



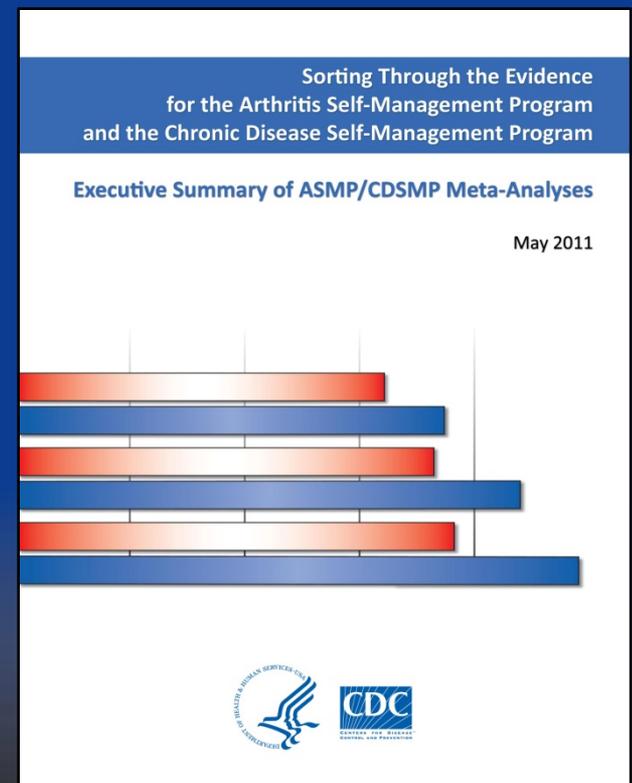
Effectiveness of Stanford 's Chronic Disease Self Management Program (CDSMP): Results of Meta-analyses

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CDSMP Meta-analyses Study Co Authors

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Plan for session

- Background on CDSMP
- Meta-analysis process
- Results of the meta-analysis
- Challenges ahead

The Many Names of CDSMP

- Living Well with Chronic Conditions
- Healthy Living
- Healthier Living
- Personal Action Toward Health (Path)
- My Life, My Health
- Better Health, Better Choices
- Expert Patient Programme
- ...

Chronic Disease Self Management Program (CDSMP):

- Small group workshops
- Led by 2 trained leaders (pref. lay people)
- Structured teaching protocol
- 6 weeks; 2 ½ hours week
- Delivered in community and health care settings
- Developed at Stanford University
- Highly interactive



Chronic Disease Self Management Program (CDSMP):

- Addresses variety of chronic conditions
- Designed to enhance self efficacy/confidence
- Focuses on generalizable skills
 - ◆ Goal setting, action planning
 - ◆ Problem-solving, decision-making
 - ◆ Exercise
 - ◆ Cognitive stress/symptom mgmt.
 - ◆ Communication with providers



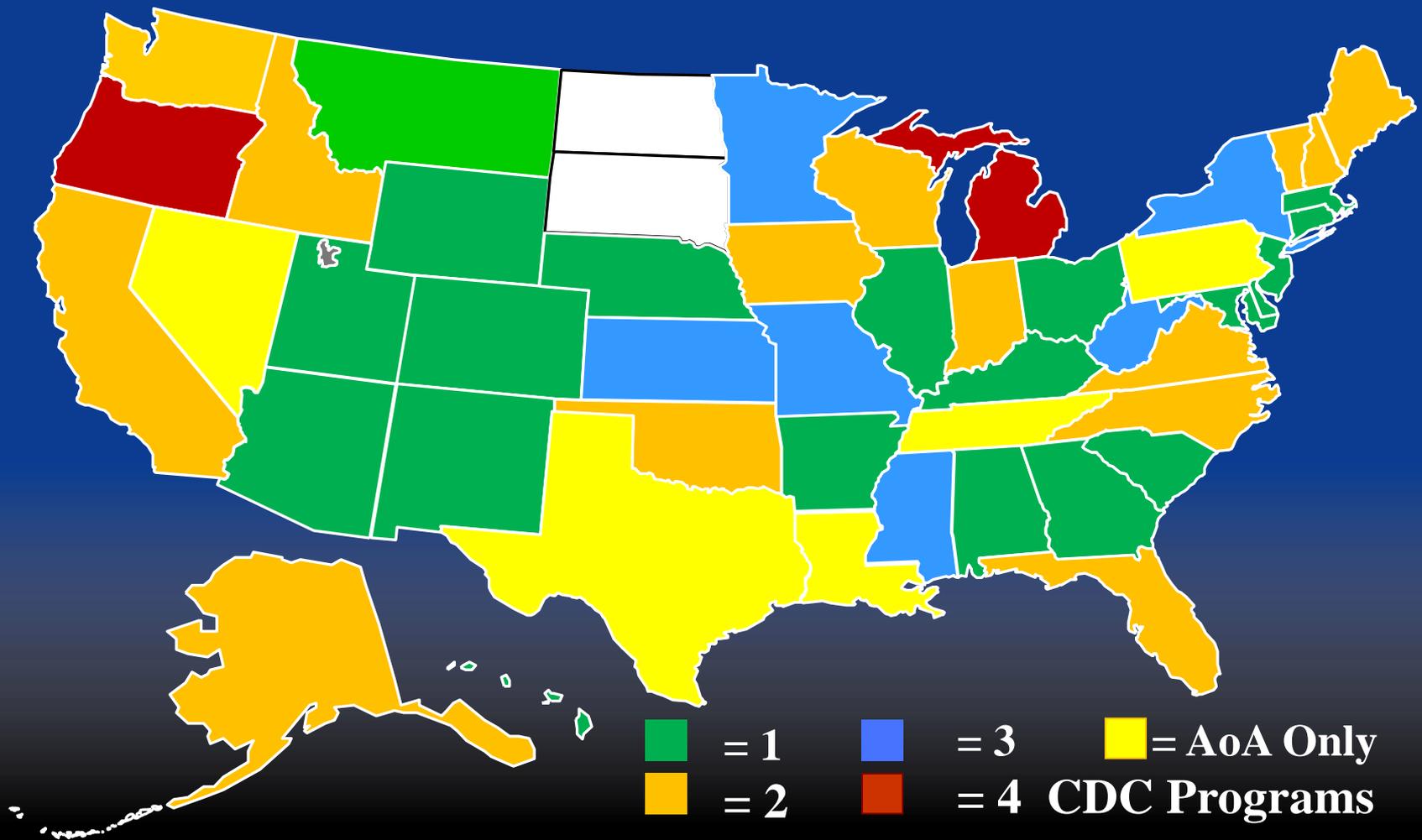
Alternative Modes of CDSMP Delivery

- Internet-based “virtual small group”
- Spanish language
- Translations of English CDSMP

