



New approaches for improving access to pain self-management support

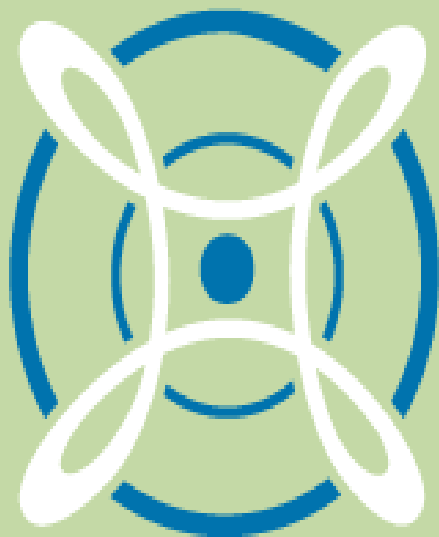
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THE CENTER FOR MANAGING CHRONIC DISEASE

Putting People at the Center of Solutions

The Center for Managing Chronic Disease

What we do: Build the capacity for effective chronic disease management, especially for the most vulnerable members of our communities

How we do it: Conduct innovative research and disseminate results that change policy, practice and peoples' lives

Who we serve: People with chronic disease and those who help them

Who we partner with: Health systems, government, community organizations, and private funders

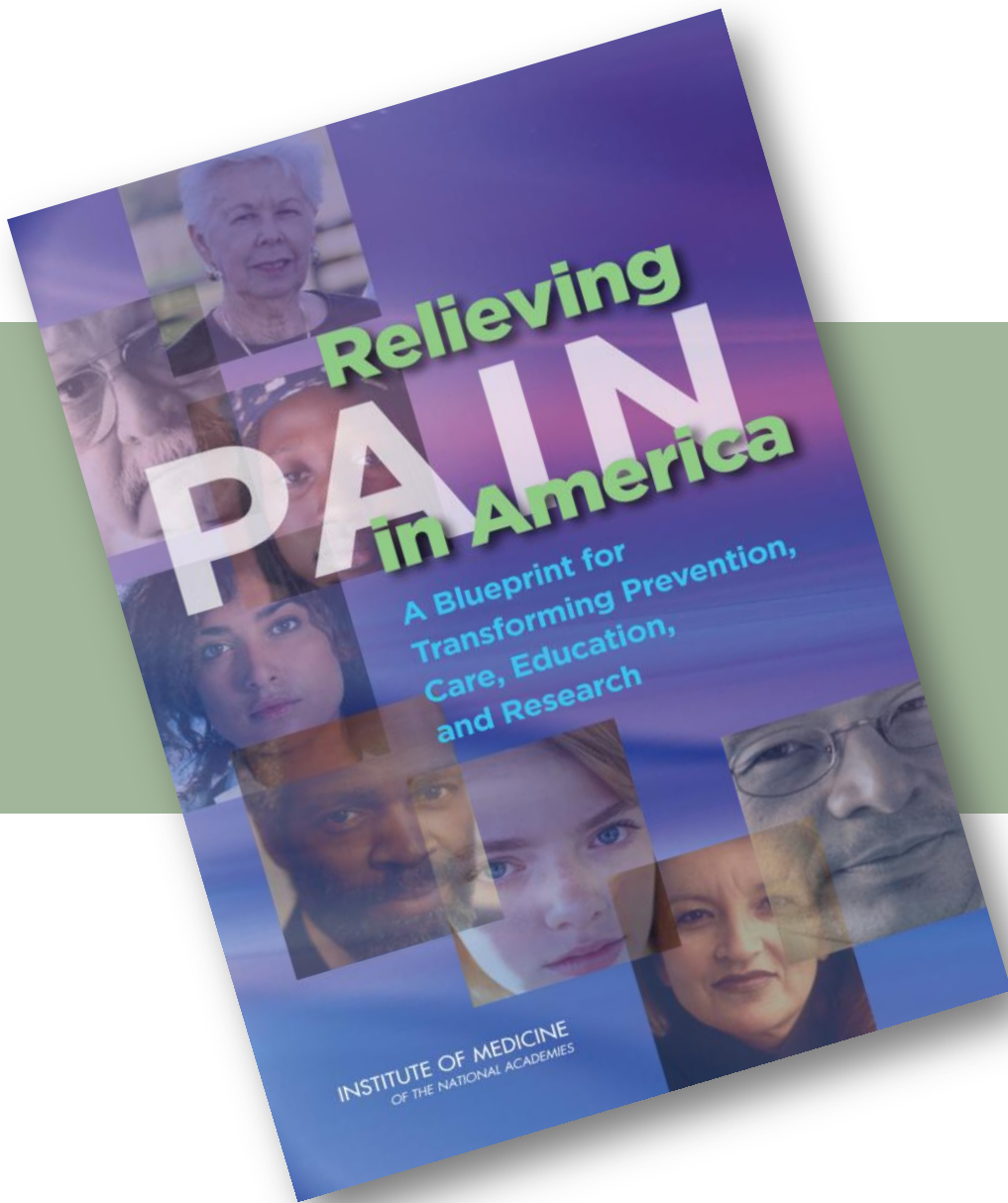
Why Chronic Pain?

43% of US adults live with chronic pain.

Annual costs of pain in the U.S. are staggering

\$11.6 - \$12.7 billion	Days work missed
\$95.2 - \$96.5 billion	Hours work lost
\$190.6 - \$226.3 billion	Lower wages
\$261 - \$300 billion	Cost of health care

Gaskin, D.J., & Richard, P. (2011). The Economic Costs of Pain in the United States. In IOM (Institute of Medicine), *Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education and Research*, Washington, DC: The National Academies Press.



“Need to Foster a Cultural Transformation”

Pain is a national challenge

- All people are at risk for pain
- Pain is a uniquely individual, subjective experience

Comprehensive and interdisciplinary (biopsychosocial) approaches are the most important and effective

Care is difficult to obtain because of structural barriers

A transformation is needed to better prevent, assess, treat, and understand pain

The Committee’s report offers a blueprint



Seeing pain through new eyes

Functional Activities

- Physical functioning
- Ability to perform activities of daily living
- Sleep disturbances
- Work
- Recreation

Psychological Problems

- Depression
- Anxiety,
- Anger
- Loss of self-esteem

Social Consequences

- Marital/family relations
- Intimacy/sexual activity
- Social isolation

Financial Consequences

- Healthcare costs
- Disability
- Lost Workdays

Over time, negative thoughts, beliefs, and behaviors related to pain can become resistant to change.

Thoughts

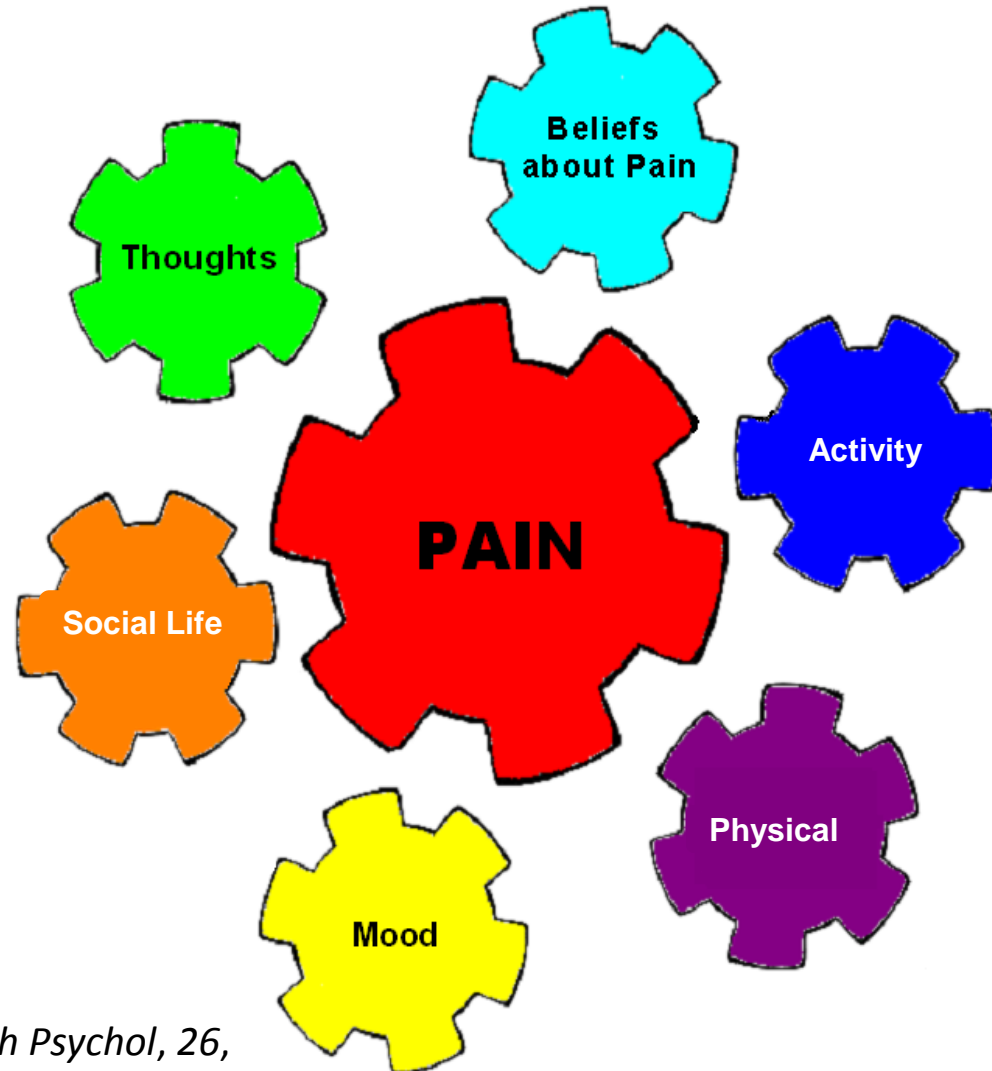
My pain is going to kill me
This is never going to end
I'm worthless to my family
I'm disabled
There is nothing I can do for myself
I'm a bad husband and provider
If I move it, I'll make it worse

