The Interpretation of Health Care Need among the General Public: An Empirical Investigation using a Discrete-choice Approach

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Context

Need is a central concept in the fair allocation of health care resources

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Emerging evidence about how people use ethical principles when making ethics-related judgments

- Cookson and Dolan (2000), Konow (2003), Schwettmann (2009)

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- Debate framed as choosing which among these should be used to define need
- Alternative: all three are relevant to judgments of need for most people
  - People trade-off the weight placed on each depending on the specific context in which they are making a judgment

Study Methods

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Phase 2

- Qualitative component — local sample
  - written comments
  - interviews with respondents

HEALTH CARE NEEDS SURVEY [1]

Introduction

Allocating Health Care Resources According to Need

Canada, like many other countries around the world, has designed its health care system to provide health care services to individuals based on their need for care. However, it can be difficult for both health care providers and health system managers to assess people's need for care. Evaluating who has the greater need among those seeking care can be especially difficult. There is currently no universal agreement on what is most important in determining an individual's need for care.

The purpose of this short survey is to gain an understanding of your views regarding people's need for health care. In the survey we present you with a series of scenarios that describe three individuals who suffer from chronic pain. The level of pain experienced by the three individuals is identical, and is sufficient to keep them from participating in many of their normal daily activities. The individuals differ, however, in the amount of time that they are in pain each day when they receive no treatment, and in the hours of pain relief they can obtain from pain medication. Even with medication, some individuals are not able to obtain complete relief from pain. For each scenario, we are interested in your views on which of the three individuals has the greatest need for pain-relief pills, and which individual has the least need. There are no right or wrong answers.

The pain-relief pills that are available have no negative side effects for any of the individuals and can safely be taken in the amounts considered in the survey. The pain-relief pills are available to the individuals at no cost.

Each scenario describes three characteristics of the individuals related to the pain they experience and the relief that they can get from medication. All other characteristics of the individuals that are not described (such as an individual's age, sex, income, marital status, and so forth) are identical across the three individuals. The individuals differ only with respect to the three characteristics listed. The three characteristics are described on the next screen.

Characteristics

Characteristic 1: Number of hours each day free of pain with no treatment

This characteristic describes the number of pain-free hours in a 24-hour day that an individual experiences if they take no pain medication. This characteristic can take on four different values: 0, 4, 8 or 12 hours. For example, if the value for an individual is 4 hours and that individual takes no pain medication, they will be in pain 20 hours each day and free of pain 4 hours each day.

Characteristic 2: Number of hours of pain relief possible from medication

Some individuals are not able to obtain complete pain relief, no matter how many pills they take. This characteristic describes the maximum number of hours of pain relief an individual can obtain by taking pain-relief pills. This pain relief is in addition to any pain-free hours they experience if they take no medication. This characteristic can take on four different values: 4, 12, 16 or 24 hours. For example, if the value of this characteristic is 12 hours, then the maximum number of hours of additional pain relief the individual can achieve by taking medication 12 hours per day.

Characteristic 3: Number of pain-relief pills required to obtain the maximum possible hours of pain relief from medication

Because of biological differences among the individuals, the effectiveness of the pills differs across individuals. This characteristic describes the number of pain-relief pills an individual needs each day to obtain their maximum possible number of hours of pain relief per day. This characteristic can take on four different values: 2, 6, 8 or 12 pills. For example, if the value for an individual is 6 pills, then the individual must take 6 pills per day to obtain the greatest number of hours of pain relief possible.

Example of a Scenario

Individuals A, B and C all suffer to varying degrees from chronic pain. A limited supply of pain-relief medication is available that relieves this chronic pain, but its effectiveness differs across individuals. The limited supply of pain-relief pills is not sufficient to provide complete pain relief to all three individuals. Based on the information provided in the table below, please indicate which individual you judge to have the *greatest* need, and which other individual you judge to have the *least* need.

Example	Individual A	Individual B	Individual C
Hours each day free of pain with no treatment	0 hours	4 hours	8 hours
Additional hours of pain relief possible from medication	4 hours	12 hours	12 hours
Pain-relief pills required to obtain the maximum possible hours of pain relief from medication	6 pills	2 pills	8 pills

Please select the individual who you believe has the GREATEST need among individuals A, B and C:

    O Individual A   O Individual B   O Individual C

Please select the individual who you believe has the LEAST need among individuals A, B and C:

    O Individual A   O Individual B   O Individual C

(This is an example, please do not answer)

Note that we have created reminder pop-up windows to help remind you of the characteristics. Simply click on any of the characteristic labels for helpful information.

