

Background/Objectives

- The Professional Society for Health Economics and Outcomes Research (ISPOR) Special Task Force identifies fear of contagion as one of the novel value elements to be included in value assessment.¹
- Objective: To value the fear of COVID-19 contagion.

Methods

Study Design:

- A cross-sectional, web-based, discrete choice experiment (DCE) questionnaire survey was used.²⁻⁵

Instrument Development:

- Literature review and in-depth interviews with five adults from general public were conducted to obtain COVID-19 vaccine attributes and their levels.
- A Bayesian efficient was used to generate a survey with four blocks of nine choice sets (total=36 choice sets) by using Ngene®. Each choice set contained two unlabeled alternatives. Participants were asked to choose a preferred alternative in each choice set.
- Questions about demographic characteristics, COVID-19 and vaccine experiences, and fear of the COVID-19 questionnaire⁸ were included.
- Survey was validated by three experts and piloted among 581 adults from general public.

Data Collection:

- Study population was adults with and without COVID-19 infection, 18 years or older, and proficient in English.
- Based on good research practice, practical guide, and sample size efficiency, 500 adults were needed.^{4,6,7}
- Study participants were recruited from national, online QualtricsSM panel.

Data Analysis:

- Descriptive analyses were conducted.
- Mixed logit (ML) model was developed. Wald tests for differences between adjacent levels of the study attributes were conducted.
- Willingness to pay (WTP) was calculated to estimate the value of fear.
- Latent class (LC) model was developed to examine preference heterogeneity.
- The level of statistical significance was set at 0.05.

Participants Characteristics

- A total of 544 participants were included. Average age \pm SD was 57 \pm 17 years old. Average fear score was 27 \pm 7 (out of 40).
- Majority were white (88.2%), female (56.1%), with more than one chronic condition (79.78%), fully vaccinated (76.3%), and previously had COVID-19 (50.6%),

Mixed Logit Model

- Conditional relative importance: Out-of-pocket cost (6.3), chance of future exposure to COVID-19 (3.8), chance of mild to moderate adverse events (1.4), vaccine protection duration (1.2), the chance of COVID-19 infection (0.9), chance of having severe symptom (0.5), and chance of serious adverse events (0.4).
- Preference heterogeneity was observed.
- Participants were willing to pay \$7691 to avoid from medium level of exposure and \$13053 from high level of exposure (value of fear).

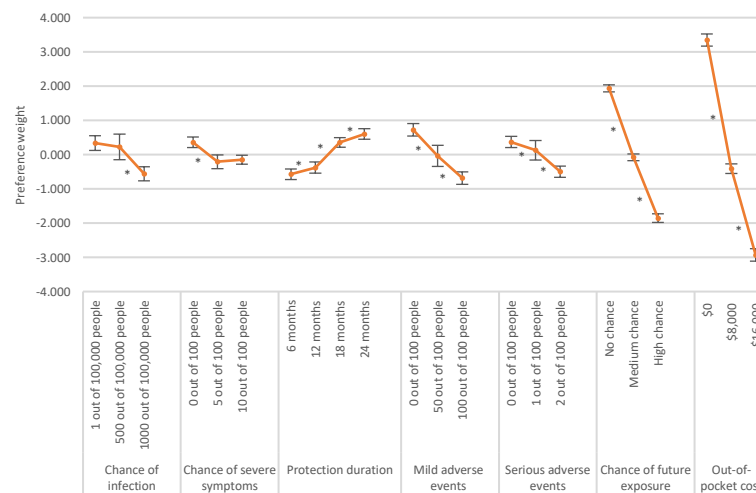


Figure 1: Results from mixed logit model

Latent Class Model

- Best LC model revealed two patient classes.
- Conditional relative importance (class 1 vs class 2): Out-of-pocket cost (6.7 vs 0.7), chance of future exposure to COVID-19 (4.0 vs 2.5), chance of mild to moderate adverse events (2.0 vs 0.1), vaccine protection duration (1.5 vs 0.1), chance of having severe symptom (1.1 vs 0.1), chance of serious adverse events (0.8 vs 0.4), and chance of COVID-19 infection (0.7 vs 0.3).

Results

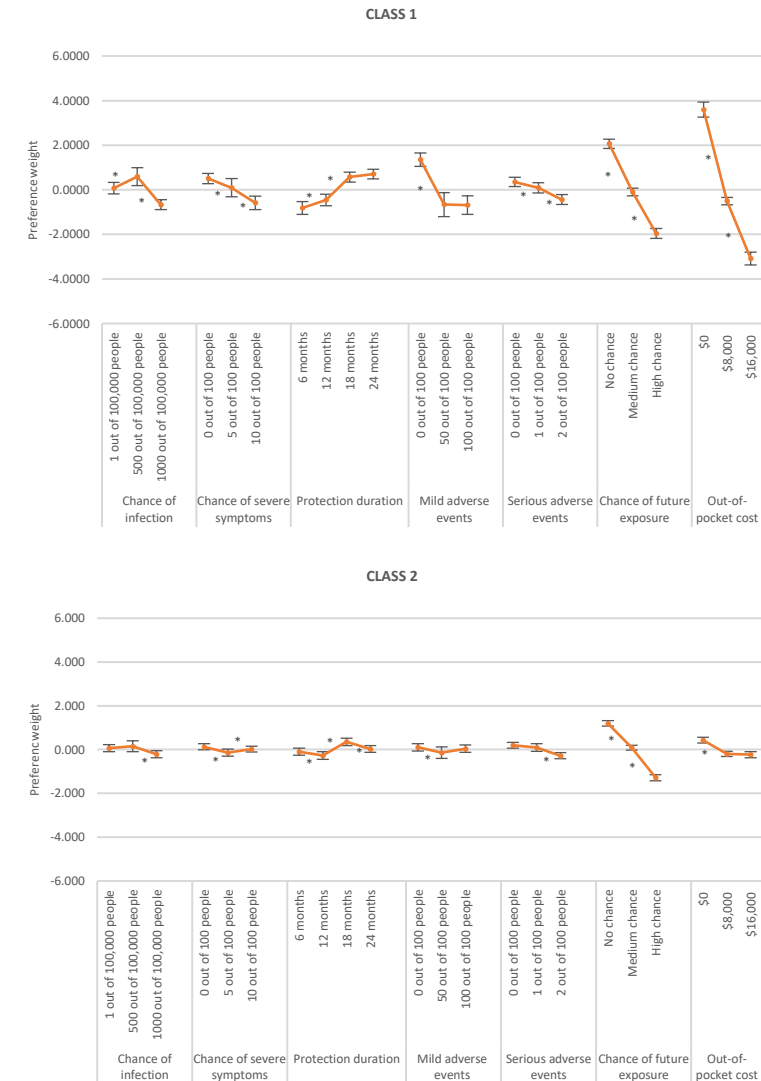


Figure 2: Results from latent class model

Conclusions

- Besides all vaccine attributes, the participants also valued the reduction of the possibility of exposure (fear of contagion), as a result of vaccination.
- However, preference heterogeneity existed, suggesting different participants valued fear differently.
- Participants with certain characteristics (e.g., lower income) were more sensitive to changes in the levels of vaccine attributes (including fear of contagion).

Implication

- Future value assessment of healthcare should quantitatively incorporate the value for the fear.

Limitation

- Online panel might not represent the U.S. population.

Funding/References

Study Funded By:

