

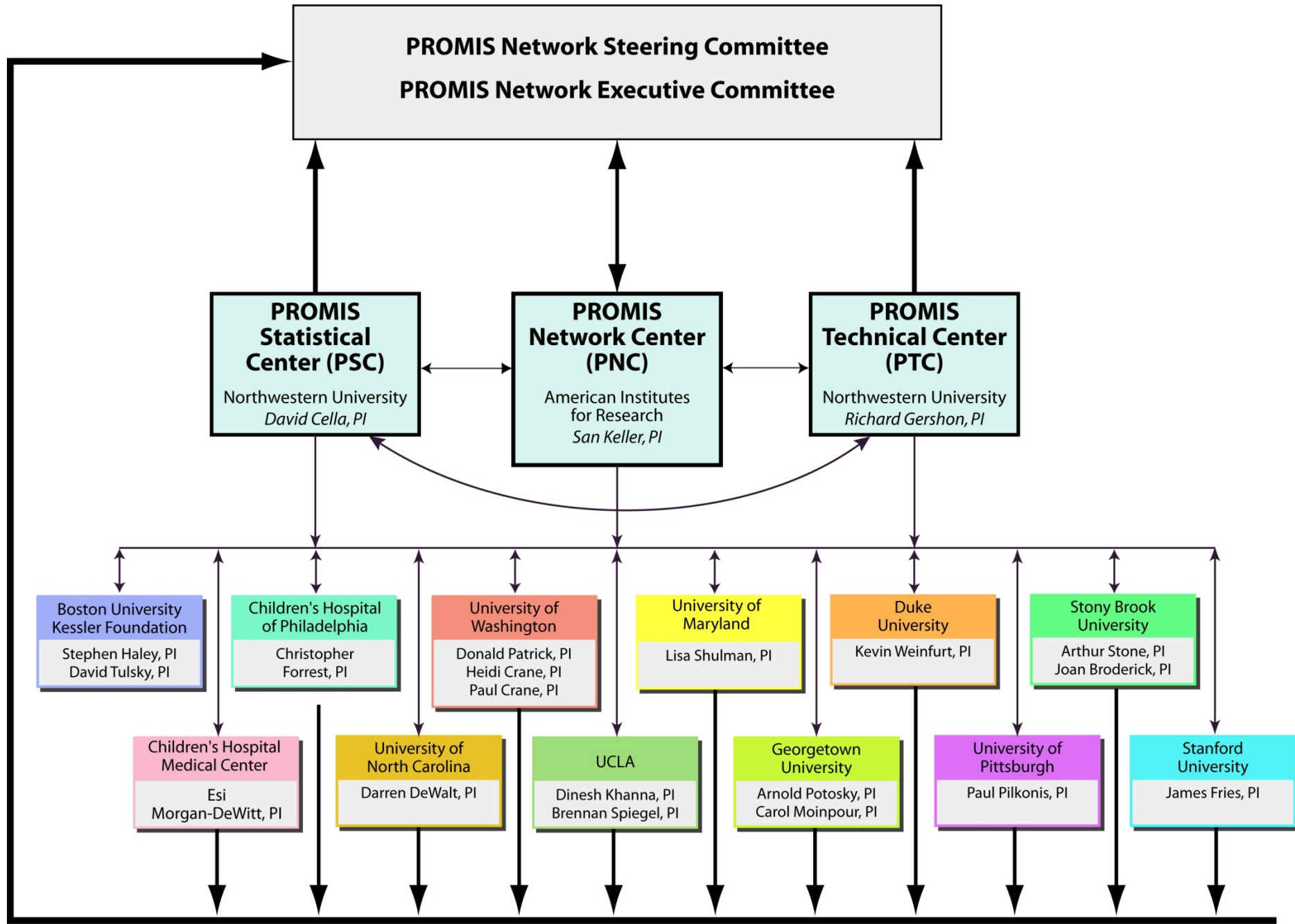
# **Performance of PROMIS® CATs Versus Short forms in Detecting Change**

Ron D. Hays (drhays@ucla.edu)