Data Analysis

- For each respondent we have the full ranking of the the three individuals in terms of need
- Latent-class rank-order logit model— allow for heterogeneity across individuals in the influence of the attributes on judgments of need

Table 2: Latent-Class, Rank-Ordered Logit, Consistent Sample, No Interaction Terms, 4 Classes

	Class 1	Class 2	Class 3	Class 4
Mean Probability Class Assignment	0.378	0.189	0.337	0.096
Baseline Health				
Pain Free 4 hours	-2.968^{**}	-2.093^{**}	-1.155^{**}	-0.013
Pain Free 8 hours	-4.764^{**}	-3.828^{**}	-2.174^{**}	-0.066
Pain Free 12 hours	-7.316^{**}	-5.335^{**}	-3.947^{**}	-0.061
Ability to Benefit				
4 hours relief	2.376^{**}	-1.274^{**}	4.022^{**}	-1.633^{**}
12 hours relief	0.976^{**}	-0.605^{**}	1.958^{**}	-1.183^{**}
16 hours relief	0.353^{**}	-0.248	1.231^{**}	-0.791^{**}
Pills Required to Exhaust Benefit				
2 pills	-1.372^{**}	1.053^{**}	-1.825^{**}	0.125
6 pills	-0.474^{**}	0.637^{**}	-0.725^{**}	0.053
8 pills	-0.475^{**}	0.401^{**}	-0.618^{**}	0.036
Observations	10,173			
Individuals	212			
Log-L	-3855.68			

