Evaluation of Mode (Mail vs. Phone administration) Effects for Generic Health-Related Quality of Life Measures in Clinical Outcomes and Measurement of Health Study (COMHS)

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Acknowledgements

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Prior Research on Mode of Administration Effects

Telephone yields more positive HRQOL than mail administration

- "Excellent" health reported by 30% in self-administration, 37% by phone and 44% in a face-to-face interview (Hochstim, 1967)
- SF-36 (McHorney et al., 1994; Weinberger et al., 1996; Jones et al., 2001)
- HUI3 was 0.05 (0.25 SD) higher for phone than mail (Hanmer et al., 2007)

Health-Related Quality of Life Measures

- SF-36v2^{TM}
  - PCS   (6.6 -> 71.8)
  - MCS   (5.7 -> 71.0)
  - SF-6D   (0.30 -> 1.00)
- EQ-5D (-0.11 -> 1.00)
- QWB   (0.09 ->1.00)
- HUI
  - HUI2 (-0.03 –> 1.00)
  - HUI3 (-0.36 –> 1.00)

SF-36 Generic Profile Measure

Functioning

- Physical functioning (10 items)

- Role limitations/physical (4 items)

- Role limitations/emotional (3 items)

- Social functioning (2 items)

Well-being

- Emotional well-being (5 items)

- Energy/fatigue (4 items)

- Pain (2 items)

- General health perceptions (5 items)

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Health state 424421 (0.59)

- Your health limits you <u>a lot</u> in moderate activities (such as moving a table, pushing a vacuum cleaner, bowling or playing golf)
- You are <u>limited in the kind of work or other activities</u> as a result of your physical health
- Your health limits your social activities (like visiting friends, relatives etc.) <u>most of the time</u>.
- You have pain that interferes with your normal work (both outside the home and housework) <u>moderately</u>
- You feel tense or downhearted and low <u>a little of the</u> <u>time</u>.
- You have a lot of energy <u>all of the time</u>

Your own health state today

By placing a tick in one box in each group below, please indicate which statement best describes your own health state today.

Do not tick more than one box in each group.

Mobility
I have no problems in walking about ☐
I have some problems in walking about ☐
I am confined to bed ☐

Self-Care
I have no problems with self-care ☐
I have some problems washing and dressing myself ☐
I am unable to wash or dress myself ☐

Usual Activities (eg. work, study, housework, family or leisure activities)
I have no problems with performing my usual activities ☐
I have some problems with performing my usual activities ☐
I am unable to perform my usual activities ☐

Pain/Discomfort
I have no pain or discomfort ☐
I have moderate pain or discomfort ☐
I have extreme pain or discomfort ☐

Anxiety/Depression
I am not anxious or depressed ☐
I am moderately anxious or depressed ☐
I am extremely anxious or depressed ☐

On each dimension, respondent gets three choices of level.

Quality of Well-Being Scale

- **Physical activity**

- **Mobility**

- **Social activity**

- **Symptom/problem complexes**

HUI3

Vision, Hearing, Speech

Ambulation, Dexterity

Cognition

Pain and discomfort

Emotion

(972,000 states, 5-6 levels per attribute)

http://www.healthutilities.com/hui3.htm

Cross-over Design

Self-administration (mail) of HRQOL measures at baseline, 1 month, 3 months, and 6 months post-baseline.

At 6 months, additional administration by telephone, with participants randomized to order of mail/phone administration

Differences in days between survey dates

❑ 61% were within 3 weeks (maximum = 213 days)

(1-p)/2 decrease in sample size relative to parallel group design

Sample

535 patients (159 entering a heart failure program, 376 scheduled for cataract survey) from UCSD, UCLA, and University of Wisconsin

447 patients (84%) at 6 months followup:
- 121 heart failure
- 326 cataract surgery

Mean age ~ 66 (36-91 range)

~ 53% female, 86% white, 26% high school education or less

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Mean Differences

Repeated measures mixed model with random intercepts

- Controlling for fixed effects:

  - Gender
  - Age (35-44, 45-64, 65+)
  - Race (White vs. Non-white)
  - Education (4 year college+, Some college, H.S. or less)
  - Site/disease (UCSD, UCLA, Wisconsin by heart failure and cataract).

