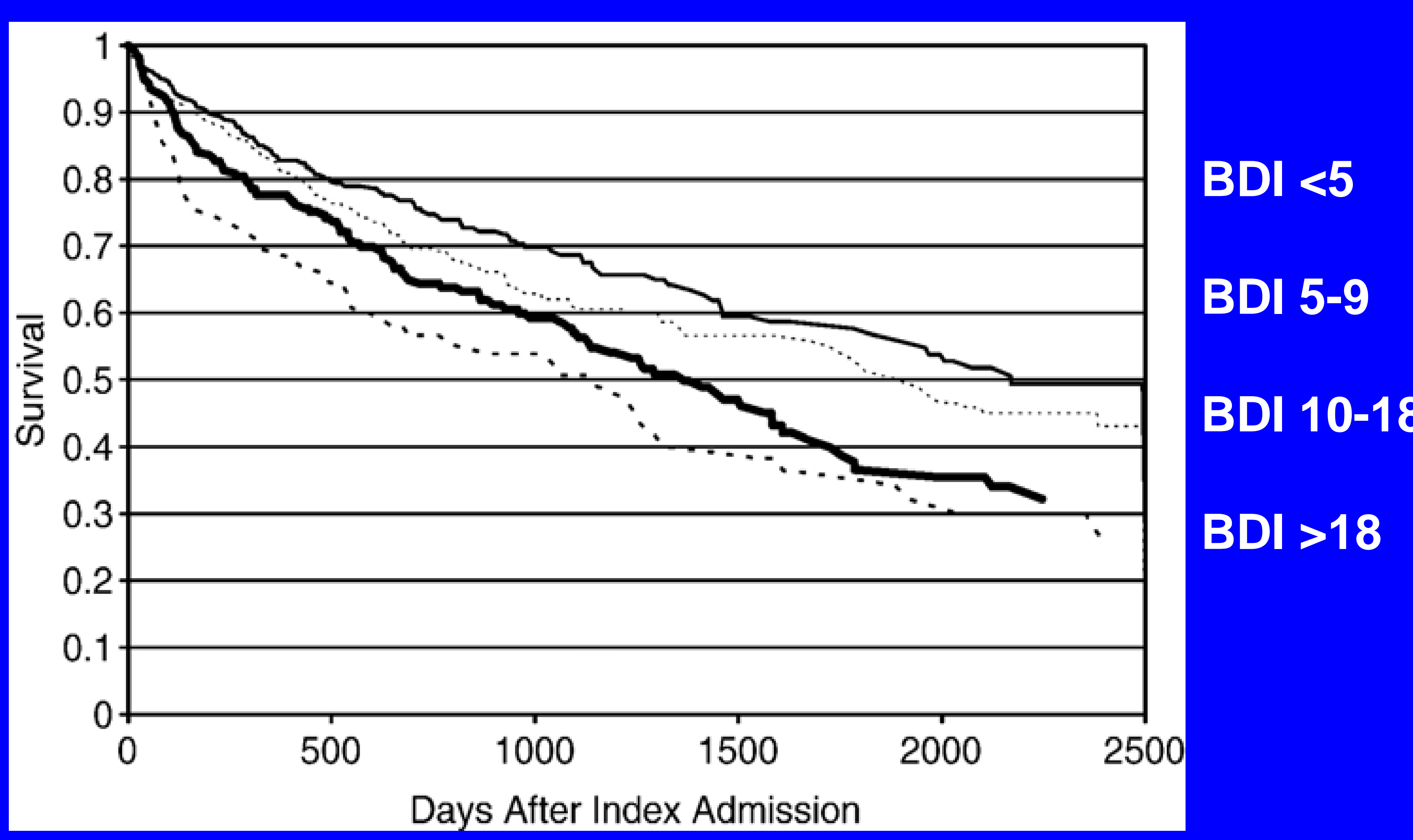
*Endorsed by the American Psychiatric Association*