Reference categories are: 0 hours pain-free per day; 24 hours of pain relief possible; and 12 pills
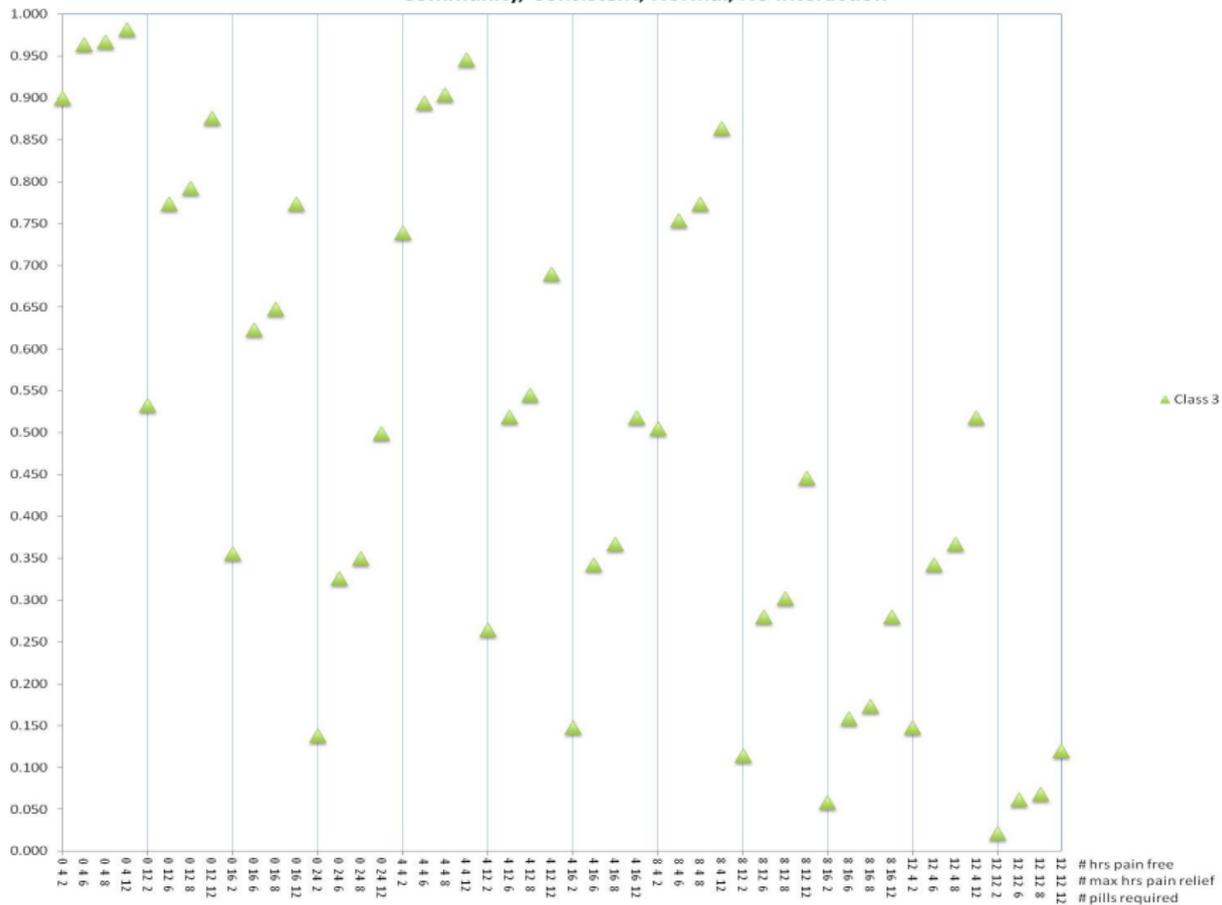** $p < 0.05$; * = $0.05 \leq p < 0.10$
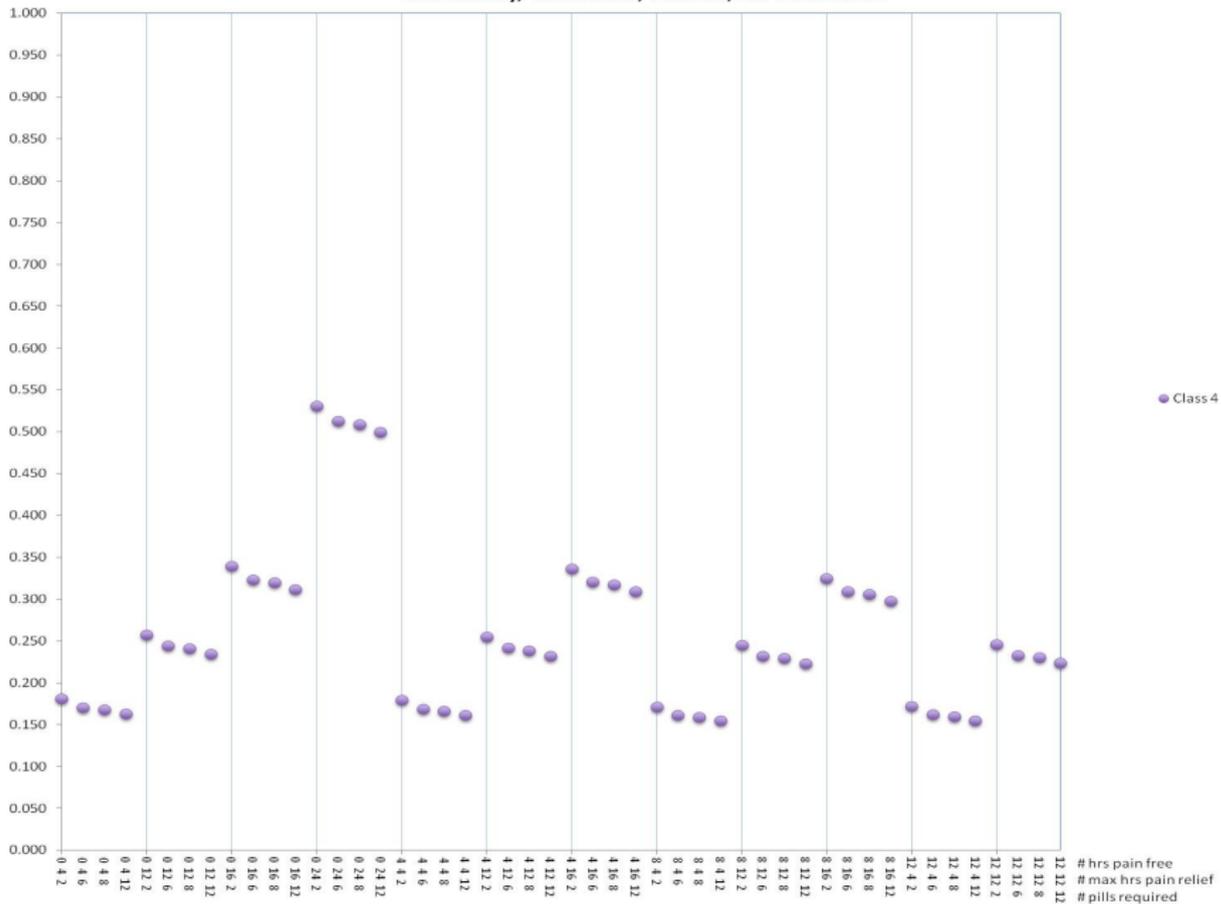
Community, Consistent, Normal, No Interaction
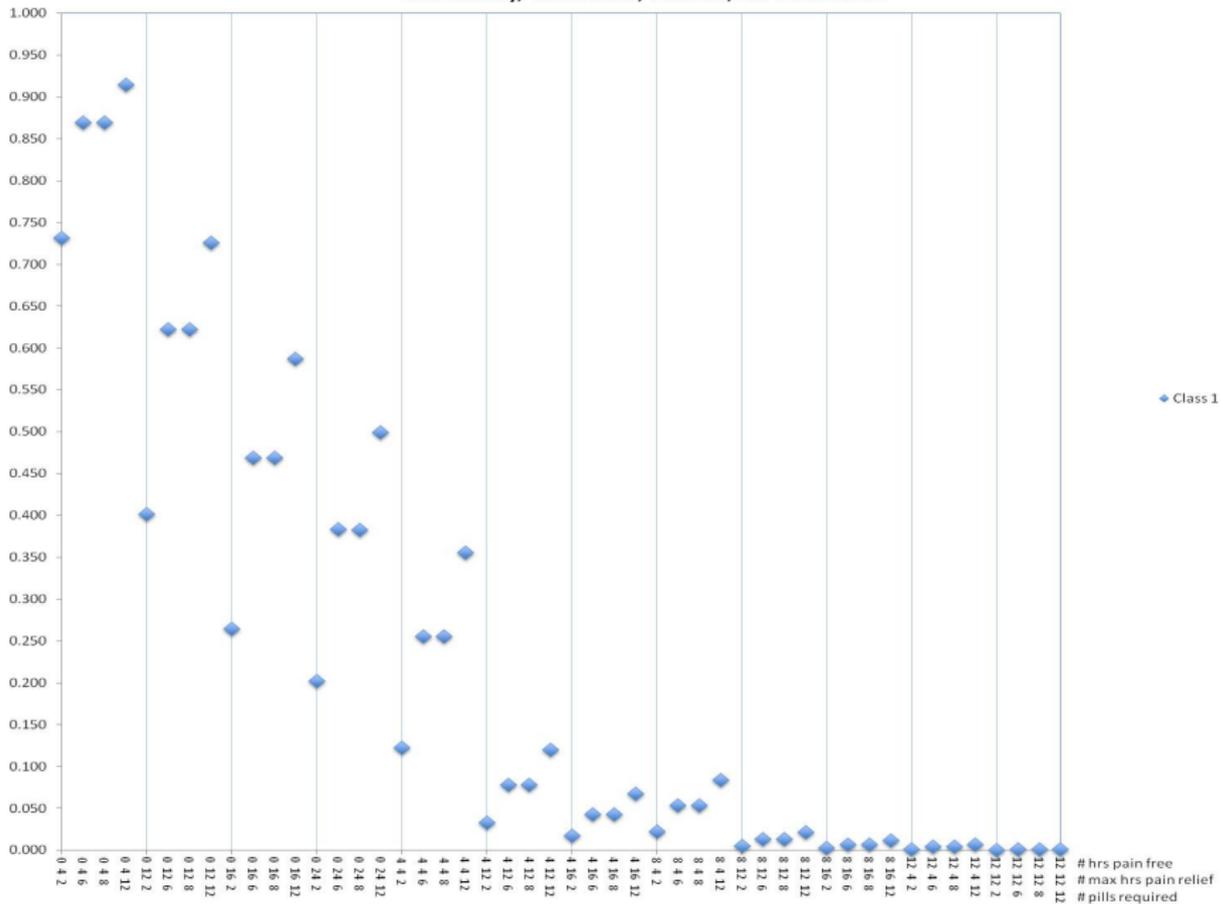