Behaviors

Staying in bed all day
Staying away from friends
Decreasing activities that
have the potential to
increase pain
Taking more medication
than prescribed

What is Self-Management?

- Skill-based treatment
- Informed by the biopsychosocial model
- Effective^{1,2}
- Low risk
- Consistent with care for other chronic condition



(1) Hoffman, Papas, Chatkoff & Kerns(2007). *Health Psychol*, 26, 1-9. (2) Ostelo et al.(2005). *Cochrane Database of Systematic Reviews*.

Cognitive Behavioral Therapy (CBT) has moderate to large effects in reducing pain-related interference



See: Hoffman, Papas, Chatkoff & Kerns(2007). *Health Psychol*, 26, 1-9; and Ostelo et al.(2005). *Cochrane Database of Systematic Reviews*,

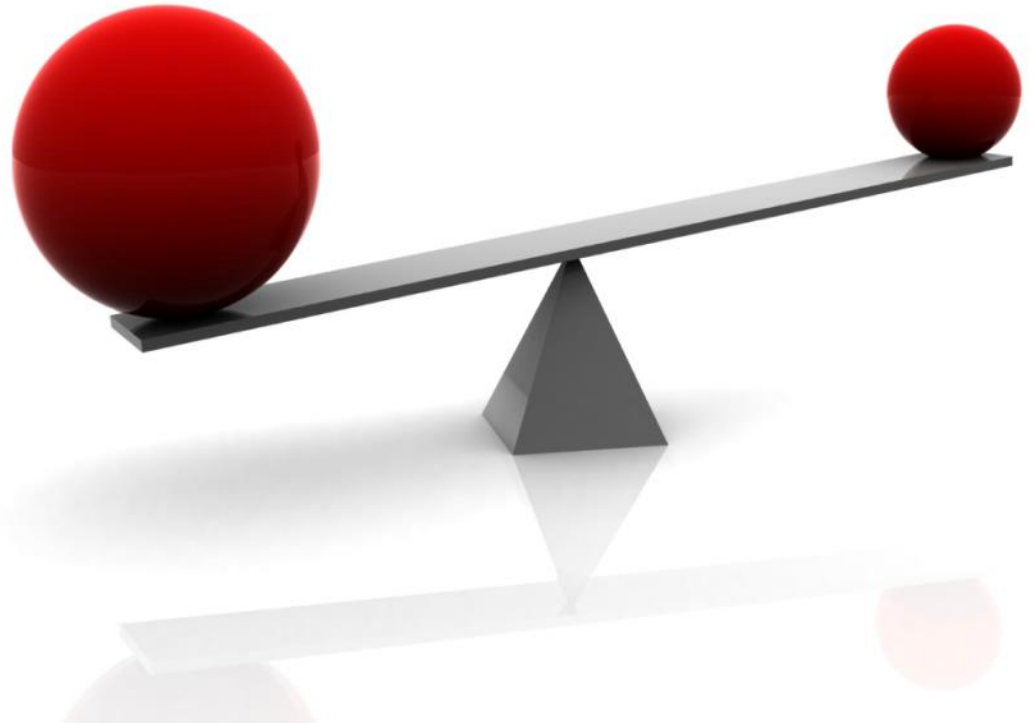
Four interrelated phases of CBT

- (1) Reconceptualization of chronic pain as chronic disease with symptoms that are manageable
- (2) emphasis on learning a pain self-management approach
- (3) Skills acquisition - behavioral activation and learning adaptive cognitive and behavioral pain coping skills
- (4) Maintenance, relapse prevention, and problem-solving

Typical Course of Pain CBT

- Session 1: Rationale for Treatment
- Session 2: Theories of Pain, Breathing
- Session 3: PMR & Visual Imagery
- Session 4: Cognitive Errors
- Session 5: Cognitive Restructuring
- Session 6: Stress Management
- Session 7: Time-Based Activity Pacing
- Session 8: Pleasant Activity Scheduling
- Session 9: Anger Management
- Session 10: Sleep Hygiene
- Session 11: Relapse prevention

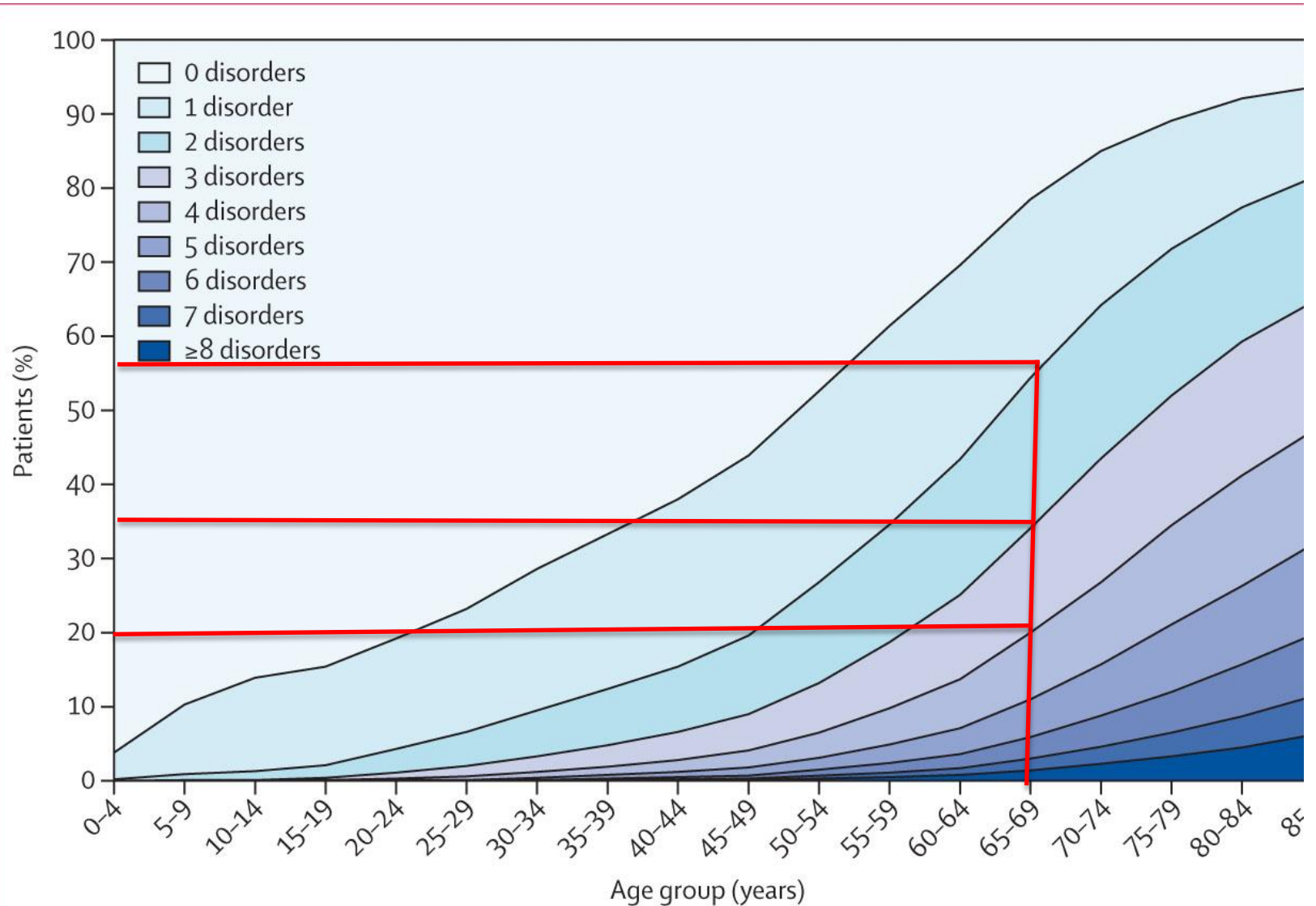
Many patients need
more help than
clinicians can ever
realistically provide
during standard
encounters.