Means by Mode and Order

	Mail (1) before phone	Phone (1) before mail
MCS	51[b]	53[a] ↑
PCS	41[b,c]	41[a,b]
SF-6D	70[b]	74[a] ↑
QWB	61[a]	**58**[b] ↓
EQ-5D	79[b,c]	82[a,b]
HUI-2	80[b]	80[a,b]
HUI-3	68[b]	73[a] ↑

Means by Mode and Order

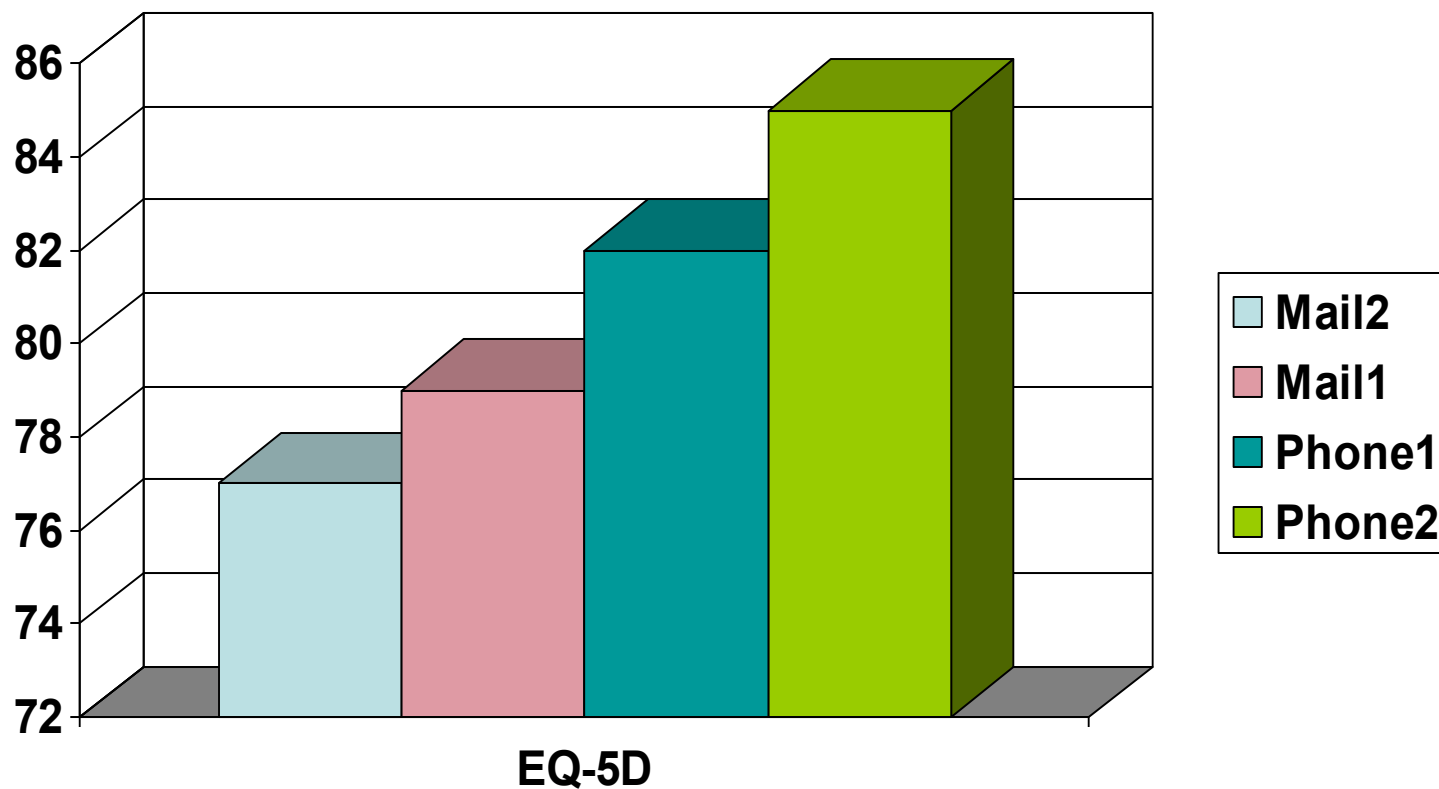|	Mail (2) after phone	Phone (2) after mail	
MCS	50[b]	54[a]	↑
PCS	40[c]	43[a]	↑
SF-6D	69[b]	75[a]	↑
QWB	59[a,b]	60[a,b]	
EQ-5D	77[c]	85[a]	↑
HUI-2	79[b]	83[a]	↑
HUI-3	67[b]	78[a]	↑