Related Courses

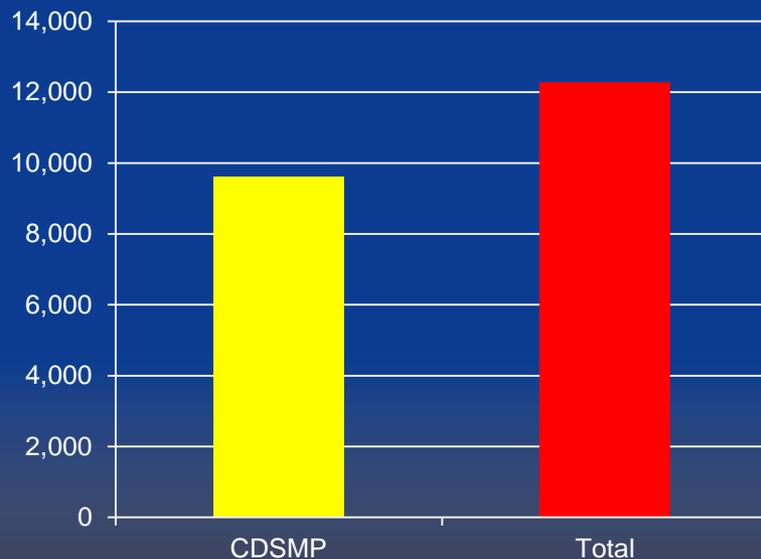
- Arthritis Self Management Program
 - ◆ English and Spanish small group
 - ◆ Internet-based
 - ◆ Self study
- Diabetes Self Management Program
 - ◆ English and Spanish
- Positive Self Management Program (HIV)
- Chronic Pain Self Management Program

Selected Federal CDSMP Investment (CDC, AoA-2010-2013)



Reach of CDSMP and Related Interventions Aging and Public Health Partners

■ Workshops



Participants



March 31, 2010—May 20, 2013

Sample Evidence on CDSMP

	1	2	3	4	5
Self efficacy	<input type="radio"/>	X	X	X	X
Self rated health	X	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
Fatigue	<input type="radio"/>	X	<input type="radio"/>	X	X
Anx/Distress	<input type="radio"/>	X	<input type="radio"/>	X	X
Role limitation	X	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
HRQOL	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Pain	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
Exercise	X	<input type="radio"/>	<input type="radio"/>	X	X
Cog. Symp mgmt	<input type="radio"/>	X	<input type="radio"/>	X	X
Utilization	--	--	--	--	--

1=Lorig 2005, 2=Barlow 2005, 3=Goeppinger 2007, 4=Kennedy 2007,
5=Gitlin 2008

Sorting through the Evidence for CDSMP

- Used meta-analysis: Statistical method of combining results from multiple studies to evaluate effects
- Designed to
 - ◆ Examine CDSMP specifically
 - ◆ Look at wide variety of outcomes
 - ◆ Look at controlled trials and unpublished program evaluation reports



Meta-analysis Process

- **Search** for relevant articles and reports
- **Screen** results for eligibility
- **Abstract** data from eligible article/report
- **Contact** investigator to obtain missing data
- **Review** measures for conceptual consistency
- **Analyze**
 - ◆ Differences by study design or mode of delivery (Sensitivity analysis)
 - ◆ Calculate effect sizes and significant differences (random effects model)

Eligibility Review

Inclusion Criteria

- Identified before 10/1/10
- Intervention was CDSMP
- Implemented in an English-speaking country
- Contained at least 1 primary outcome variable
- Report available in English

Exclusion Criteria

- CDSMP combined with another intervention
- Implemented in non-English-speaking country
- Instructors not use instructors manual
- New content introduced