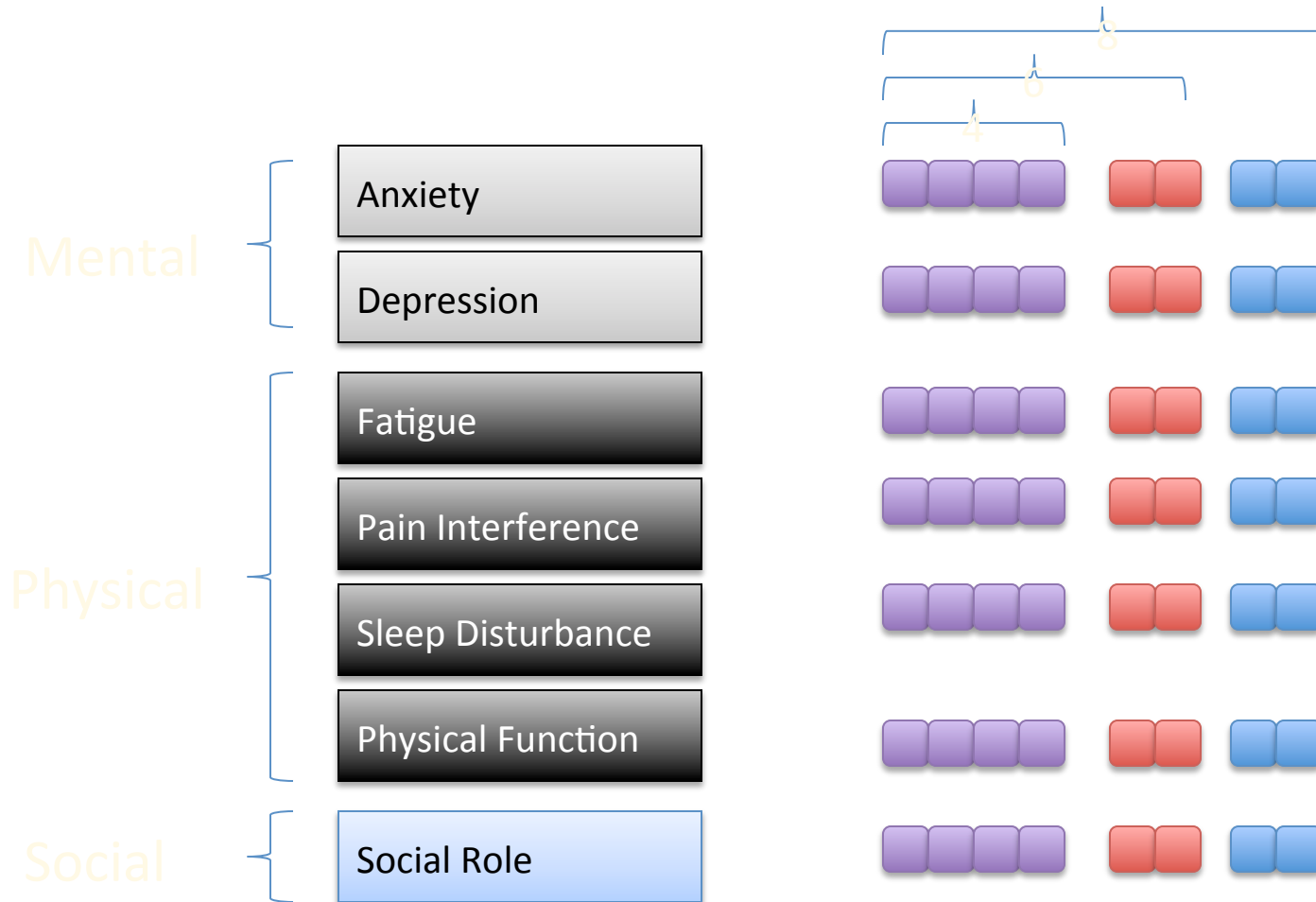
October 3, 2011

International Association for  
Computer Adaptive Testing (IACAT)  
Asilomar Conference Center--Pacific Grove, CA