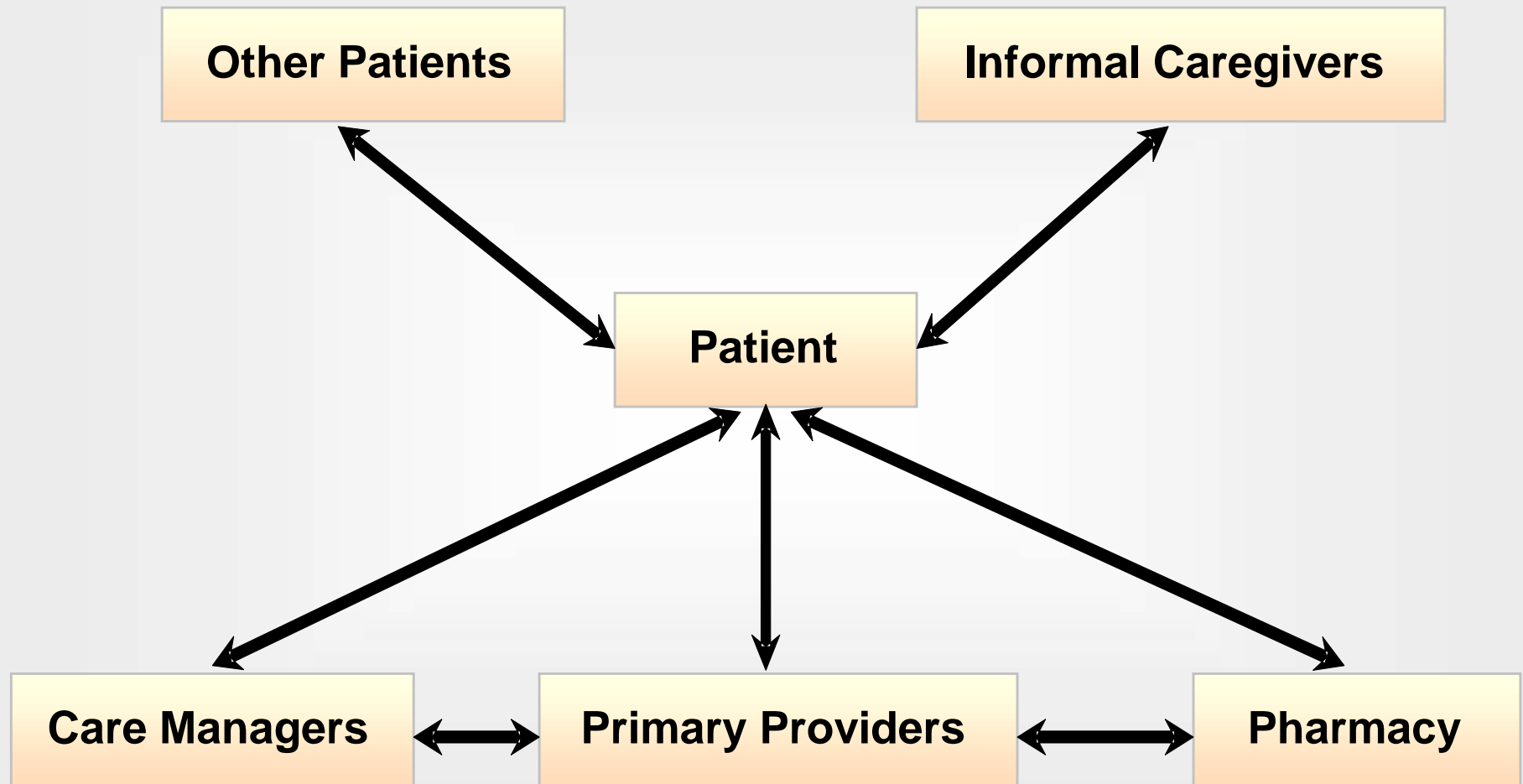
Rubenstein LV et al. Improving care for depression: there's no free lunch. *Annals of Internal Medicine* 2006;145:544-546.

Dobscha SK et al. Depression decision support in primary care: a cluster randomized trial. *Annals of Internal Medicine* 2006;145:477+.

Multimorbidity and Aging



Focus of CMCD interventions for improving chronic disease management



Veterans Walk to Beat Back Pain



Your walking goal
for today is
3300 steps.

**Report an
illness or injury**

Maria

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Basic Back Care refresher

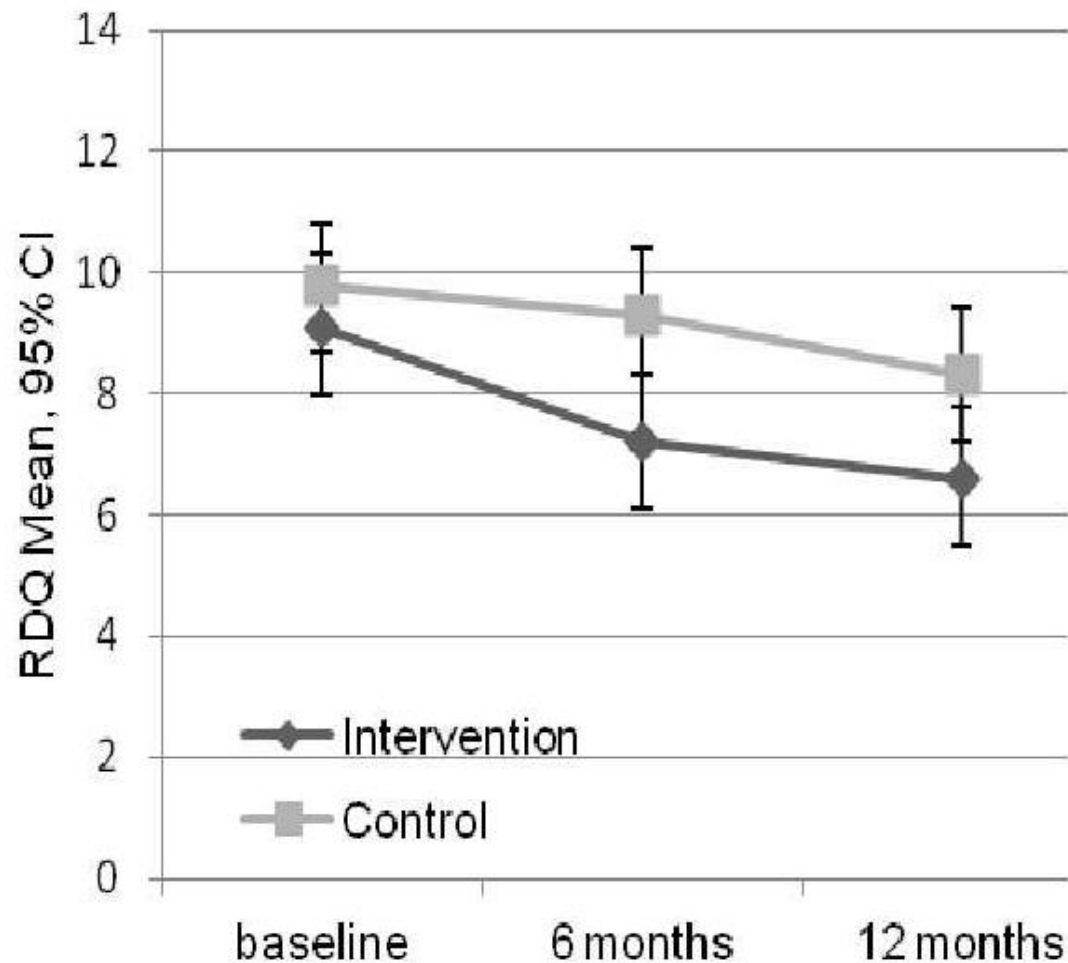


Are you missing any of the handouts from the Basic Back Care class? Are you interested in seeing the handouts in full color?