Outcomes of Interest

Mental Health Status

- Self efficacy
- Health distress
- Depression
- Self Rated Health

Health Behaviors

- Exercise
- Cog. Symptom Mgmt
- Comm. With Providers

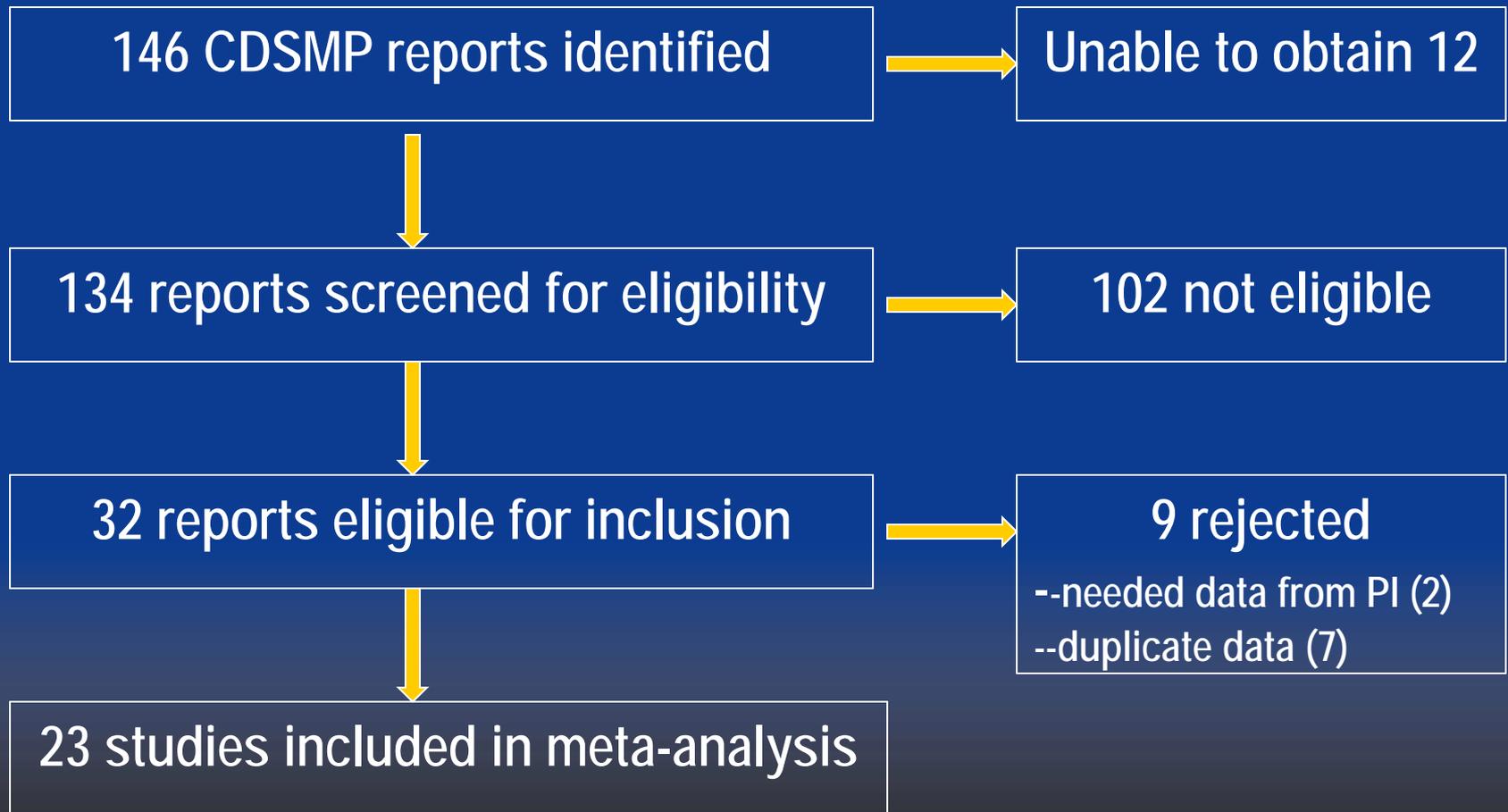
Physical Health Status

- Energy/Fatigue
- Pain
- Disability
- Shortness of Breath
- Role limitations

Health Care Utilization

- Physician visits
- ER visits
- Hospitalizations

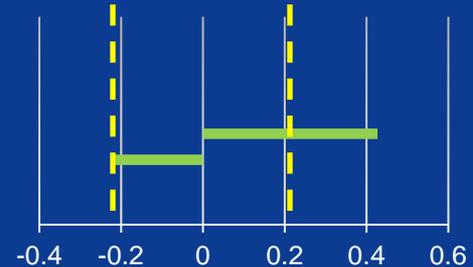
Flow Chart of CDSMP Evidence



Meta-Analysis Process

- Calculated “effect sizes” across studies
 - ◆ Standardized score between -1.00 and + 1.00

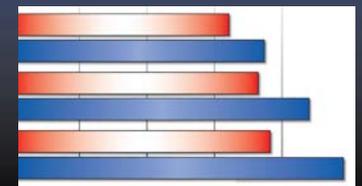
- ★ Small ES = < 0.20
 - ★ Medium ES = $0.20-0.80$
 - ★ Large ES = >0.80
- Cohen, 1988



- Effect size takes into account:
 - ◆ Size of effect
 - ◆ Amount of measurement error in the data
 - ◆ Sample size

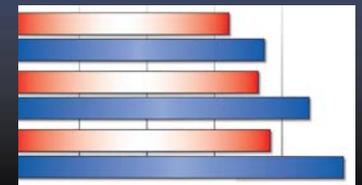
Effect Sizes

- Calculation based on:
 - ◆ RCT: net difference between Treatment and Control
 - ◆ Longitudinal (pre/post) study: net difference between Baseline and Follow up
- Examined outcomes:
 - ◆ Short term (4-6 mo.)
 - ◆ Long term (9-12 months)



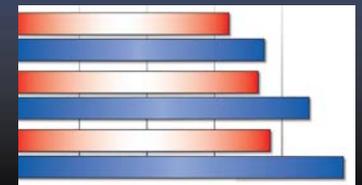
CDSMP Meta-analyses

- All studies/reports from 1999-2009
- 23 studies/reports met eligibility criteria
 - ◆ 9 RCTs
 - ◆ 14 Longitudinal Evaluations
- Delivery Mode:
 - ◆ 18 Small group English
 - ◆ 2 Small group Spanish
 - ◆ 1 Small group translation from English
 - ◆ 2 Internet
 - ◆ 1 Peer delivered at home



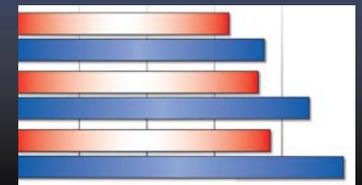
Participants Included

- 23 studies (25 total study arms)
- N = 8,688 (2,909 in RCTs; 5,779 in Longitudinal)
- 75% female
- Mean education level 12.7 years
- Age reported in 21 study arms
 - ◆ 13 Arms participants primarily under 65
 - ◆ 8 Arms participants primarily over 65
- Race: primarily white
 - ◆ 2 Studies primarily African American
 - ◆ 2 Studies primarily Hispanic