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▲ Class 3
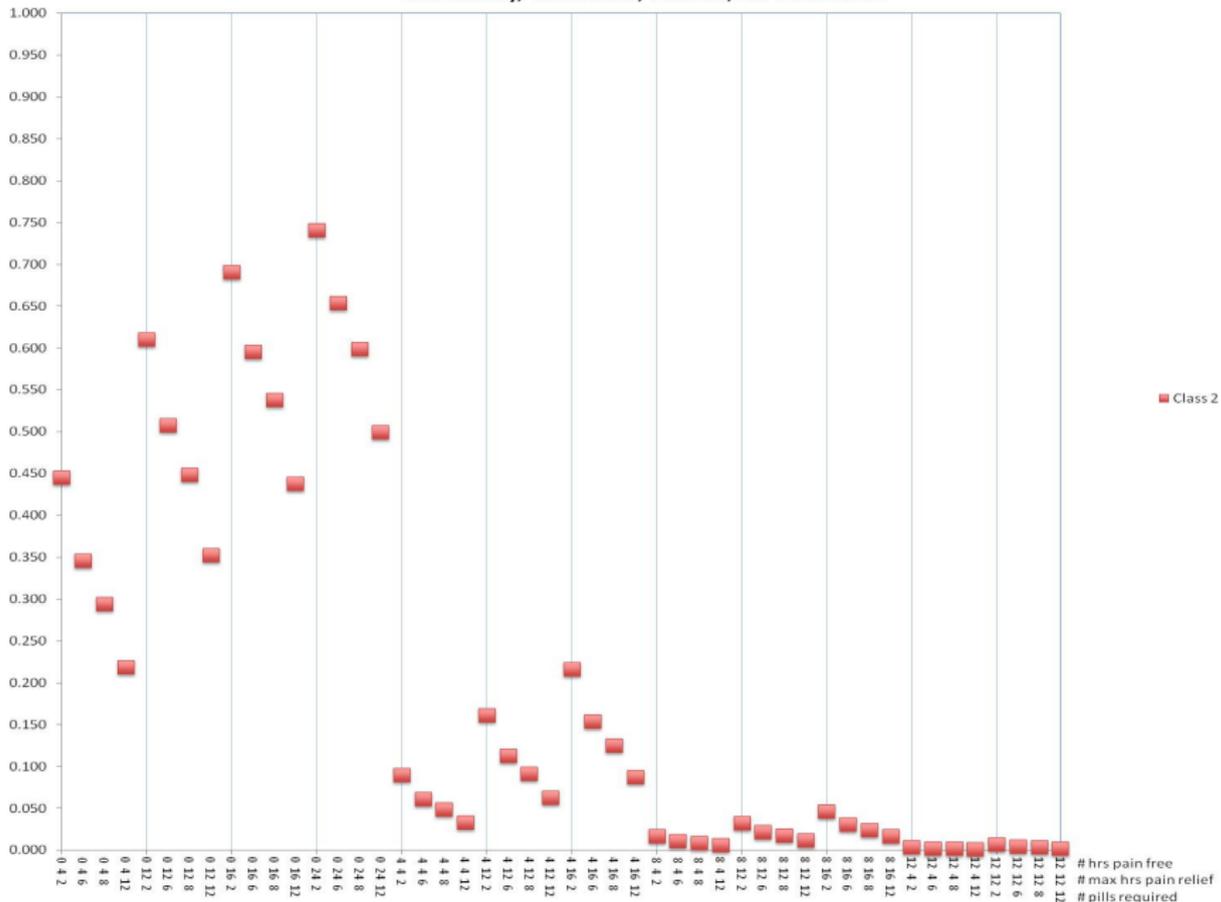
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Key Findings

- Vast majority of people draw on all three concepts when assessing need
- Only BH consistently affect assessments of need in expected direction, and BH is the overwhelmingly dominant factor for two of the four patterns of judgment
- Unexpectedly, for all four judgment patterns the influence of either ATB or PEB is the opposite of that predicted
  - Classes 1 and 4 need negatively related to ATB
  - Classes 2 and 3 need negatively related to PEB
- Is this a finding, or is it noise?

The End