We have many of the handouts from the Basic Back Care class available below. You will need

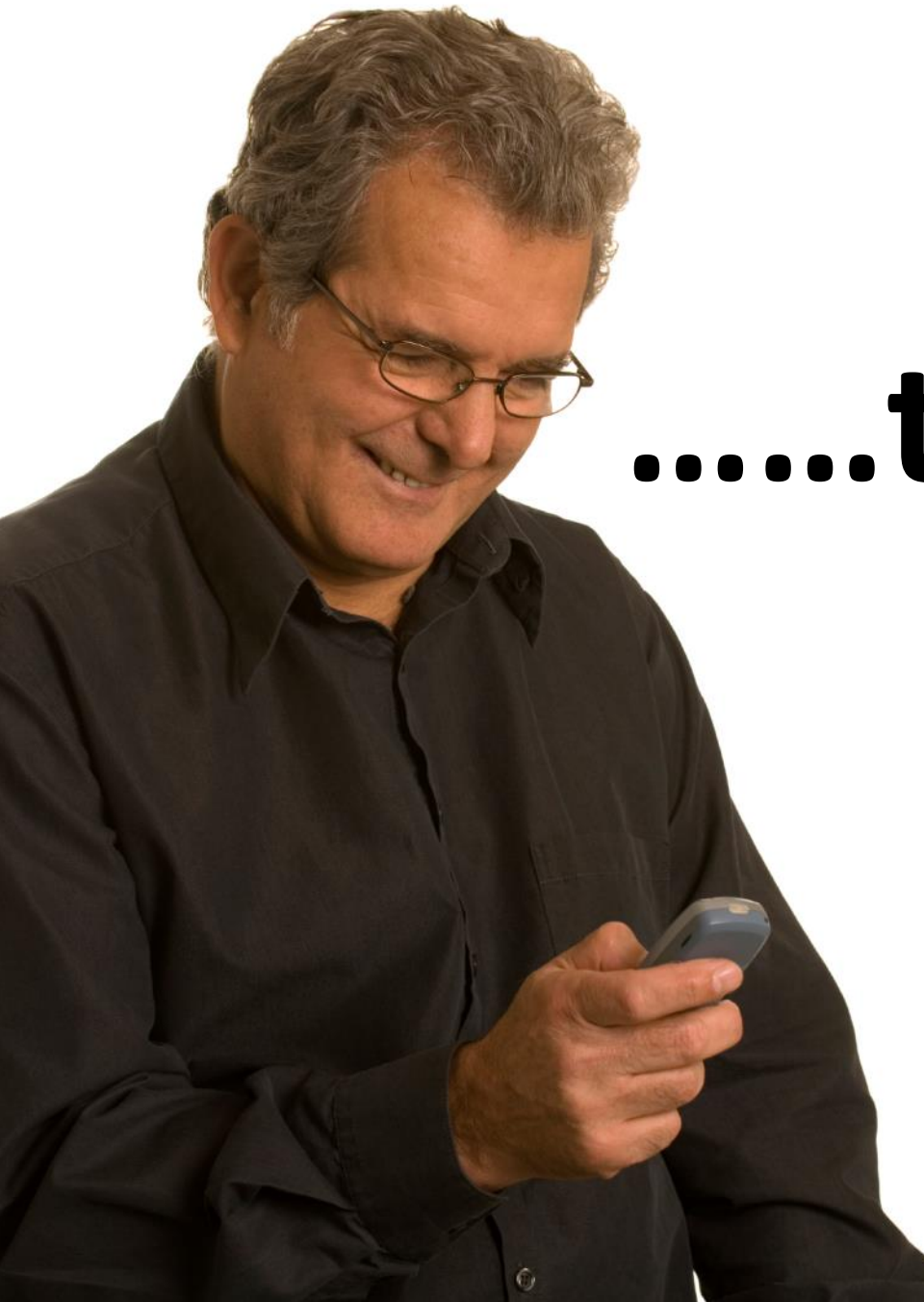


Changes in Pain Related Functioning



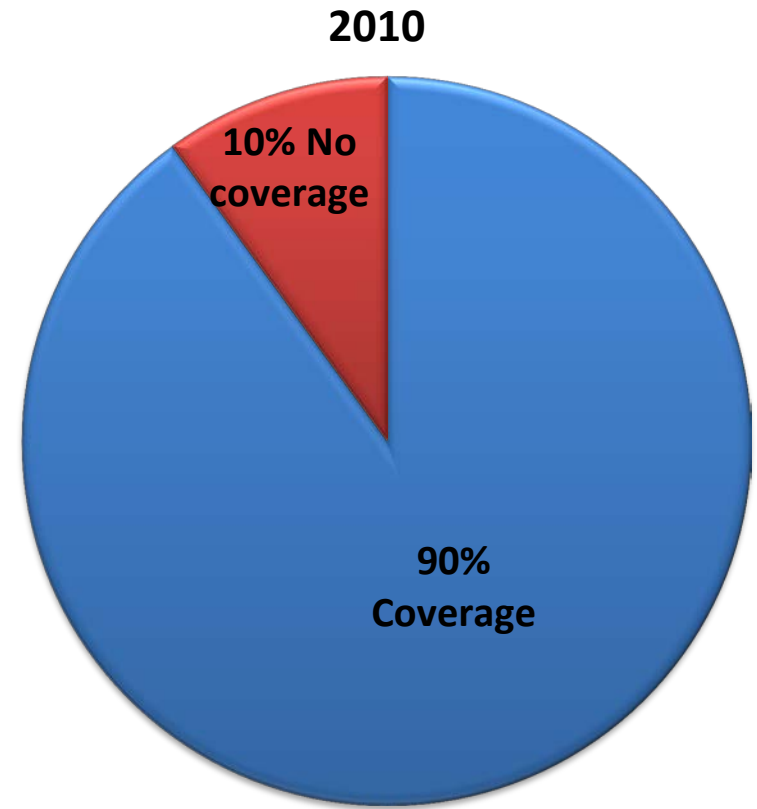
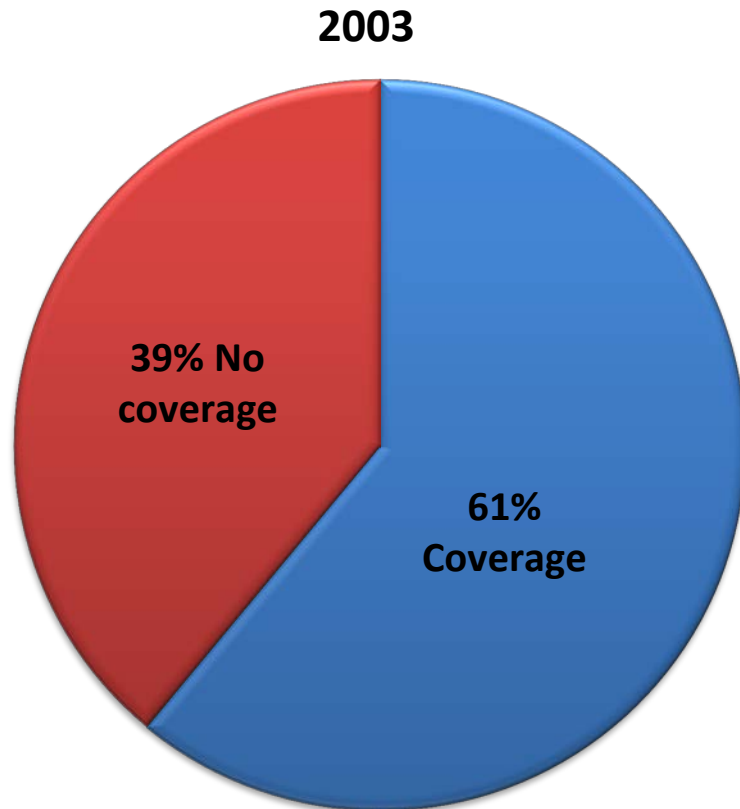
Krein SL, et al. A randomized trial of a pedometer-based internet mediated intervention for patients with chronic low back pain. Journal of Medical Internet Research 2013;15(8):e181+.

From E-Health...



