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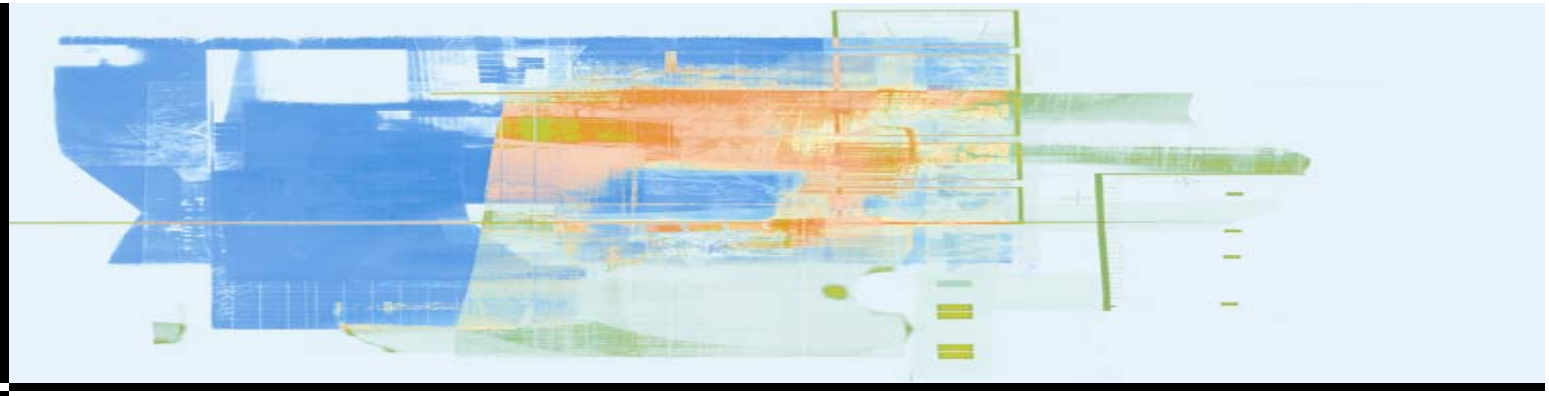

Evaluation of the Effects of Complex Care Management on Health-Related Quality of Life within a Medicaid Population

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Advancing Knowledge to Improve Health

Background

- Care management programs are used to identify need and service linkage among the Medicaid Population
- Little is known about how care management programs impact health-related quality of life (HRQL)

Study Objectives

Among a Medicaid Population within Oregon:

- Describe overall functional status limitations
- Compare HRQL scores for those enrolled in Care Support (i.e. Complex Care Management) to national norms by age and gender
- Evaluate Care Support's impact on HRQL over time

Study Population

- CareOregon (CO)
  - Medicaid-only health plan
  - 90,000 low-income enrollees
  - Started in 1994 as part of Oregon Health Plan
- Demographics
  - 85% reside in Portland metro area
  - 55% female
  - 43% self-identify as persons of color
  - 27% non-English speakers
  - 25% of membership in eligibility categories that suggest complex medical needs:
    - Old Age, Blind and Disabled, Children with Special Disabilities

Care Support Eligibility

- Patients eligible for Care Support are those at risk of:
  - Health status decline
  - High utilization of healthcare services
- Patients were identified using two methods:
  - Internally developed Health Risk Assessment (HRA; $\geq$ 0.7)
  - Johns Hopkins Adjusted Clinical Groups (ACG; score $\geq$ 0.5)

Overview of Care Support

- Care Support is a multi-dimensional intervention including:
  - Coordinating multidisciplinary team care
  - Arranging access
  - Coaching to get most from visits to providers
  - Self-management support
  - Social support
- Previous analyses indicated that assignment to Care Support reduces utilization
- Little known about Care Support's impact on health status and HRQL

Methods

- From 9/2005 through 2/2006, consecutive CO members evaluated as Care Support candidates were enrolled in the study
- Health Utilities Index Mark 3 (HUI3) Questionnaire administered by care managers over the telephone
  - 4-month follow-up interviews of those in Care Support population
- Enrollment population
  - Baseline HUI3 collected on 616 candidates for Care Support
    - Care Support Population (n=289)
    - Non-Care Support Population (n=327)
  - 4-month follow-up survey of Care Support population
    - 22% (n=143) total population
    - 36% (n=104) Care Support
    - 12% (n=39) non-Care Support