# PROMIS II Network Diagram



# PROMIS Profiles

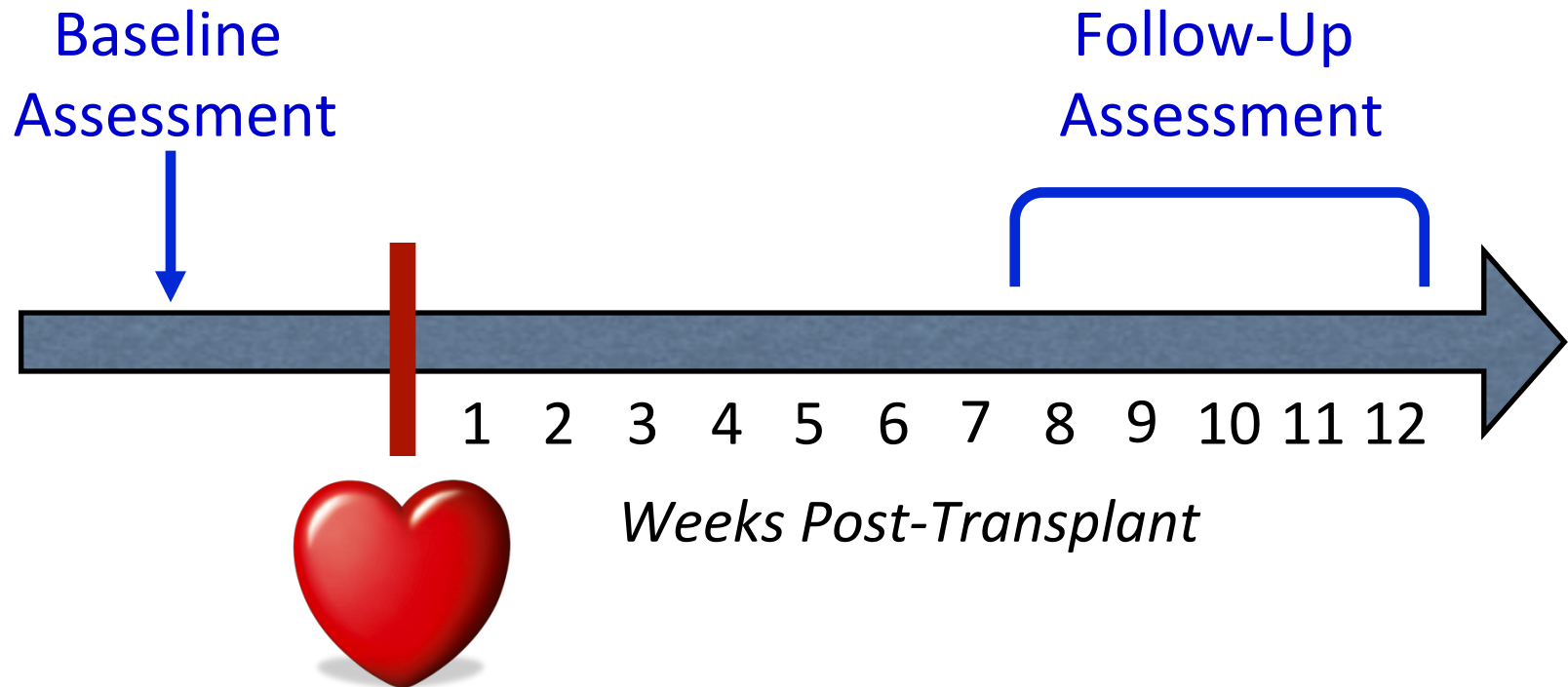


# Seung W. Choi et al. (2009, p. 125)

- “Compared with full-bank scores, all short forms and CAT produced highly correlated scores, but CAT outperformed each static short form in almost all criteria. However, short-form selection strategies performed only marginally worse than CAT.”
  - Post-hoc simulations for 28-item PROMIS depressive symptoms bank

# PROMIS Assessment Center CATs

- Typical settings
  - Maximum likelihood weighted information (MLWI)
  - First item picked to maximize information around mean theta
  - Stop with SE  $\leq 0.30$  (z-score);  $\leq 3$  (T-score)