.....to M-Health

Percentage of world population with cellphone coverage



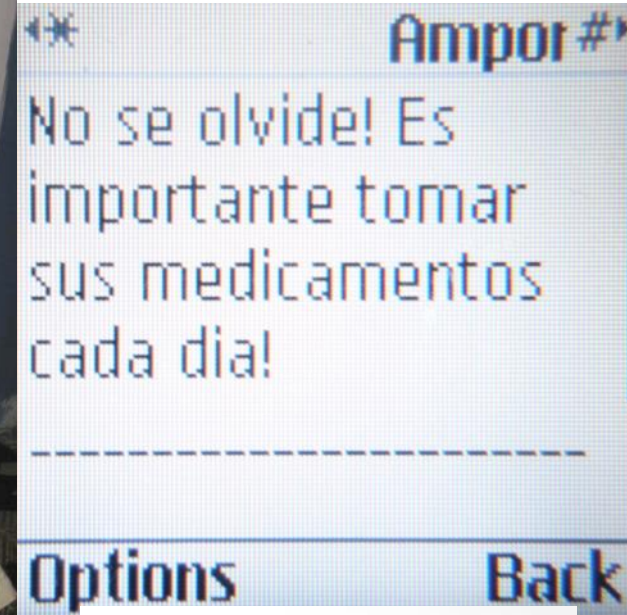
Special devices



Automated calls (IVR)



Text messages (SMS)



Smartphones



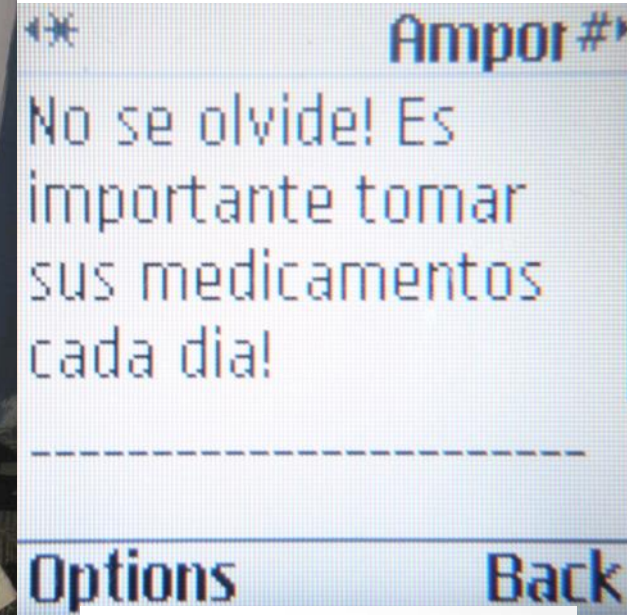
Special devices



Automated calls (IVR)



Text messages (SMS)



Smartphones



An Examination of 26,168 Hamilton Depression Rating Scale Scores Administered via Interactive Voice Response Across 17 Randomized Clinical Trials

Heidi K. Moore, PhD, James C. Mundt, PhD,* Jack G. Modell, MD,† Heidi E. Rodrigues, BS,‡¶
David J. DeBroda, MD,§ James J. Jefferson, MD,* and John H. Greist, MD**

Feasibility and validation of a computer-automated Columbia-Suicide severity rating scale using interactive voice response technology[☆]

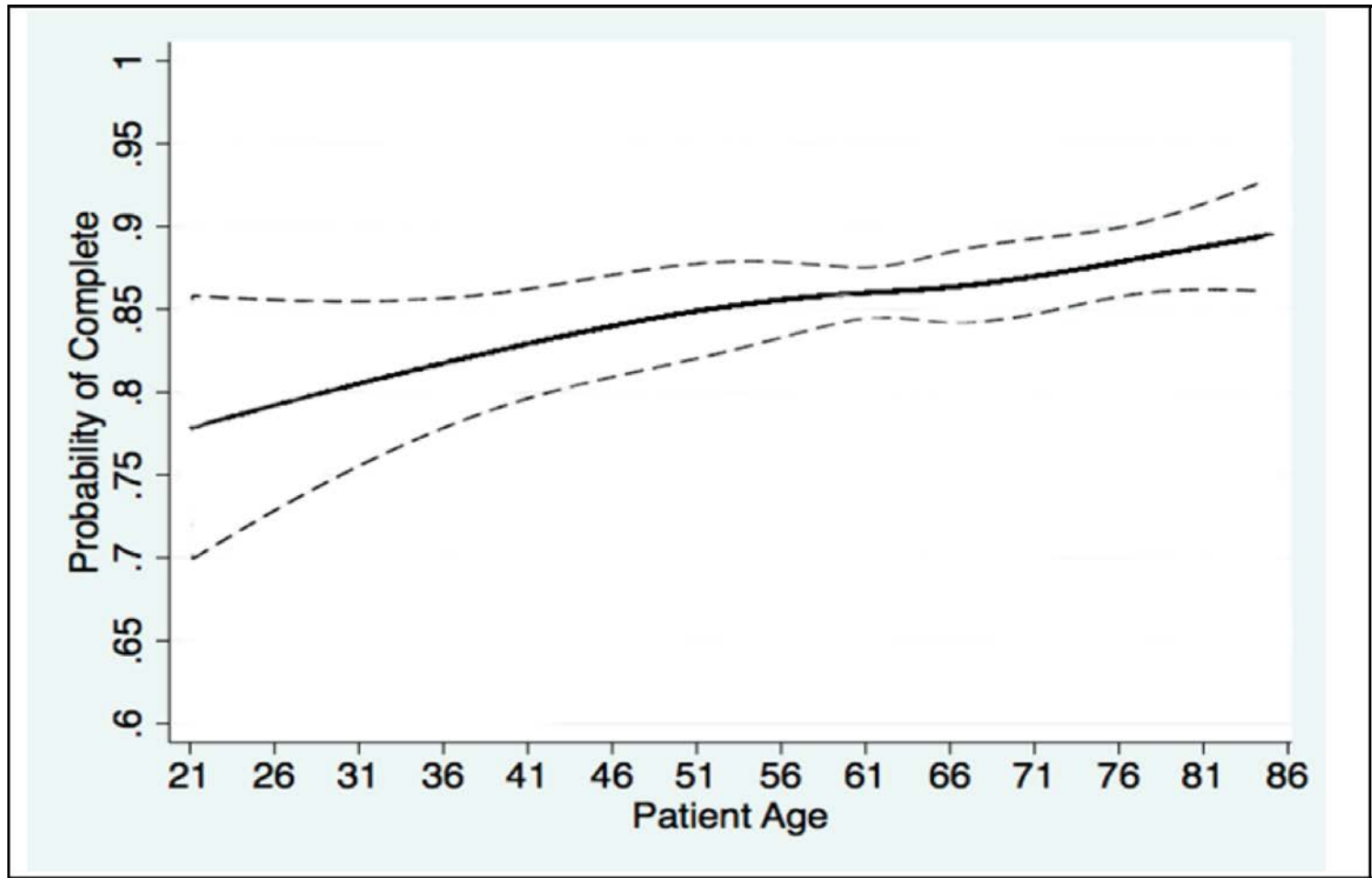
James C. Mundt^a, John H. Greist^{a,b,*}, Alan J. Gelenberg^{a,b}, David J. Katzelnick^{a,b},
James W. Jefferson^{a,b}, Jack G. Modell^c

^aHealthcare Technology Systems, Inc., 7617 Mineral Point Road, Ste. 300, Madison, WI 53717, USA

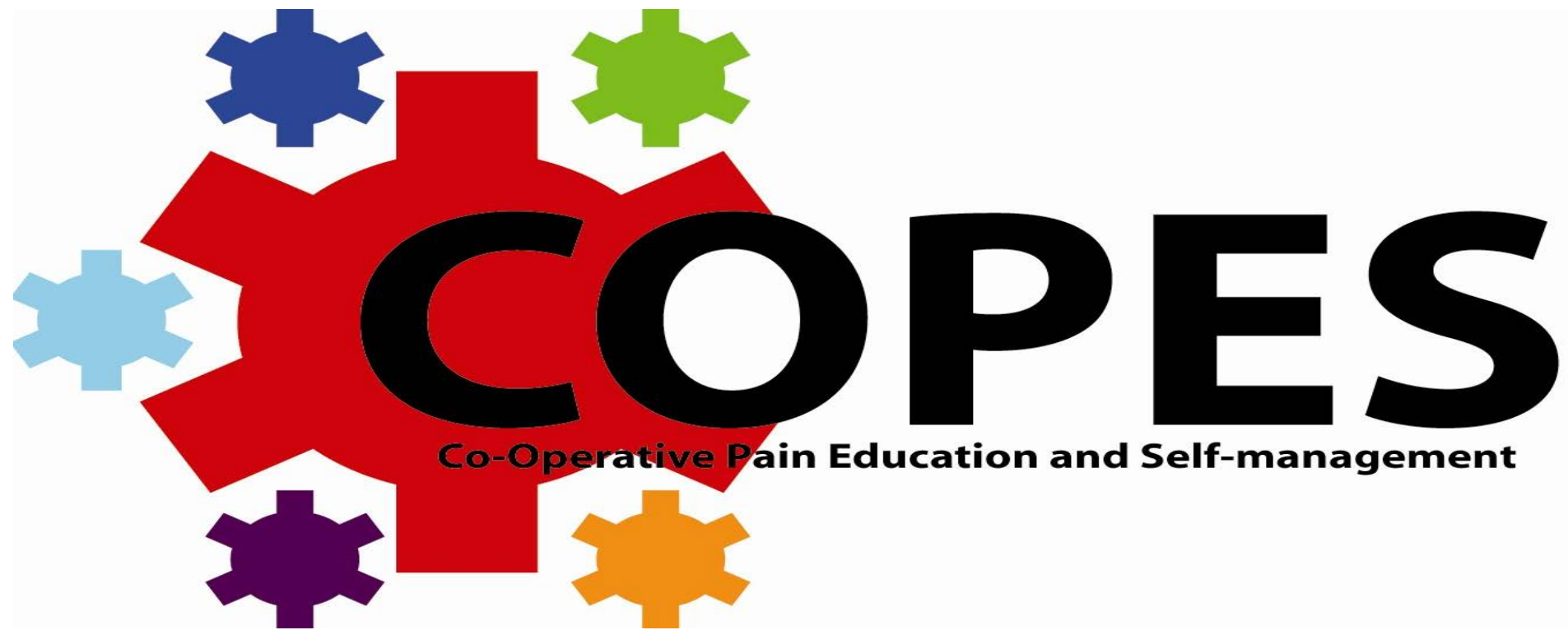
^bUniversity of Wisconsin—Madison, Madison, WI, USA