Judith H. Lichtman, PhD, MPH, Co-Chair; J. Thomas Bigger, Jr, MD;
James A. Blumenthal, PhD, ABPP; Nancy Frasure-Smith, PhD; Peter G. Kaufmann, PhD;
François Lespérance, MD; Daniel B. Mark, MD, MPH; David S. Sheps, MD, MSPH;
C. Barr Taylor, MD; Erika Sivarajan Froelicher, RN, MA, MPH, PhD, Co-Chair

*Abstract*—Depression is commonly present in patients with coronary heart disease (CHD) and is independently associated with increased cardiovascular morbidity and mortality. Screening tests for depressive symptoms should be applied to identify patients who may require further assessment and treatment. This multispecialty consensus document reviews the evidence linking depression with CHD and provides recommendations for healthcare providers for the assessment, referral, and treatment of depression. (*Circulation.* 2008;118:1768-1775.)

**& 2011 AHA Practice Guidelines for Prevention of Cardiovascular Disease in Women**

# Impact of Depression on HF




Jiang W. Am Heart J 2007; 154:102

# Methods

R34 MH078030

**Enrollment**

- 4 Pittsburgh-area hospitals
- Ejection fraction <40%
- NYHA classes II-IV
- PHQ-2 administered by study nurses
  - 372 PHQ-2 (+)
  - 100 PHQ-2 (-) convenience sample