*In-Clinic Internet*

*Home internet or  
CATI*

Domain/Item	% of people getting this item in CAT*	
	Baseline	Follow-up
<b>Physical Function CAT</b>		
PFC12-Does your health now limit you in doing two hours of physical labor?	100	100
PFA11- Are you able to do chores such as vacuuming or yard work? In the past 7days	91	50
PFA53- Are you able to run errands and shop? In the past 7 days	57	19
PFA42-Are you able to carry a laundry basket up a flight of stairs? In the past 7 days	39	15
PFB13- Are you able to carry a shopping bag or briefcase? In the past 7 days	30	10
PFA7- How much do physical health problems now limit your usual physical activities (such as walking or climbing stairs)? In the past 7 days	28	67
PFC38- Are you able to walk at a normal speed?	26	8
PFB7- Does your health now limit you in doing strenuous activities such as backpacking, skiing, playing tennis, bicycling or jogging?	13	13
<b>PFC36-Does your health now limit you in walking more than a mile?</b>	<b>13</b>	<b>33</b>
PFB5- Does your health now limit you in hiking a couple of miles on uneven surfaces, including hills? In the past 7 days?	11	50
	4	2
PFC56- Does your health now limit you in walking about the house?		
<b>PFA1- Does your health now limit you in doing vigorous activities, such as running, lifting heavy objects, participating in strenuous sports? In the past 7 days</b>	<b>2</b>	<b>2</b>
PFA23- Are you able to go for a walk of at least 15 minutes?	2	0
PFC13- Are you able to run 100 yards?	2	0

Short form  
= 10 items

## Fatigue CAT

FATIMP3- In the past 7 days how often did you have to push yourself to get things done because of your fatigue?	100	100
An3- In the past 7 days I have trouble starting things because I am tired	80	67
FATEXP35- In the past 7 days how much were you bothered by your fatigue on average	78	65
FATEXP41- In the past 7 days how run-down did you feel on average?	52	50
H17- In the past 7 days I feel fatigued	52	65
FATEXP40- In the past 7 days how fatigued were you on average?	17	17
FATEXP56- In the past 7 days what was the level of your fatigue on most days?	9	0
<b>FATEXP20- In the past 7 days how often did you feel tired?</b>	<b>7</b>	<b>25</b>
An2- In the past 7 days I feel tired	4	15
An5- In the past 7 days I have energy	4	13
<b>FATEXP21- In the past 7 days how fatigued were you when your fatigue was at its worst?</b>	<b>4</b>	<b>15</b>
FATEXP31- In the past 7 days How often were you energetic?	4	13
FATEXP38- in the past 7 days how fatigued were you on the day you felt most fatigued ?	4	15
FATIMP49- In the past 7 days to what degree did your fatigue interfere with your physical functioning?	4	0
FATEXP16- In the past 7 days how often were you sluggish?	2	6
FATEXP34- In the past 7 days how tired did you feel on average?	2	15
FATEXP44- In the past 7 days how energetic were you on average ?	2	4
FATEXP54- In the past 7 days how often did you have physical energy?	2	4
FATIMP17- In the past 7 days how often did your fatigue make it difficult to make decisions?	2	0

Short form  
= 7 items



# Short form = 8 items

## Depression CAT

<b>EDDEP29- In the past 7 days I felt depressed</b>	<b>100</b>	<b>100</b>
<b>EDDEP36- In the past 7 days I felt unhappy</b>	<b>54</b>	<b>85</b>
<b>EDDEP04- In the past 7 days I felt worthless</b>	<b>50</b>	<b>21</b>
<b>EDDEP41- In the past 7 days I felt hopeless</b>	<b>48</b>	<b>13</b>
<b>EDDEP06- In the past 7 days I felt helpless</b>	<b>46</b>	<b>13</b>
EDDEP31- In the past 7 days I felt discouraged about the future	46	77
<b>EDDEP17- In the past 7 days I felt sad</b>	<b>43</b>	<b>71</b>
EDDEP26- In the past 7 days I felt disappointed in myself	39	63
<b>EDDEP22- In the past 7 days I felt like a failure</b>	<b>30</b>	<b>29</b>
EDDEP54- In the past 7 days I felt emotionally exhausted	28	52
EDDEP46- In the past 7 days I felt pessimistic	26	48
EEDEP28- In the past 7 days I felt lonely	24	46
EDDEP23- In the past 7 days I had trouble felling close to people	22	42
EDDEP30- In the past 7 days I had trouble	22	35
EDDEP50- In the past 7 da7 I felt guilty	17	29
EDDEP21- In the past 7 days I felt that I was to blame for things	15	17
EDESP35- In the past 7 days I found that things in my life were overwhelming	2	15

