A Review of Conjoint-Analysis Studies of Vaccine Preferences
Christine Poulos
RTI Health Solutions, Research Triangle Park, NC, United States

BACKGROUND
• Studies that quantify preferences for vaccines help vaccine producers and policymakers understand what drives vaccine demand and decisions to vaccinate.
• Vaccine demand, along with a variety of other factors, including public health regulation and vaccine supply, influences vaccine effectiveness.
• Understanding vaccine preferences, and likely vaccination behavior, is particularly important in the following circumstances:
  – Number of vaccines available increases
  – Vaccines have low cost-effectiveness
  – Vaccines are not mandatory or free
• Estimates of individuals’ preferences for vaccines may be used to understand acceptable tradeoffs among vaccine features and to predict likely vaccination behavior.
  – Conjoint-analysis studies quantify preferences for multiatribute goods.
  – The studies are increasingly being used to quantify preferences for health interventions, including vaccines.
  – The studies post that the benefit of a vaccine is a weighted sum of the positive and negative features of the treatment.
  – The weights reflect individuals’ perceived relative importance of each vaccine feature.

OBJECTIVE
• An ongoing literature review aims to summarize the published literature on conjoint-analysis studies of vaccine features and the study of vaccine-preference studies.
• This poster presents preliminary findings and discusses next steps.

METHODS
• In 2015, PubMed was searched to identify articles about conjoint-analysis studies of vaccine preferences.
• Searches were conducted using the following terms: vaccine, discrete choice, conjoint analysis, and preference.
• Inclusion criteria for studies:
  – Described a conjoint-analysis study of individual or societal preferences for vaccines.
  – Focused on human vaccines.
  – Original research.
  – Written in English.
• Exclusion criteria for studies:
  – Preference studies using methods other than conjoint analysis.
  – Reanalyses of previously published study data.
  – For each study, information on study features was extracted and summarized.

RESULTS
• Overall, 278 abstracts were identified for review, and 34 were for each study, information on study features was extracted and summarized.

Study Locations
• Most studies were conducted in the United States, followed by the Netherlands, Thailand, and Vietnam (Figure 3).

Study Populations
• Studies of parents’ preferences were most common, followed by studies of adults at risk for particular health conditions (Figure 4).

Types of Vaccines
• Most conjoint-analysis studies (28) quantified preferences for one particular vaccine (Figure 5).

Format of Choice Questions
• Of 28 studies (excluding those of health care providers), 18 employed forced-choice questions, including two or three vaccine alternatives (Figure 6).

Vaccine Attributes
• The majority of studies included vaccine efficacy or effectiveness (89%), safety of vaccines (79%), vaccine price (71%), and duration of vaccine effectiveness (61%) (Figure 7).

DISCUSSION AND CONCLUSIONS
• The number of published conjoint-analysis studies of vaccine preferences has been increasing.
  – The studies are diverse in terms of types and definitions of vaccine-preference studies, population, and the type of vaccine examined, though over one-half of the studies focus on vaccines against sexually transmitted diseases.
  – Most studies have been conducted in developed countries.
  – Most studies have been conducted in the United States, but the number of studies conducted in other countries has been increasing.
• The studies results depend on the format of the choice question.
  – Most studies used a forced-choice question format, and most allowed respondents to indicate that they would prefer to opt out of vaccination.
  – Using random utility theory, the forced-choice data may be analyzed to identify vaccine preferences (utility levels) associated with attribute levels and the importance (changes in utility) associated with changes in attribute levels.
  – Using random utility theory also makes possible the calculation of estimates of marginal rates of substitution, willingness to pay, and when opt-out choices are permitted (likely) uptake based on estimated preference weights.
  – About one-quarter of the studies used questions to rate vaccine acceptability.
    – Like forced choice, ratings make possible the rigorous evaluation of factors influencing choice.
    – Ratings cannot be used to estimate marginal rates of substitution, willingness to pay, or predicted uptake.
• While stated preferences may differ from revealed and actual preferences, these study outputs are used to better understand individuals’ likely vaccination behavior.
• The review is ongoing. The next steps include completing the review of articles identified to date, searching additional sources, and preparing a written report of the findings.

REFERENCE

CONTACT INFORMATION
Christine Poulos, PhD
Senior Economist
RTI Health Solutions
200 Park Offices Drive
Research Triangle Park, NC 27709
Phone: 1-919-541-7130
Fax: 1-919-541-7222
E-mail: cpoulos@rti.org

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