Overview of HUI3

- HUI3 is a valid and reliable HRQL measure developed by Feeny and colleagues (2002)
  - One of the most well-tested, multi-attribute utility instruments worldwide
- HUI3 includes eight individual attributes (dimensions of health status)
  - Vision
  - Hearing
  - Speech
  - Ambulation
  - Dexterity
  - Emotion
  - Cognition
  - Pain

Overview of HUI3

- Each attribute has five or six levels
  - Single-attribute utility scores: Level 1=1.00 (not impaired), Level 6=0.00 (most impaired)
- Overall HUI3 utility score on the conventional dead = 0.00 to perfect health = 1.00 scale
- Clinically important difference
  - Overall HUI3 score = 0.03
  - Single-attribute score = 0.04

Analysis

- Baseline demographics: Care Support vs. Non-Care Support
  - Age
  - Gender
  - Chronic condition
  - Moderate/severe attribute levels
  - Single and overall HUI-3 utility scores
- Descriptive analysis of Mean baseline HUI3 scores, compared to National norms, stratified by age and gender
- Paired t-test used to compare overall and single-attribute utility scores

Baseline Demographics: Care Support vs. Non-Care Support

Characteristic	Care Support N = 289	Non-Care Support N = 327
Female Gender	72%	72%
Age		
Range	30-86	22-92
Median	58	58
Chronic Condition		
Arthritis	68%	66%
High blood pressure	66%	66%
Depression	63%	65%
Asthma	44%	42%
Diabetes	38%	35%
Heart disease	33%	32%
COPD/Emphysema	24%	25%
Cancer	18%	16%

Frequency Distribution of Baseline HUI3 Moderate/Severe Attribute Levels

Attribute	Care Support % Level ≥ 3	Non-Care Support % Level ≥ 3
Vision	16%	20%
Hearing	9%	12%
Speech	3%	6%
Ambulation	55%	63%
Dexterity	14%	13%
Emotion	41%	36%
Cognition	50%	43%
Pain	84%	76%

Mean Baseline HUI3 Scores Stratified by Gender and Age

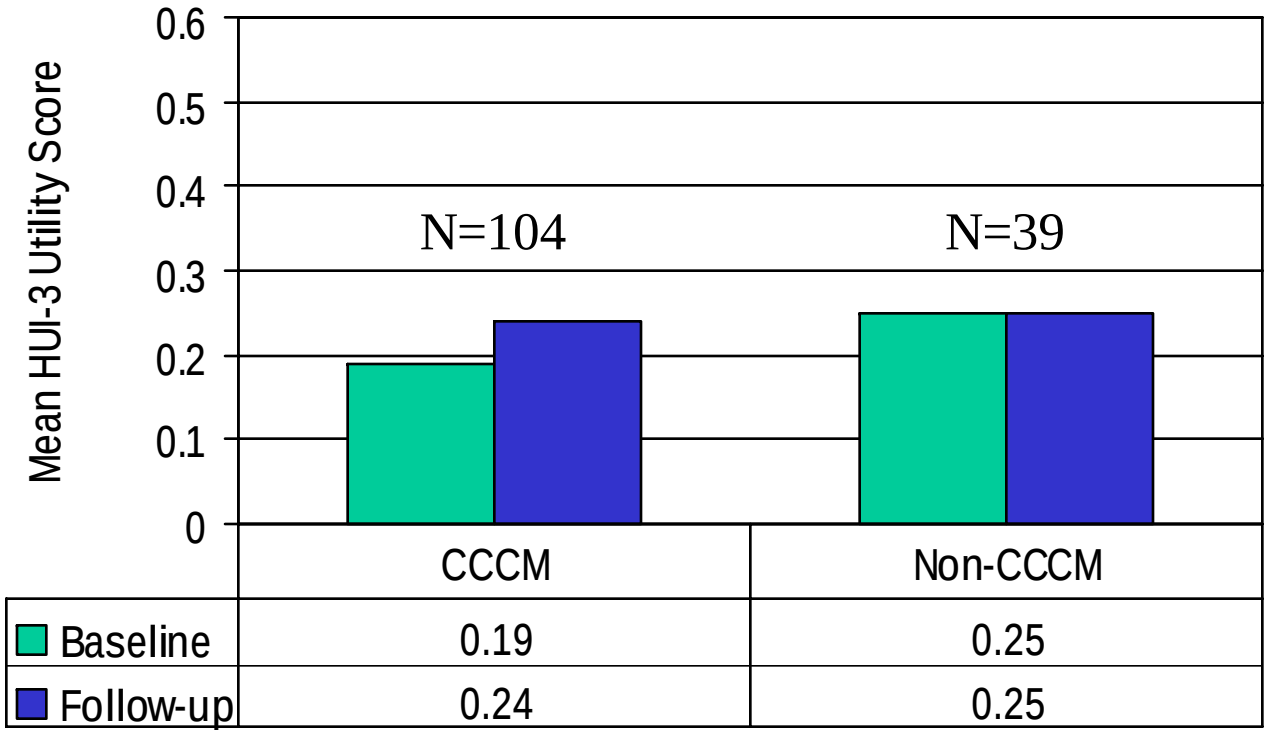
Males 0=dead, 1=perfect health				Females 0=dead, 1=perfect health		
Age	US Pop	Care Support	Non-Care Support	US Pop	Care Support	Non-Care Support
20-29	0.91	NA	NA	0.91	NA	NA
30-39	0.92	0.29	0.14	0.91	0.07	0.02
40-49	0.89	0.14	0.51	0.87	0.17	0.35
50-59	0.85	0.29	0.21	0.83	0.11	0.12
60-69	0.83	0.16	0.18	0.82	0.29	0.21
70-79	0.81	0.29	0.45	0.79	0.20	0.30
80-85	0.70	NA	NA	0.69	0.40	0.52