Short form  
= 7 items

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### Social Satisfaction CAT

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<b>SRPSAT33- In the past 7 days I am satisfied with my ability to do things for fun outside my home</b>	<b>100</b>	<b>100</b>
<b>SRPSAT23- In the past 7 days I am satisfied with my ability to do leisure activities</b>	<b>98</b>	<b>79</b>
<b>SRPSAT05- In the past 7 days I am satisfied with the amount of time I spend doing leisure activities</b>	<b>89</b>	<b>100</b>
SRPSAT52- In the past 7 days I am satisfied with my ability to do all of the leisure activities that are really important to me	72	94
<b>SRPSAT20- In the past 7 days I am satisfied with my ability to do things for my friends</b>	<b>43</b>	<b>10</b>
SRPSAT34- In the past 7 days I feel good about my ability to do things for my friends	37	8
SRPSAT36- In the past 7 days I am happy with how much I do for my friends	35	15
<b>SRPSAT48- In the past 7 days I am satisfied with my ability to do things for fun at home (like reading, listening to music etc.)</b>	<b>28</b>	<b>8</b>
SRPSAT37- In the past 7 days I am satisfied with the amount of time I spend visiting friends	24	17
SRPSAT19- In the past 7 days I am satisfied with my ability to do all of the community activities that are really important to me	22	8
SRPSAT25- In the past 7 days I am satisfied with my current level of activities with my friends	22	31
<b>SRPSAT10- In the past 7 days I am satisfied with my current level of social activity</b>	<b>15</b>	<b>15</b>

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# Major COPD Symptoms

- Cough
- Sputum (mucus)
- Dyspnea (SOB) on exertion



## Exacerbation of COPD:

- Sustained worsening of COPD symptoms from stable state beyond normal day-to-day variations.
- Acute onset and requires treatment with antibiotics, corticosteroids or hospitalization or a combination.

# PROMIS CATs and Short Forms

- Physical Health
  - Physical functioning domain
  - Fatigue domain
  - Pain
    - Behavior subdomain
    - Interference subdomain
- Mental Health
  - Anxiety domain
  - Anger domain
  - Depressive symptoms domain
- Social Health
  - Discretionary social activities domain
  - Social roles domain

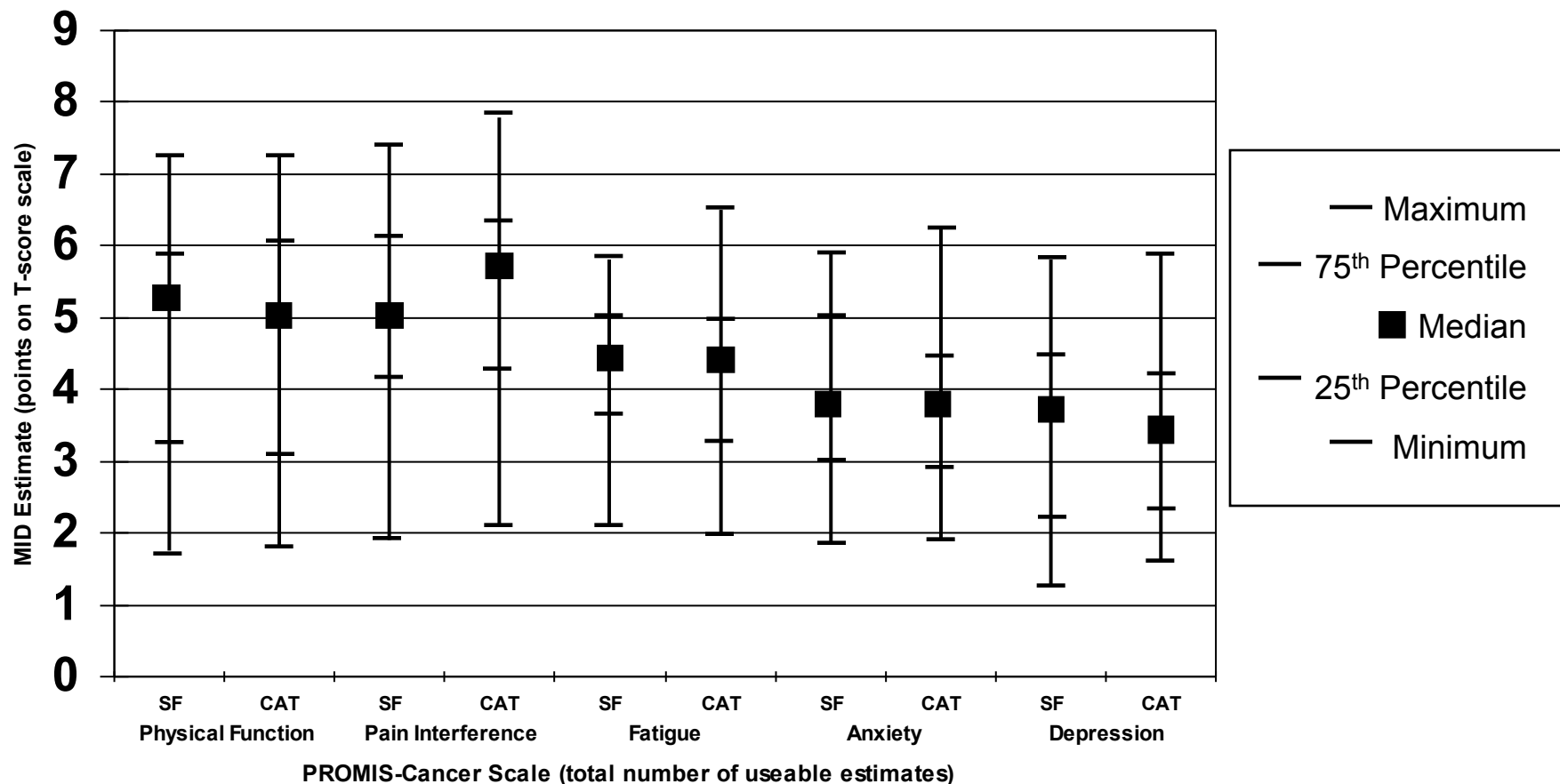
# Differences in differences (3 months – baseline)