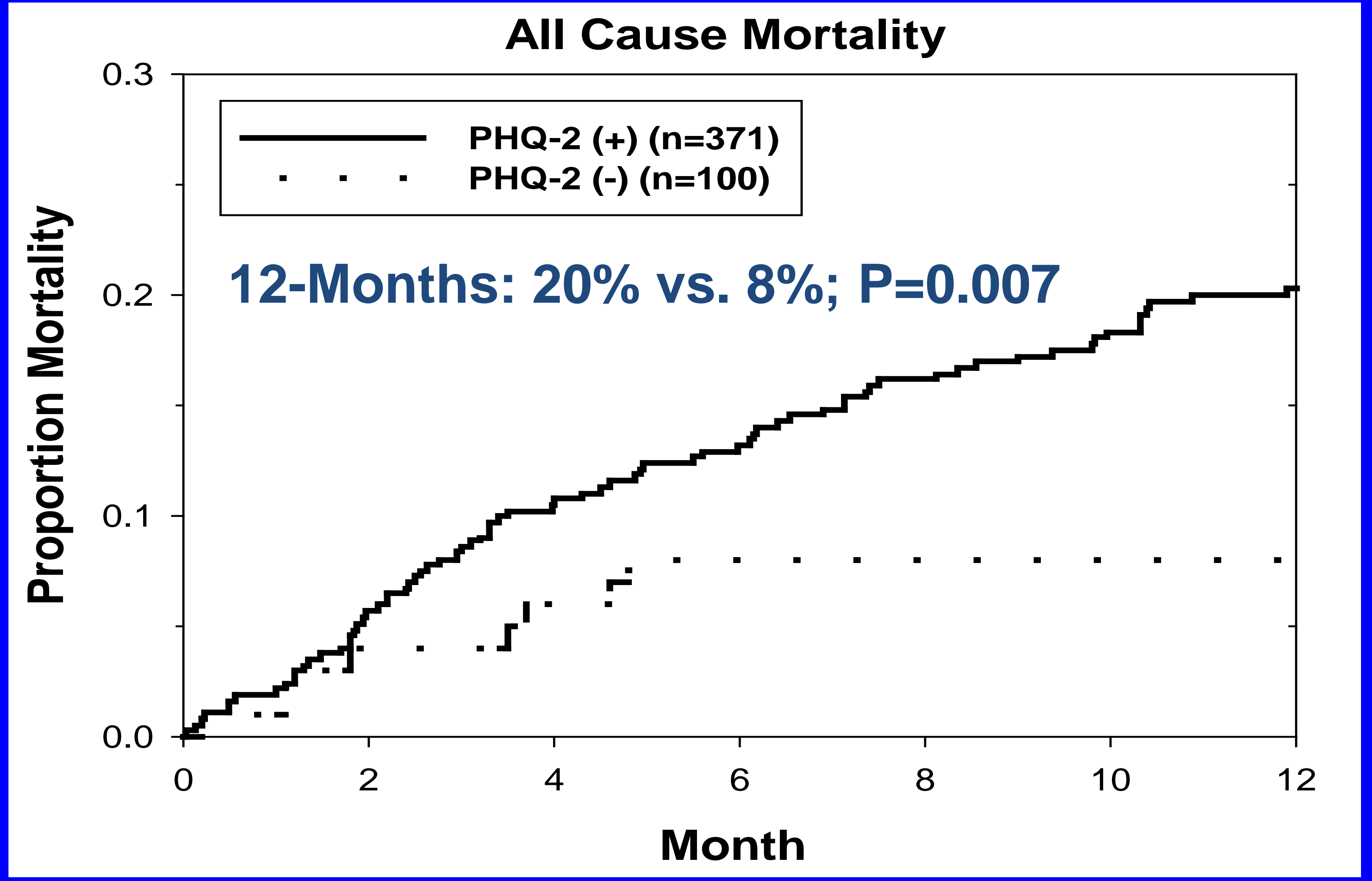
**12-Month and 4 year Vital Status**

- Telephone (patient, 2' contact, PCP)
- Death classification (med records, interview)

# Recruitment
12/07-4/09