Means by Mode and Order

	Mail (2) after phone (n = 178)	Mail (1) before phone (n = 222)	Phone (1) before mail (n = 225)	Phone (2) after mail (n = 177)
MCS	50[b]	51[b]	53[a]	54[a]
PCS	40[c]	41[b,c]	41[a,b]	43[a]
SF-6D	69[b]	70[b]	74[a]	75[a]
QWB	59[a,b]	61[a]	**58**[b]	60[a,b]
EQ-5D	77[c]	79[b,c]	82[a,b]	85[a]
HUI-2	79[b]	80[b]	80[a,b]	83[a]
HUI-3	67[b]	68[b]	73[a]	78[a]

SF-36 Means by Group

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EQ-5D Means by Group
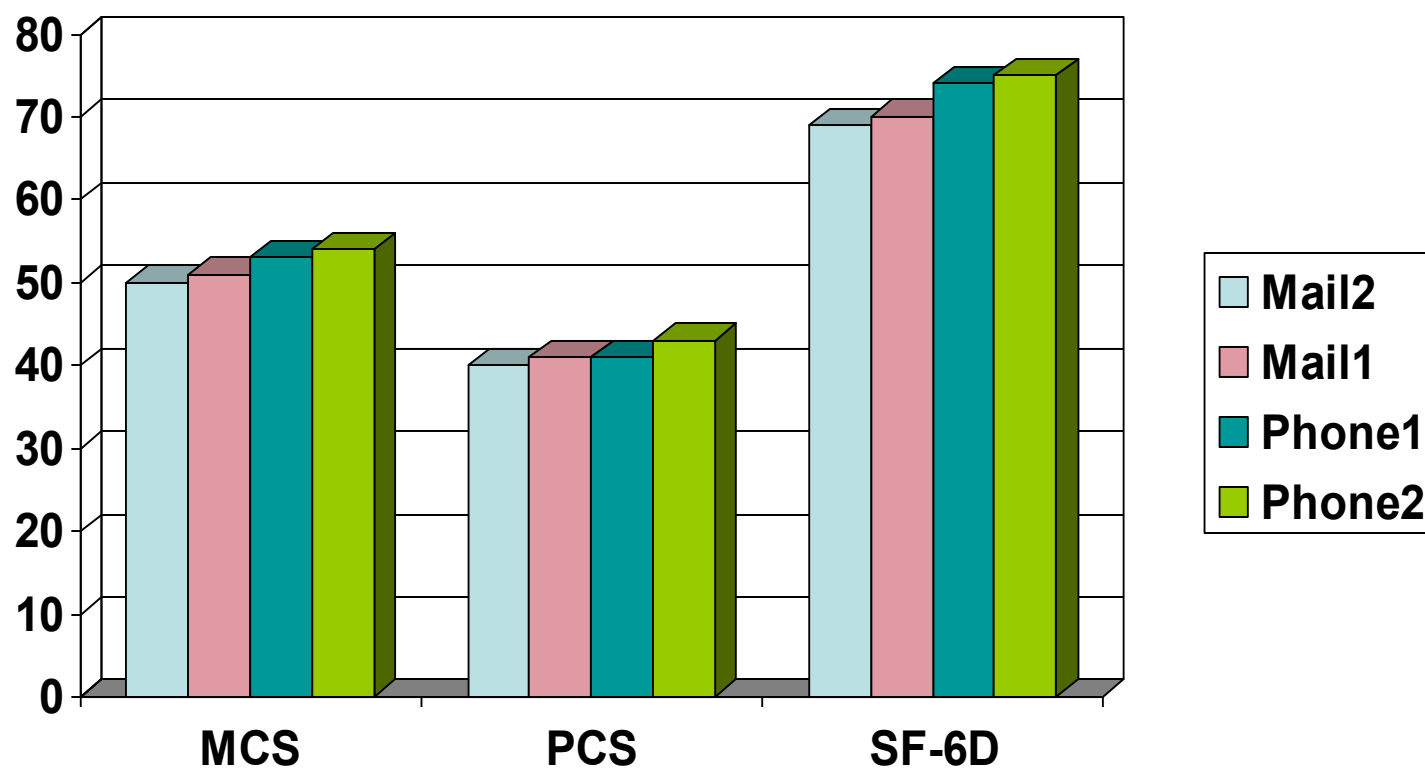
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HUI Means by Group
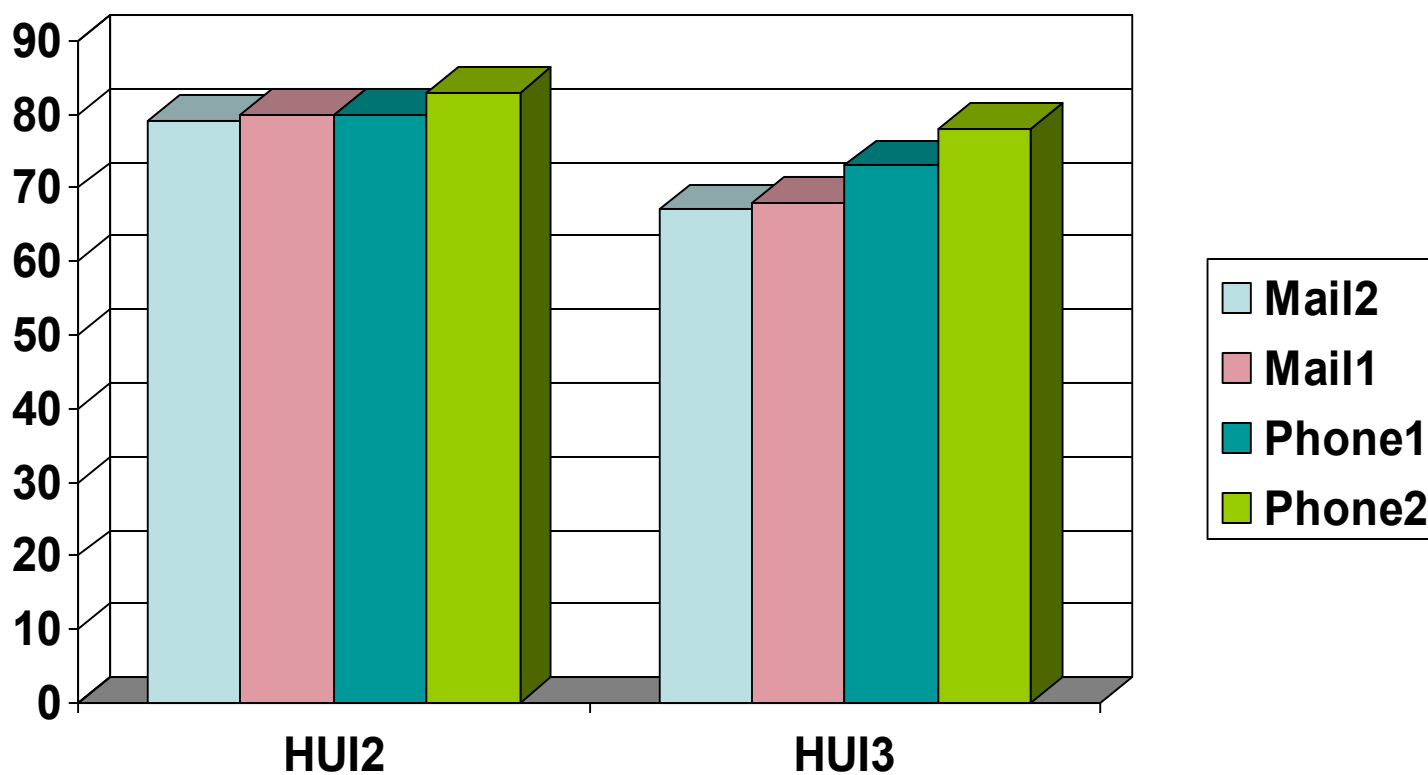
Maximum Differences by HRQOL Measure

	Max. Difference	ES
SF-6D	6	0.5
EQ-5D	8	0.5
MCS	4	0.4
PCS	4	0.4
HUI3	10	0.4
HUI2	4	0.2
QWB	3	0.2

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Mean difference vs. Correlation

	ES	Pearson	ICC
SF-6D	0.5	0.76	0.76
EQ-5D	0.5	0.73	0.73
MCS	0.4	0.64	0.63
PCS	0.4	0.84	0.83
HUI3	0.4	0.69	0.68
HUI2	0.2	0.59	0.59
QWB	0.2	0.63	0.63

Summary of Results

* The most positive HRQOL scores occur when measures administered by phone after a mail administration

* The least positive scores occur by mail after a phone administration.

  ▪ Effect sizes range from small to medium

* Correlations (individual level) tell somewhat different story than mean differences (group) by mode

* Caution warranted in comparing HRQOL estimates that differ by mode and/or order of administration

Questions?