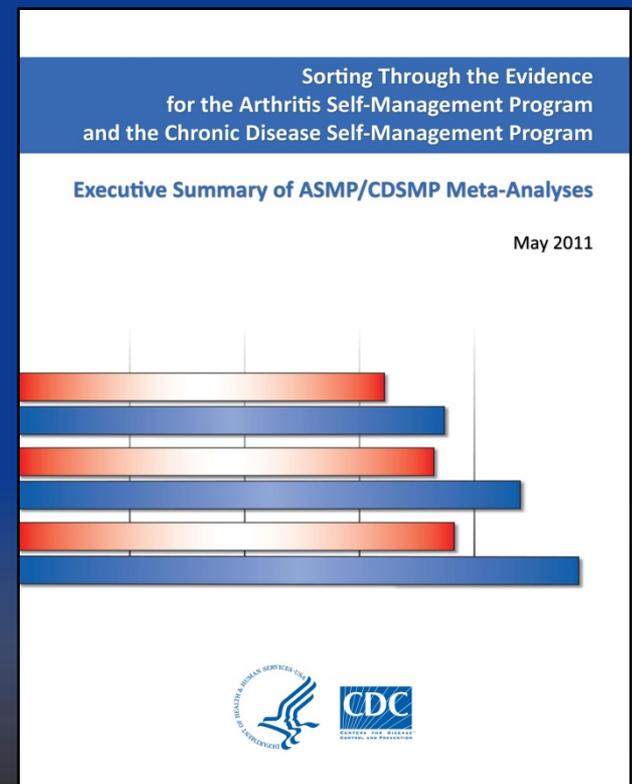
Sensitivity Analysis (differences due to known factors)

- Study design:
 - ◆ No significant variability due to study design (RCT vs. Longitudinal)
 - ◆ Reasonable to combine into overall effects
- Mode of delivery:
 - ◆ 44% of outcomes showed significant variability due to mode of delivery
 - ◆ Need to analyze modes separately