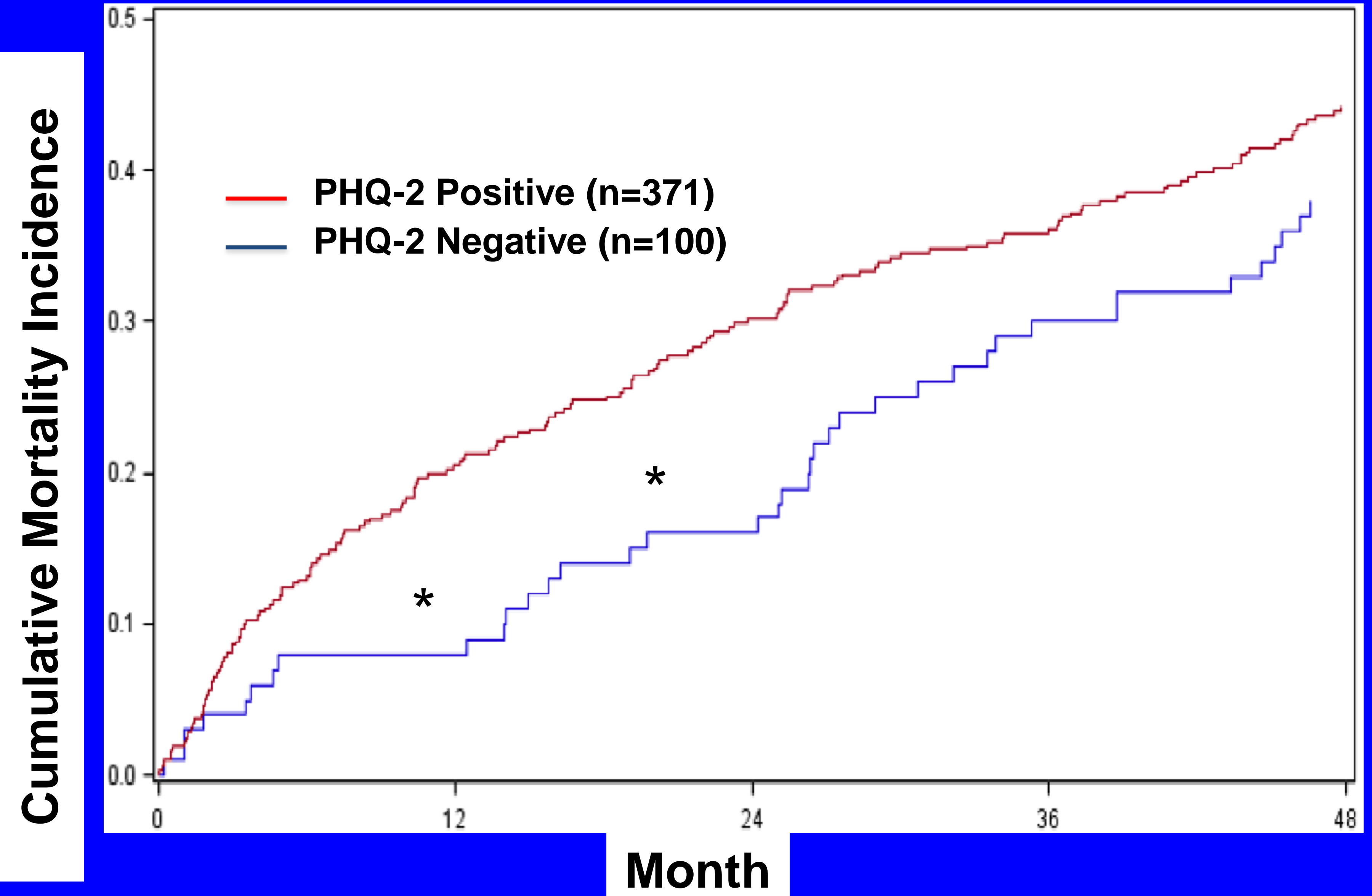
| | |
|---|---|
| HIPAA Consented | 857 |
| Consented & Protocol-Elig. | 589 (69%) |
| NYHA & PHQ-2 Eligible | 520 (88%) |
| Protocol-Eligible (EF<40%) | 471 (91%) |
| PHQ-2 (+) | 371 (79%) |

