



Value of a vaccine to prevent travel-related chikungunya for US persons

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Potential value of a chikungunya vaccine among international travelers (Valneva survey)

Awareness of chikungunya and value of a chikungunya vaccine among travelers

- 2021 online survey of 2,002 US residents aged ≥ 18 years who either travelled internationally in last 3 years or planned to do so in next 3 years
 - Excluded anyone who self-identified as 'anti-vaccination'
- Limited information provided about the surveyed population
- Participants provided basic information about chikungunya disease
 - Disease distribution, symptoms of disease, rarely joint pain/fatigue that lasts for months or years, and lack of treatment
 - No information on risk of infection, potential adverse events, costs of vaccine

Awareness of chikungunya and value of a chikungunya vaccine among travelers

- Only 18% had heard of chikungunya prior to survey
- After participants provided information about chikungunya, asked two questions:
 - How likely would you be to ask a healthcare professional about a vaccine to protect yourself against chikungunya? **72% Likely**
 - If a doctor or health care provider recommended the chikungunya vaccine for you, how likely would you be to get vaccinated? **81% Likely**

Awareness of chikungunya and value of a chikungunya vaccine among travelers: Summary

- Low awareness of chikungunya virus disease among traveler population
- Most would likely ask healthcare provider about a chikungunya vaccine and be vaccinated if their provider recommended vaccination
- Limitations
 - No information provided to participants about risk of disease or risks/benefits of vaccination
 - No information about costs
 - Although traveler population, unknown if representative of traveler population to areas at risk for chikungunya

Potential value of a chikungunya vaccine among U.S. persons (CDC survey)

Method: Porter Novelli Consumer Styles surveys

- Online panel representative of non-institutionalized U.S. population
 - Members randomly recruited using probability-based sampling by address
 - Provided with a laptop or tablet and access to internet if needed
 - Receive small monetary rewards for participation
- 2022 Summer Styles respondents included 4,156 invited adults (69% response rate)
- Core questions capture demographic information in addition to consumer attitudes, values, and behaviors
- Data weighted to U.S. Population Survey proportions for sex, age, household income, race/ethnicity, household size, education, census region

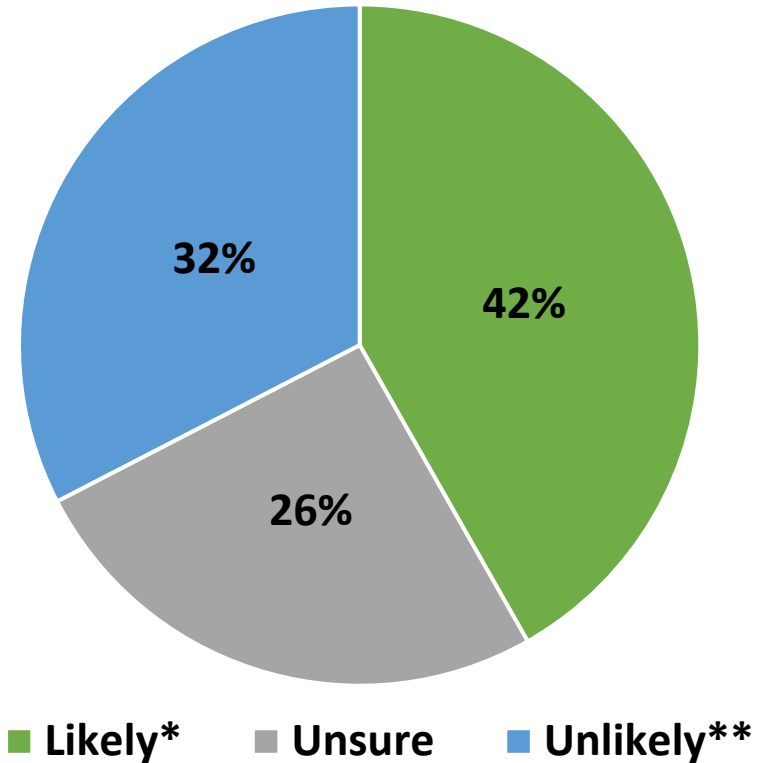
Questions on value of a chikungunya vaccine

1. Imagine you are going on a trip to another country. You have a **1 in 150 chance** of getting a disease. About 1 in 4 people who get the disease suffer from long-term joint pain. A vaccine is available that costs \$350 and is not covered by insurance. How likely would you be to get the vaccine?
2. Now imagine you are going on the same trip, but your chances are **1 in 15,000** of getting the disease. About 1 in 4 people who get the disease suffer from long-term joint pain. The vaccine costs \$350 and is not covered by insurance. How likely would you be to get the vaccine?
3. Which factors are most important to you in deciding whether or not to get the vaccine?