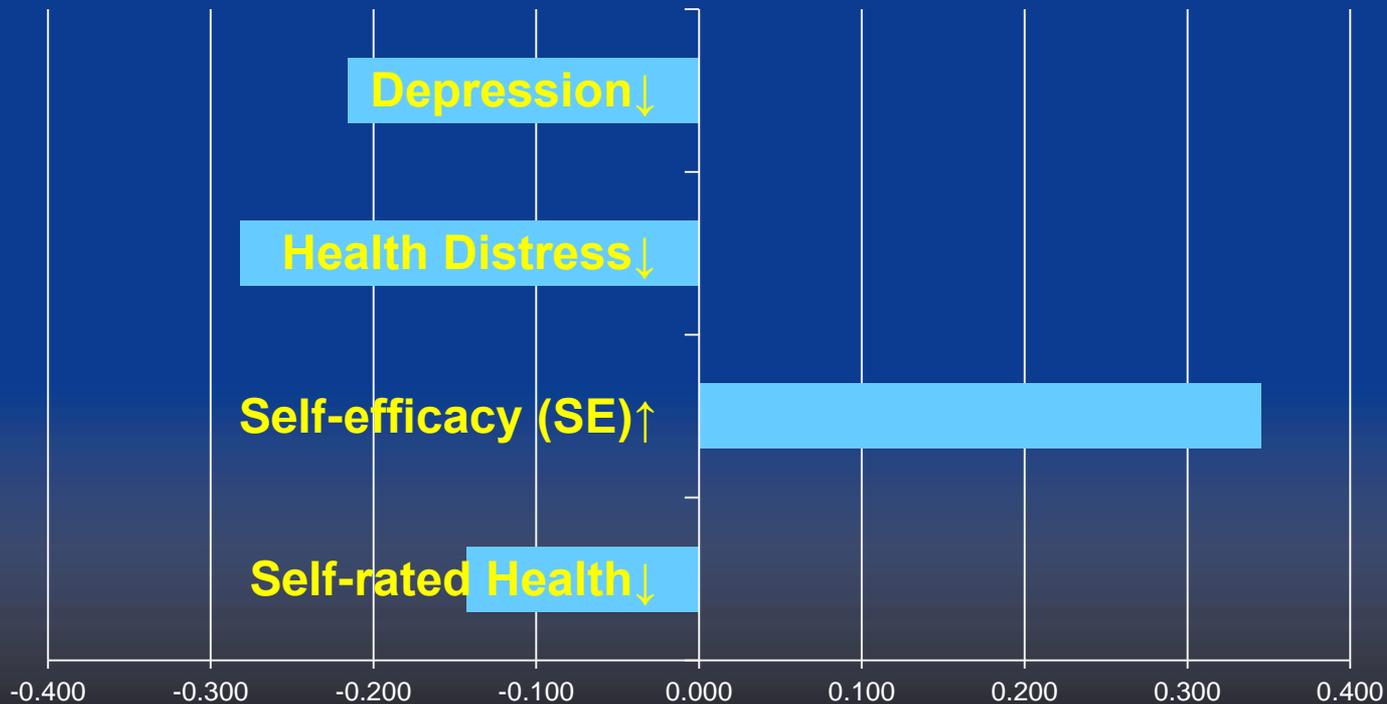
CDSMP Small Group English

Overall analysis
4-6 months
and
12 months
follow-up



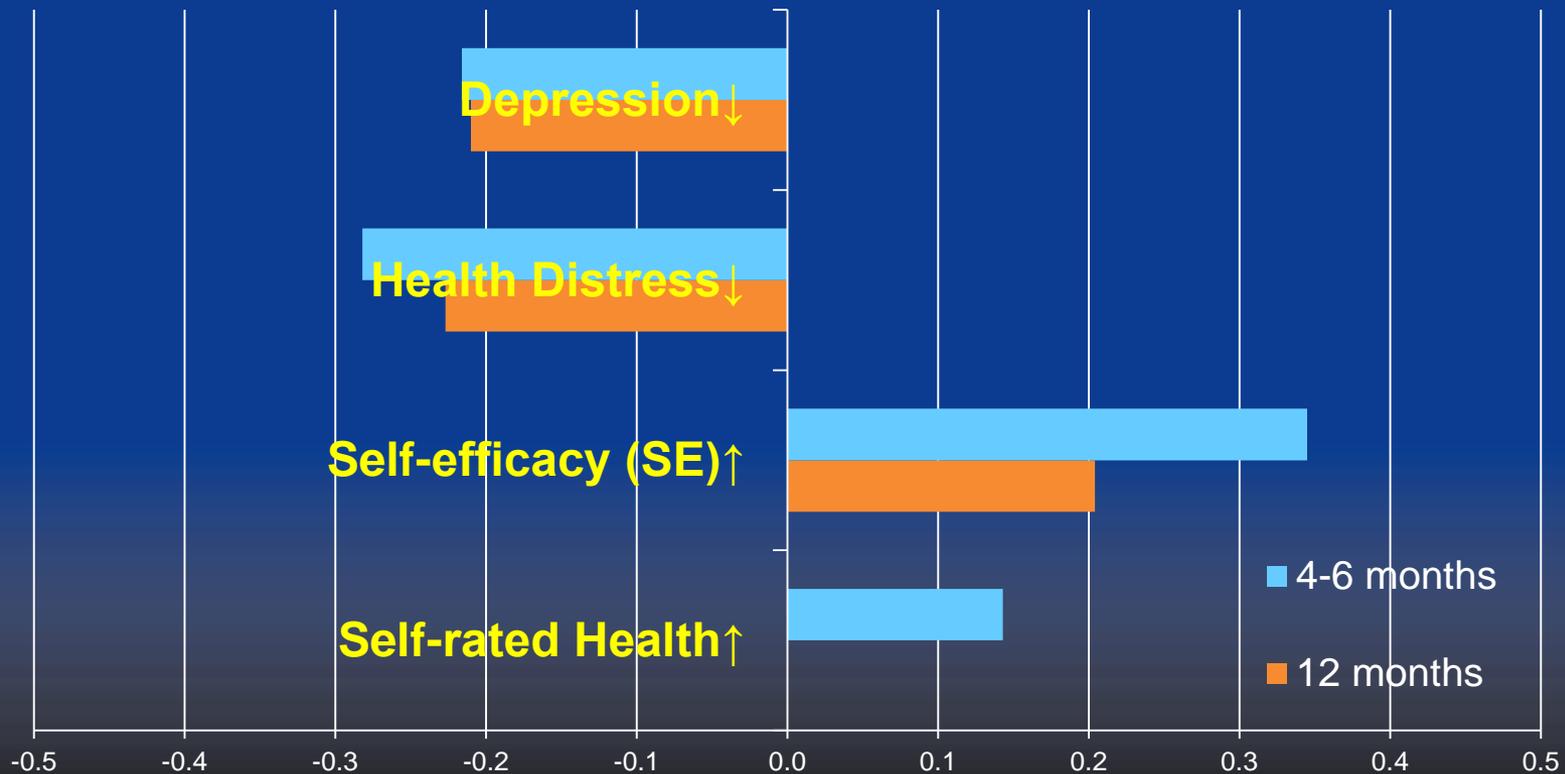
Small Group English Mental Health Status

Significant Effects at 4-6 Months Follow up
(N=15)



Small Group English Mental Health Status

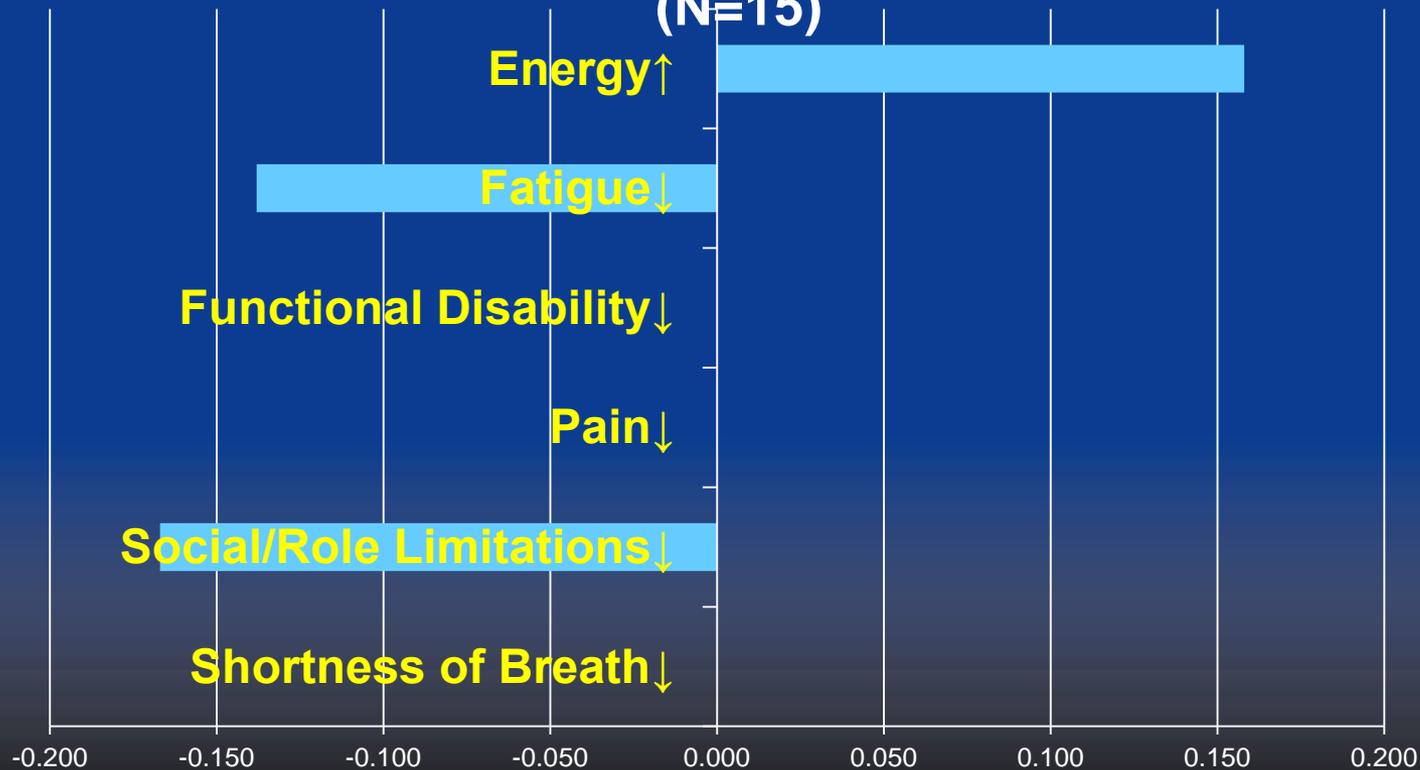
Significant Effects at 4-6 (N=15) and
12 Months Follow-up (N=7)