^cGlaxoSmithKline, Inc., Research Triangle Park, NC, USA

Patient Engagement Rates are High for 2000+ Patients with a Variety of Chronic Diseases



Piette JD, Rosland Am, Marinec NS, Striplin D, Bernstein SJ, Silveira MJ. Engagement in automated patient monitoring and self-management support calls: experience with a thousand chronically-ill patients. Medical Care 2013.



Randomized non-inferiority trial of IVR-based CBT versus face to face CBT for chronic low back pain

Eligibility

- Numerical Rating Scale score of 4+
- Pain for at least 3 months
- Ability to walk at least one block
- Absence of dementia or serious mental illness
- Touchtone telephone
- No surgical interventions for pain during trial

Face to Face CBT

10 weekly sessions



10 weekly sessions

8 self-mgmt skills



8 self-management skills

Therapist teaching



Handbook/IVR teaching

Assigned steps goals



Assigned steps goals

Daily IVR reporting for
therapist session feedback



Daily IVR reporting for
weekly pre-recorded
feedback

IVR Assessment

Daily

- Average pain intensity that day (NRS)
- Skill practice rating
- Sleep duration and quality
- Activity (steps)
- Catastrophizing

Weekly

- Proactive assessment of activity-related AEs
- Medication changes
- Free choice goal and rating
- Continued use of prior skills

Changes in Stepcounts in IVR and F2F Groups (preliminary findings)

steps

20000

15000

10000

5000

0

0

20

40

60

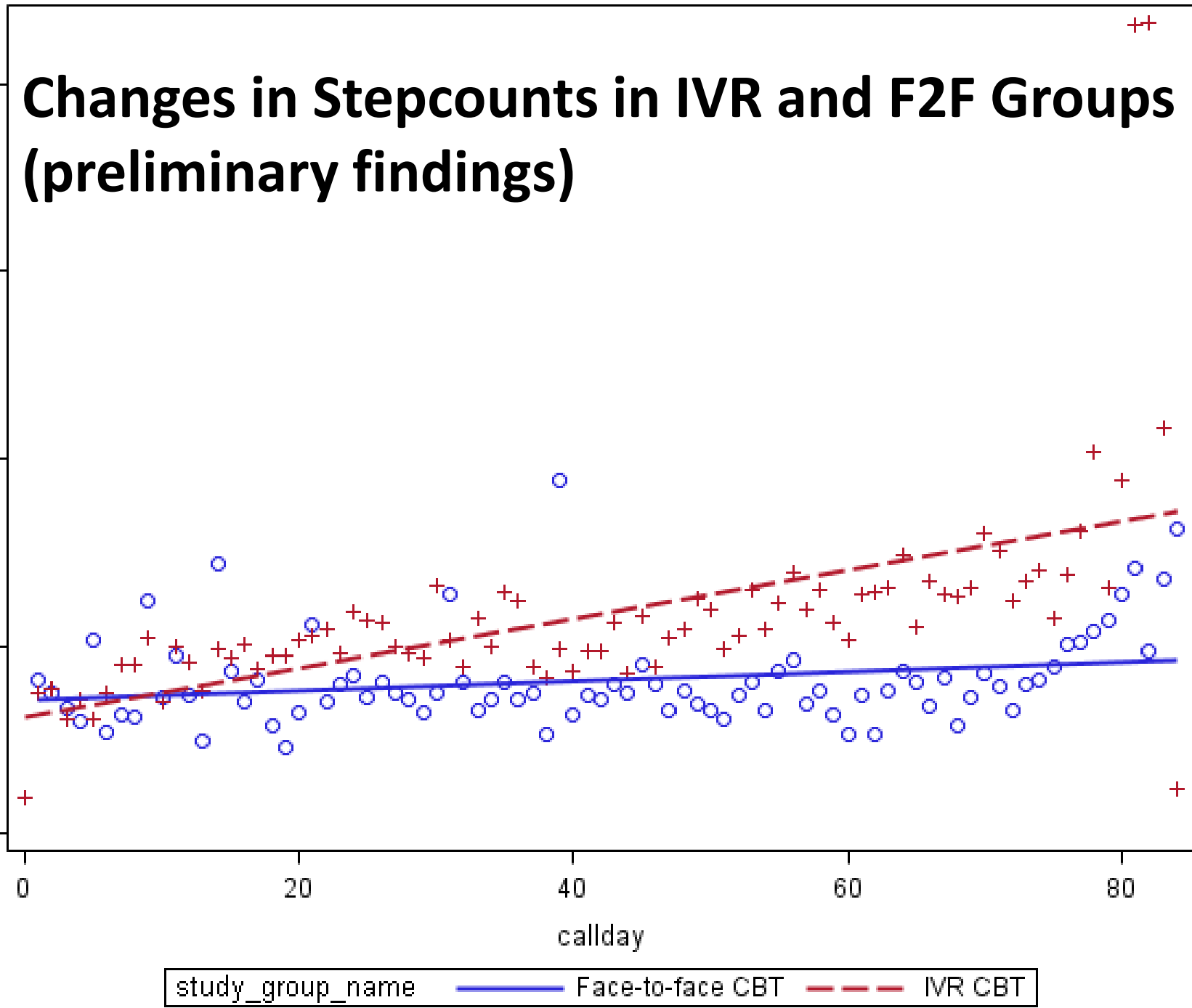
80

callday

study_group_name

Face-to-face CBT

IVR CBT



CarePartner Program: Function

1 Patient receives a call from the system and reports information regarding their health. Based on the responses, the patient receives information to improve their self-care.

2 Clinic receives alerts about the patients' worrisome signs and symptoms.

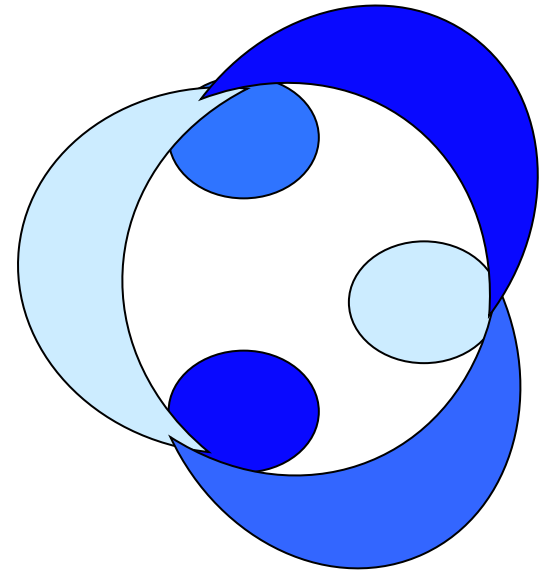


3 Family member or friend receives an email, IVR call, or SMS with updates on the patient's status.



CarePartner Programs Have Been Implemented for Patients with a Variety of Conditions

- Heart failure
- Cancer chemotherapy
- Chronic pain
- Diabetes
- Hypertension
- Post hospital transitional care
- Depression
- Decompensated cirrhosis
- Adrenal cancer
- Patients with depression post stroke



Sample monitoring item

Many people have difficulty taking their medicine exactly as prescribed by their doctor. How often would you say you took your diabetes medicine exactly as prescribed this past week?

If you always ..., please press “1”

...most of the time... press “2”

...sometimes... press “3”

...rarely or never... press “4”.

Sample Patient Feedback

I'm sorry to hear that you are having problems taking your medications. If it is hard for you to remember to take them, consider getting a weekly pill box. Also, think about ways you can remind yourself to take your medicine by making it part of your routine. For some people, it helps to put their medicine right next to their toothbrush or next to their coffee pot so they see it the same time every day.