Mean Single-Attribute and Overall Utility Scores

Attribute	Care Support N=289	Non-Care Support N=327	Stroke Population[1] N=173	Arthritis Population[1] N=7,751
Vision	0.89	0.87	0.94	0.95
Hearing	0.94	0.92	0.96	0.96
Speech	0.98	0.97	0.93	0.99
Ambulation	0.61	0.57	0.79	0.95
Dexterity	0.89	0.91	0.85	0.99
Emotion	0.78	0.80	0.90	0.97
Cognition	0.73	0.77	0.80	0.93
Pain	0.32	0.37	0.81	0.93
Overall	0.18	0.21	0.54	0.77

[1]Based on a sample of Canadians with Stroke and Arthritis. Grootendorst et al. "Evidence of Construct Validity for Stroke and Arthritis in a Population Health Survey." Medical Care 2000, 38(3): 290-299.

Comparison of overall HUI3 scores at Baseline and 4 months for Care Support and Non-Care Support



Four-month change in Overall HUI3 Utility Scores: Care Support Relative to Non-Care Support

HUI-3 Attribute	Mean Difference	Sig. (2-tail)	95% CI of Difference in Means
Overall	0.04	0.30	(-0.07 – 0.14)
Vision	-0.03	0.42	(-0.09 – 0.04)
Hearing	0.01	0.82	(-0.06 – 0.08)
Speech	0.04	0.11	(-0.01 – 0.09)
Ambulation	0.01	0.85	(-0.11 – 0.13)
Dexterity	0.01	0.72	(-0.06 – 0.09)
Emotion	0.10	0.05	(0.00 – 0.20)
Cognition	0.06	0.24	(-0.04 – 0.15)
Pain	-0.02	0.78	(-0.18 – 0.14)

Conclusions: Overall HRQL

- Substantial functional impairments found within Medicaid study population
  - Most severe burdens noted in ambulation, cognition, and pain
- HRQL well below US Population Norms
  - Overall HUI3 utility scores SUBSTANTIALLY lower than:
    - US Norms
    - Populations with other diseases (e.g. stroke, arthritis)

Conclusions: Evaluation of Care Support Program

- Care Support program approached clinically significant improvement in 4-month overall HUI3 scores
- Improvements were found within individual attribute scores
  - Clinically meaningful improvements found for speech, emotion, and cognition
  - Statistically significant improvement found for emotion

Limitations

- Limited power
- No information regarding the dose/length of care management services received
- Results cannot be generalized to Medicaid Population beyond Oregon
- Real-world study with less than ideal response rate

Next Steps and Future Research

- A larger, well-powered study is needed to evaluate Care Support programs' impact on HRQL
- More research is needed to understand whether HRQL improvements are associated with:
  - Subsequent improvements in quality-of-care measures
  - Reduced urgent care utilization
- More research is needed to understand how to deliver effective care management programs to Medicaid Populations with chronic pain

Conflict of Interest Statement

- David Feeny has a proprietary interest in Health Utilities Incorporated, Dundas, Ontario, Canada. HUI Inc. distributes copyrighted Health Utilities Index (HUI) materials and provides methodological advice on the use of HUI.

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