Small Group English Physical Health Status

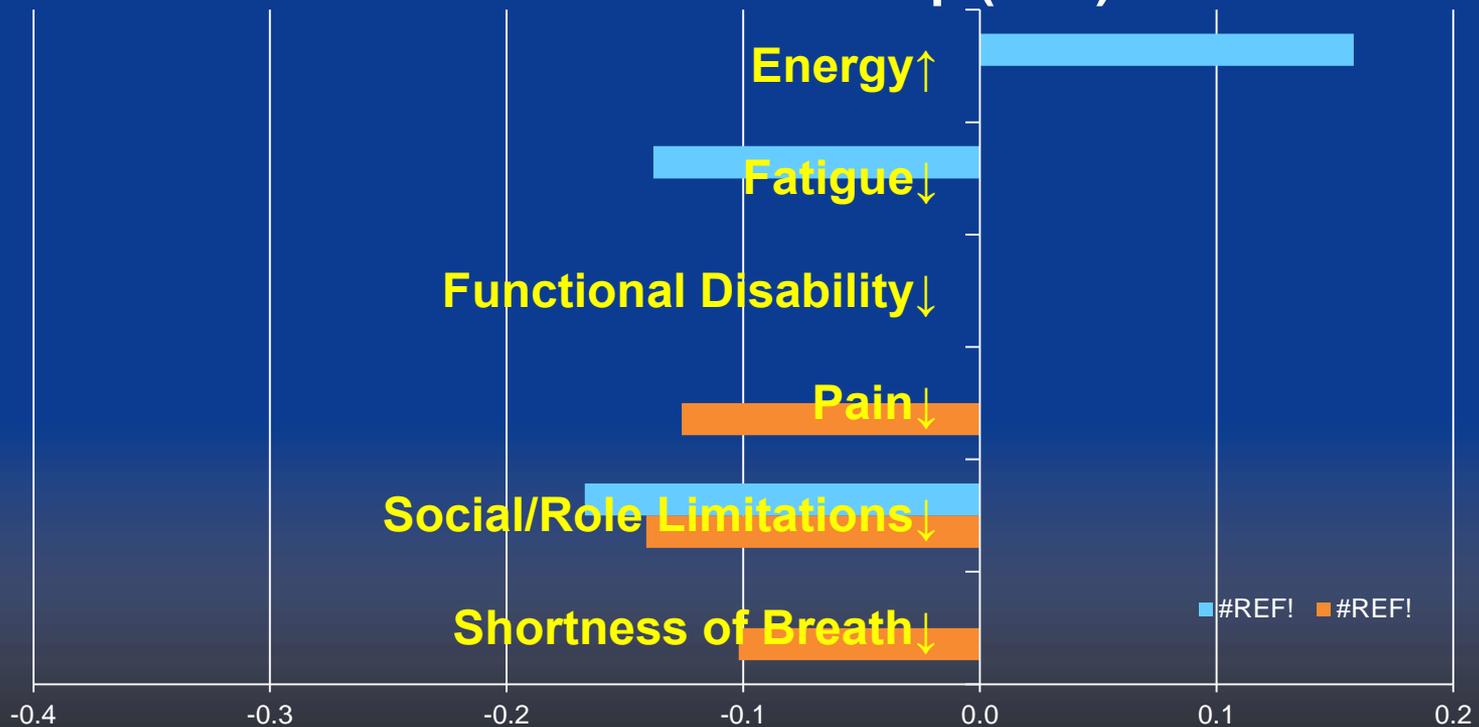
Significant Effects at 4-6 Months

(N=15)