	stable (n=79)		exacerbators (n=46)		t-test of difference		
Measure	$\Delta$	SD $\Delta$	$\Delta$	SD $\Delta$	diff	sd(diff)	Pr >  t
Pf_CAT	0.23	4.04	0.30	5.05	-0.08	4.45	0.9287
Pf_SF (10)	0.42	3.94	0.83	4.34	-0.41	4.09	0.5913
Fatig_CAT	-2.34	5.42	-6.87	8.25	4.53	6.64	0.0022
Fatig_SF (7)	-0.90	5.64	-5.18	7.91	4.28	6.57	0.0019
Painbe_CAT	-1.44	8.22	-1.16	9.76	-0.28	8.83	0.8702
Painbe_SF (7)	-1.47	8.88	-2.37	11.96	0.91	10.12	0.6554
Painin_CAT	-2.09	8.69	-2.17	11.67	0.08	9.92	0.9695
Painin_SF (6)	-1.72	8.35	-1.90	9.69	0.19	8.87	0.9092
Anx_CAT	-2.94	7.84	-4.40	8.83	1.46	8.23	0.3644
Anx_SF (7)	-3.28	8.07	-4.09	8.52	0.81	8.24	0.5989
Ang_CAT	-1.21	8.01	-2.34	9.96	1.14	8.80	0.5071
Ang_SF (8)	-0.99	8.03	-1.62	9.04	0.63	8.42	0.6891
Dep_CAT	-1.53	7.03	-1.74	9.27	0.21	7.95	0.9002
Dep_SF (8)	-1.63	7.19	-1.23	8.13	-0.40	7.55	0.7753
Socdsa_CAT	1.12	5.76	2.68	7.66	-1.56	6.54	0.2551
Socdsa_SF (7)	0.57	5.51	2.27	7.54	-1.70	6.33	0.1859
Socsr_CAT	-0.03	6.46	2.17	9.61	-2.20	7.81	0.1882
Socsr_SF (7)	-0.66	5.63	2.63	9.05	-3.29	7.08	0.0294

# Cancer Study

- Adult cancer patients
- Enrolled when beginning a new treatment
- Initial assessment (n=209)
- Follow-up assessment at 6-12weeks (n=191)

# Results—Short Forms and CATs



# PROMIS short forms and CATs yield similar information about group-level change