Sample CarePartner Feedback

Patient message:

I'm sorry to hear that you are having problems taking your medications. If it is hard for you to remember to take them, consider getting a weekly pill box. Also, think about ways you can remind yourself to take your medicine by making it part of your routine. For some people, it helps to put their medicine right next to their toothbrush or next to their coffee pot so they see it the same time every day.

CarePartner message:

PROBLEM: *Your partner reported that [he/she] has not been taking their medications as prescribed by their doctor.*

WHAT IT MEANS: *Medication is an important part of the treatment for depression. Your partner may be having side effects or have some other reason for not taking his/her medications.*

HOW YOU CAN HELP: *Please call your partner to discuss this. Try to understand why he/she is not taking their medications as prescribed. It may help to remind your partner that medications for depression need to be taken every day for several weeks for them to work, and patients should keep taking them to prevent worsening symptoms even if they are feeling better. If your partner is having side effects, please encourage him/her to talk to his/her doctor as there are usually ways to minimize side effects.*

CarePartner Program: Function

1 Patient receives a call from the system and reports information regarding their health. Based on the responses, the patient receives information to improve their self-care.

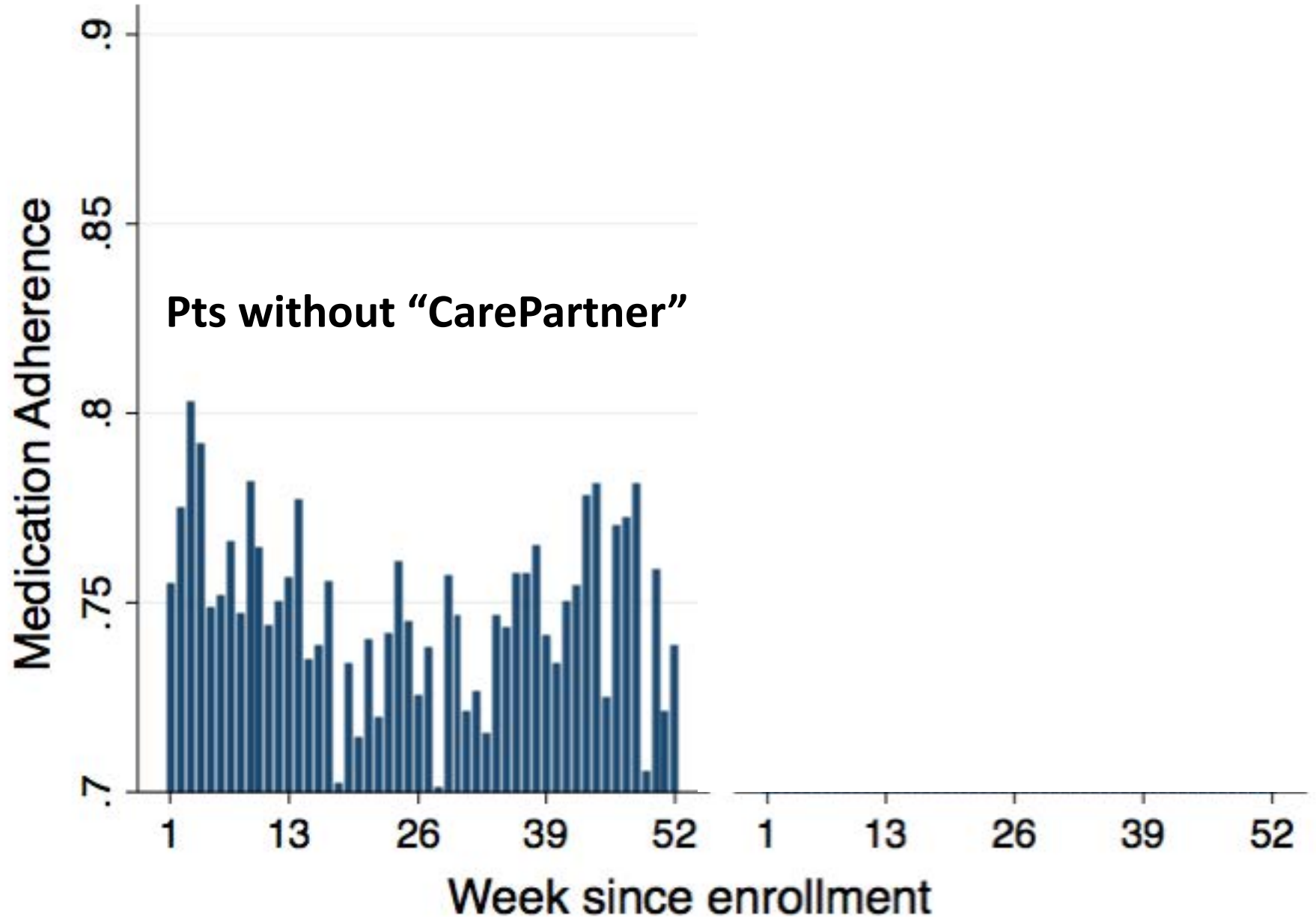
2 Clinic receives alerts about the patients' worrisome signs and symptoms.



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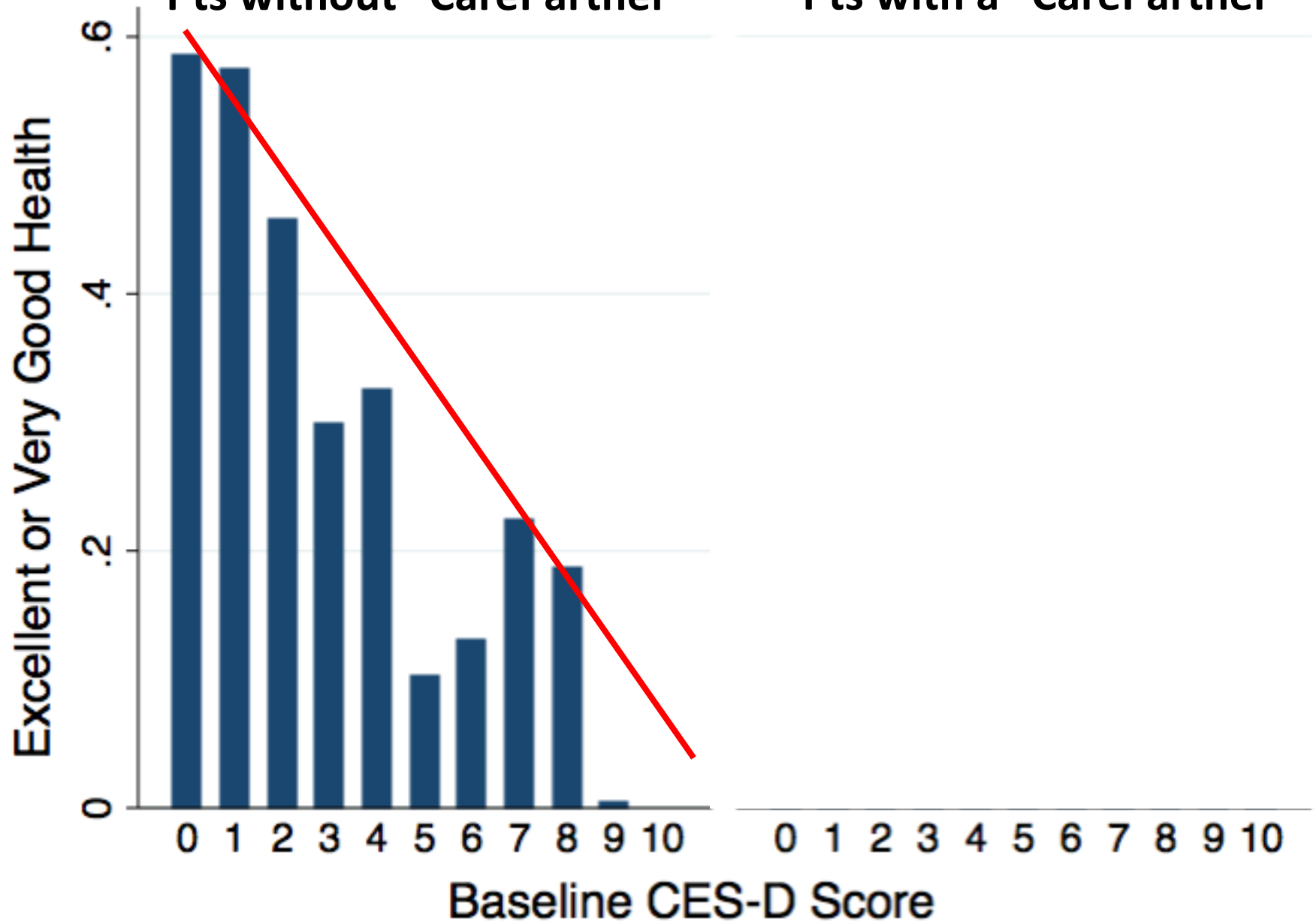