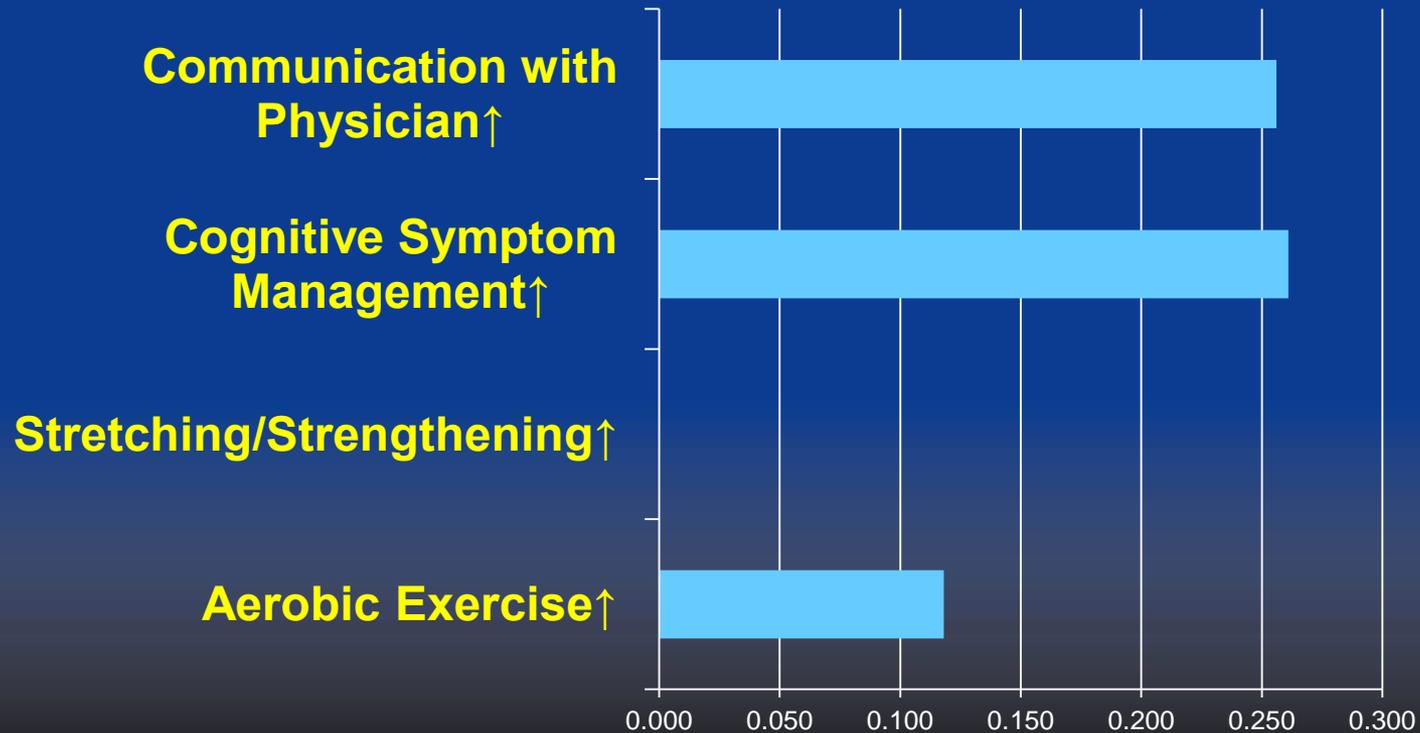
Small Group English Physical Health Status

Significant Effects at 4-6 (N=15)
and 12 Months Follow-up (N=7)



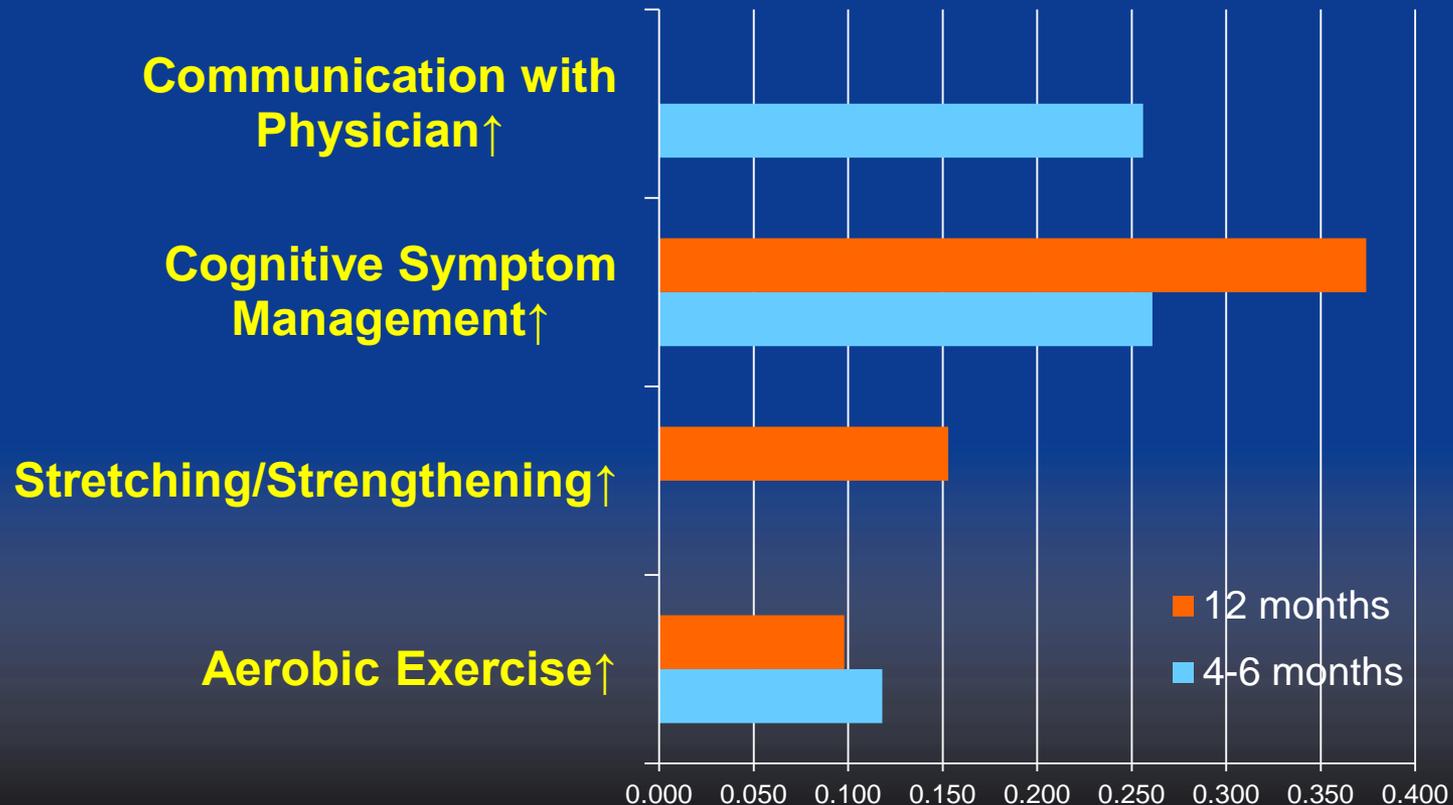
Small Group English Health Behaviors

Significant Effects at 4-6 Months (N=15)