# PHQ-2 is Predictive of Mortality in Heart Failure Patients




Rollman BL, Herbeck Belnap B et al. *J. Cardiac Fail 2012*

# All-Cause Mortality by PHQ-2 Status




Deveney T, Herbeck Belnap B et al. *Psychosom Med. 2013*

# Cardiovascular Mortality By PHQ-2 Multivariate*

| Year | Hazard Ratio (95% CI) | P |
|---|---|---|
| 1st Year | 2.77 (1.14-6.70) | 0.024 |
| 2nd Year | 2.22 (1.16-4.26) | 0.016 |
| 3rd Year | 1.41 (0.85-2.35) | 0.18 |
| 4th Year | 1.48 (0.91-2.29) | 0.12 |

*Adjusted for Age, Sex, EF, NYHA Functional Class, Diabetes, COPD, Renal Insufficiency, Anxiety, Systolic and Diastolic BP, Hemoglobin (Anemia), Sodium (Hyponatremia), ACE/ARB, Beta Blocker, Coumadin

# *Integrated Biopsychosocial Care for Multi-Conditions*

*Collaborative Depression Care*

+

*Chronic Care Model*

+

*Treat-to-Target Approach*

***One Approach Across Different Chronic Illnesses+ TEAMcare***

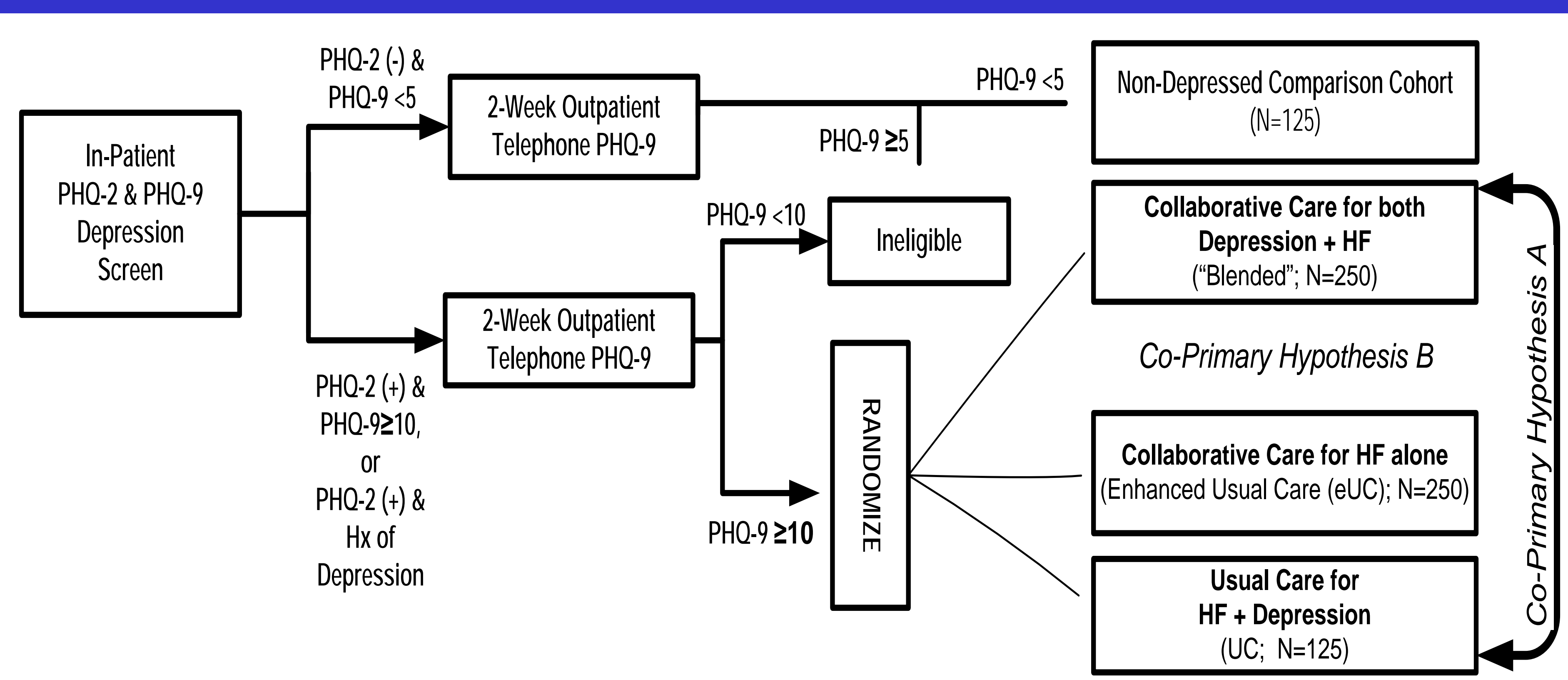
**Katon W et al. 2010. *Contemp Clinc Trials***

***www.teamcarehealth.org***

# Blended Collaborative Care for Heart Failure and Co-Morbid Depression

BL Rollman, MD, MPH
B Herbeck Belnap, Dr Biol Hum
M Muldoon, MD
R Alvarez, MD
K Abebe, PhD
K Smith, MD
CF Reynolds, MD

# Study Design



# Offene Fragen

- Diagnostik
  - Zeitpunkt
  - Somatische vs. Kognitive Symptome
- Behandlungsmöglichkeiten und –zeitpunkt
- Effektivität für KHK outcome
  - Nachhaltigkeit
- Behandlungsplan
  - Patientenpräferenz
  - Effektivität für Frauen/Minoritäten
  - Effektivität für Krankheitsschwere

# USA vs. Deutschland

- Patient-Centered Home
- Datenvernetzung
- Prävention
- Gesundheitsbewusstsein