A Comparative Effectiveness Trial Among Heart Failure Patients



Pts without "CarePartner"

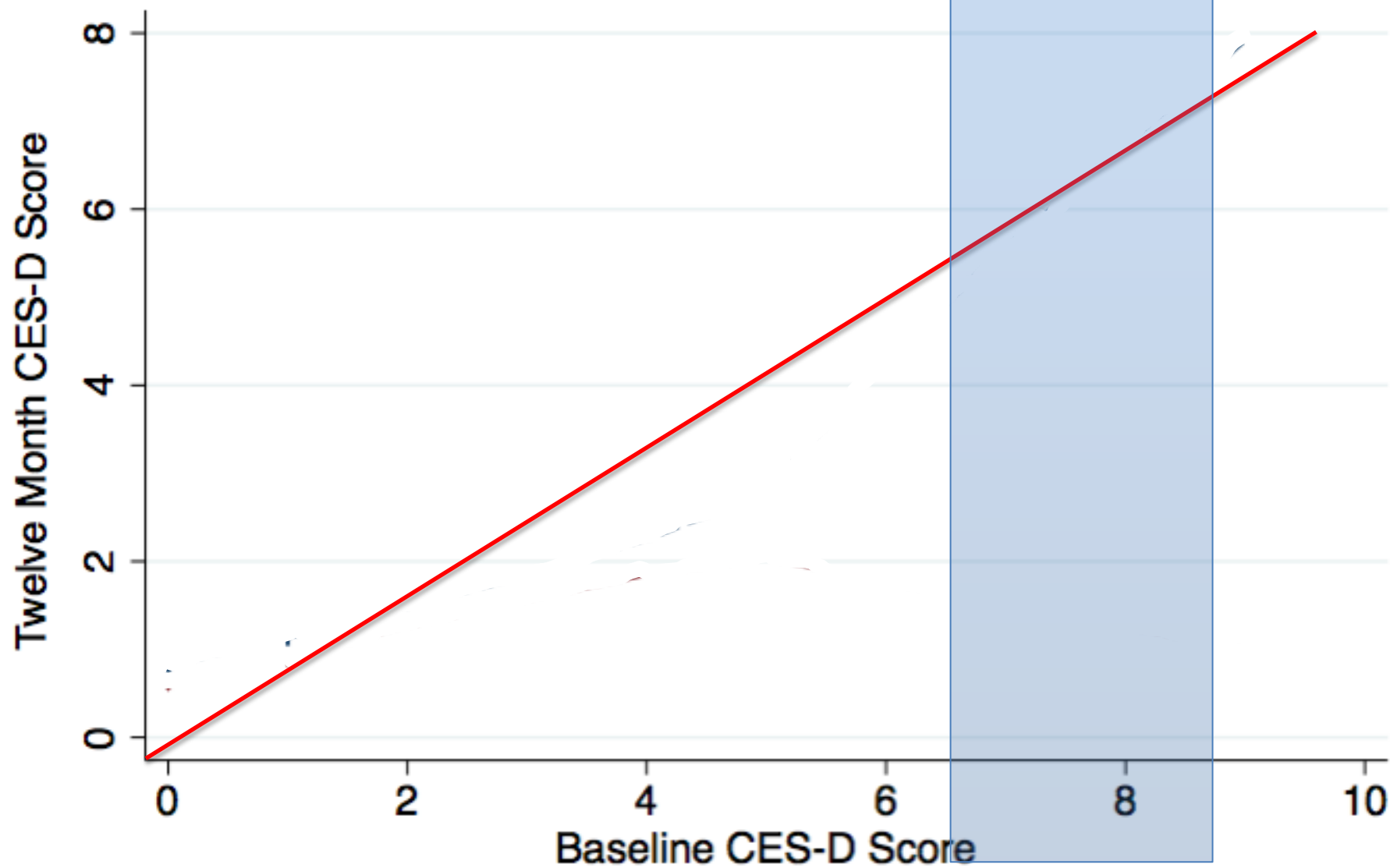
Pts with a "CarePartner"







**Caregivers felt less
burden**



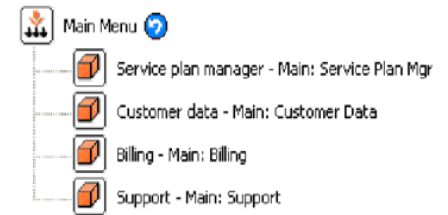
--- Standard mHealth — mHealth+CP

Curing Pilot-itis in Michigan



MULTI-CHANNEL EXAMPLE:

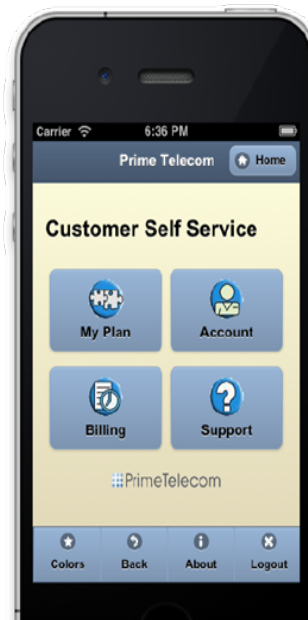
MENU-DRIVEN NAVIGATION



Please make your choice:
Service plan manager,
customer data, billing,
or support.



IVR (Voice/DTMF)



Mobile Web

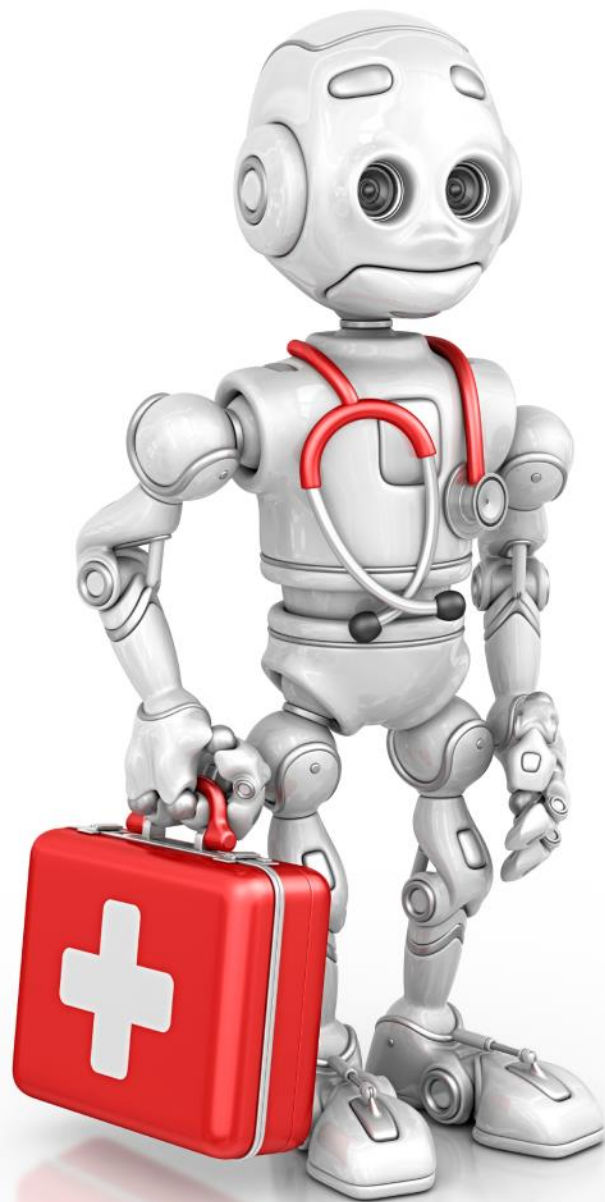


Text (USSD / SMS / IM)

Digger Wasp







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by Anand Rajaraman (Author), Jeffrey David Ullman (Author)

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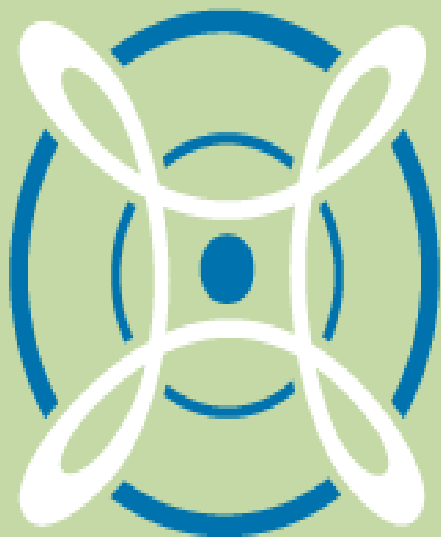
by Dietmar Jannach (Author), et al.



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Thank you! Questions?