Small Group English Health Behaviors

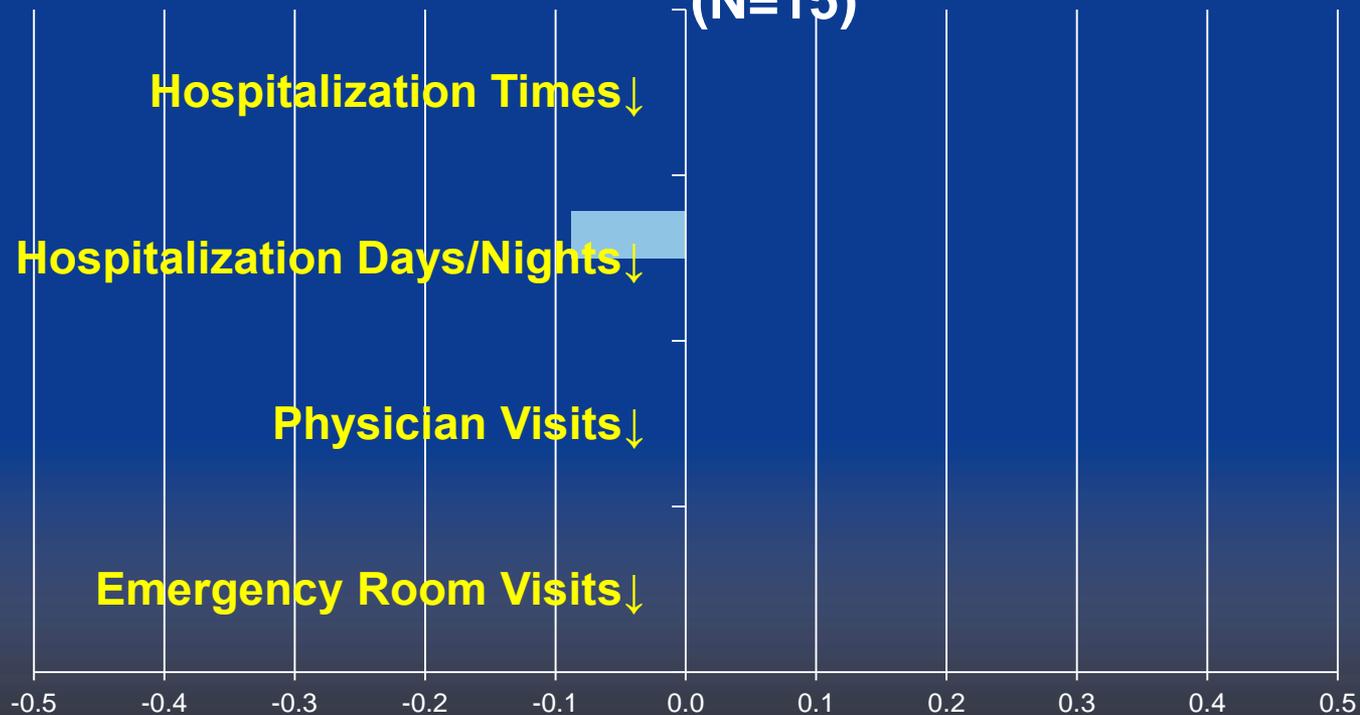
Significant Effects at 4-6 (N=15)
and 12 Month Follow-up (N=7)



Small Group English Health Care Utilization

Significant Effects at 4-6 Months Follow-up

(N=15)



Small Group English Health Care Utilization

Significant Effects at 4-6 (N=15)
and 12 Months Follow-up (N=7)





Good Grief...
What does it
all mean?

CDSMP Benefits

12 months after small group English CDSMP

Increased

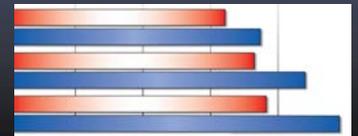
- confidence in ability to manage condition
- healthy behaviors
 - ◆ Exercise
 - ◆ Mental pain and stress management techniques
- ability to do household and social activities

Decreased

- depression and fear, frustration or worry about health
- symptoms such as pain, SOB

Limitations

- Study level data (not individual level)
- Unable to adjust for symptom absence or severity
- Significant heterogeneity for some outcomes
- Only data from studies conducted in English-speaking countries
- Limited data on men and racial/ethnic minority groups



Future Research

- Explore differential effects by patient characteristics, and implementation factors
- Identify populations most likely to benefit
- Conduct further studies on alternative delivery modes



Future Research (con't)

- Explore
 - ◆ effects beyond 12 months
 - ◆ strategies to prolong effects
 - ◆ impact on health care utilization through direct measurement
 - ◆ comparative effectiveness when used alone or in combination
 - ◆ economic evaluation



Dissemination Challenges Ahead

- Expanding and sustaining the delivery system
 - ◆ Integrating into new models of care delivery
 - ◆ Reimbursement or other regular financing
- Building demand for the intervention
- Integrating community interventions with clinical care



Summary

- Robust findings on benefits of CDSMP
 - ◆ Health status, especially psychological
 - ◆ Health behaviors
- Valuable component of comprehensive chronic disease management
 - ◆ Community implementation
 - ◆ Opportunity for cross-disease collaborations
- Need continued attention to building both delivery system and demand

Resources

- Meta-analysis Executive Summary
 - ◆ <http://www.cdc.gov/arthritis/docs/ASMP-executive-summary.pdf>
- CDSMP Publication
 - ◆ *Prev Chronic Dis* 2013;10:120112
- Briefing documents for decision-makers and referral sources
 - ◆ www.cdc.gov/arthritis/marketing-support



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