Demographics of survey participants (N=4,156)

- 50% female; median age 54 years (range: 18-94 years)
- 72% identified as white, non-Hispanic
- Education
 - 5% with less than high school education
 - 25% with high school education
 - 70% with at least some college or higher education
- Household income
 - <\$25K: 10%
 - \$25-<\$75K: 30%
 - ≥\$75K: 60%

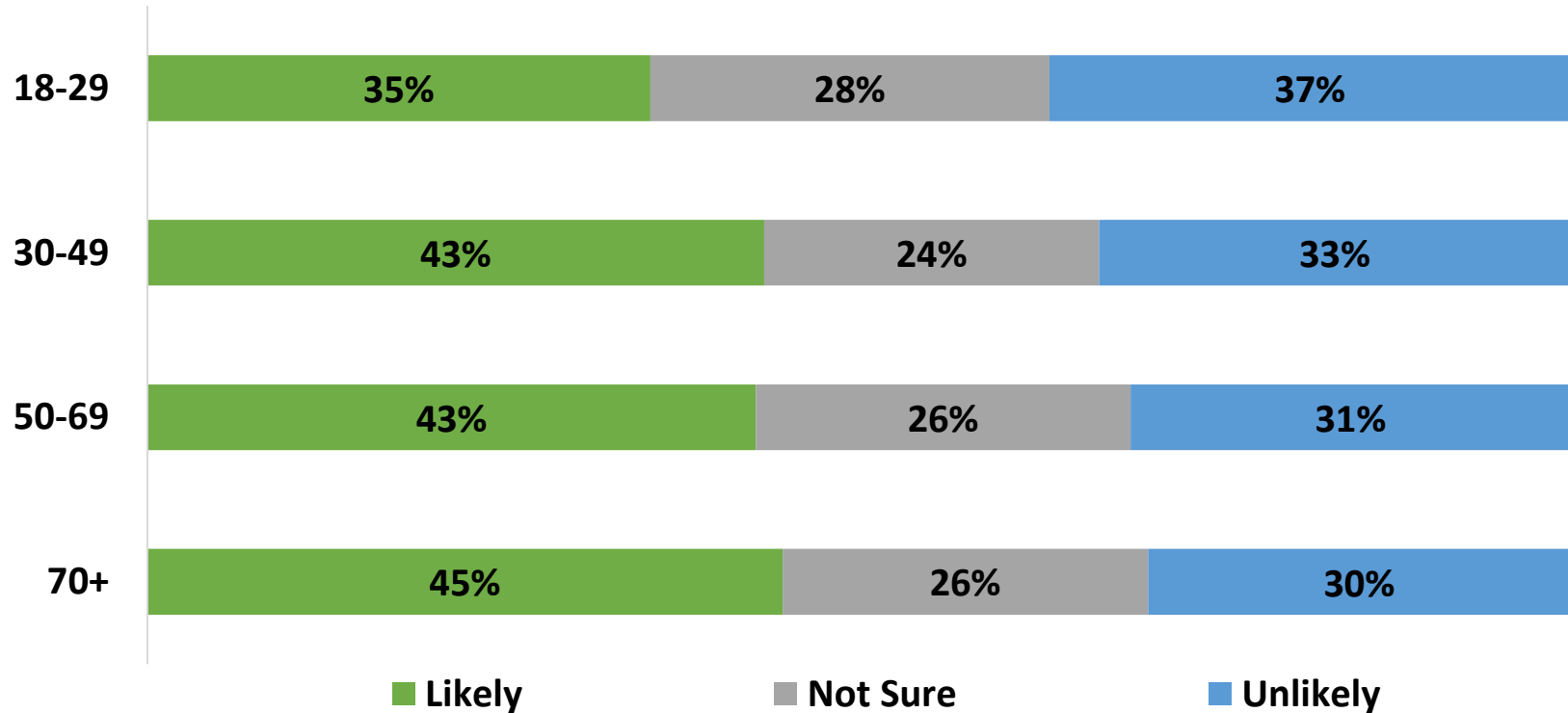
Imagine you are going on a trip to another country. You have a 1 in 150 chance of getting a disease. About 1 in 4 people who get the disease suffer from long-term joint pain. A vaccine is available that costs \$350 and is not covered by insurance. How likely would you be to get the vaccine? (n=4,146)



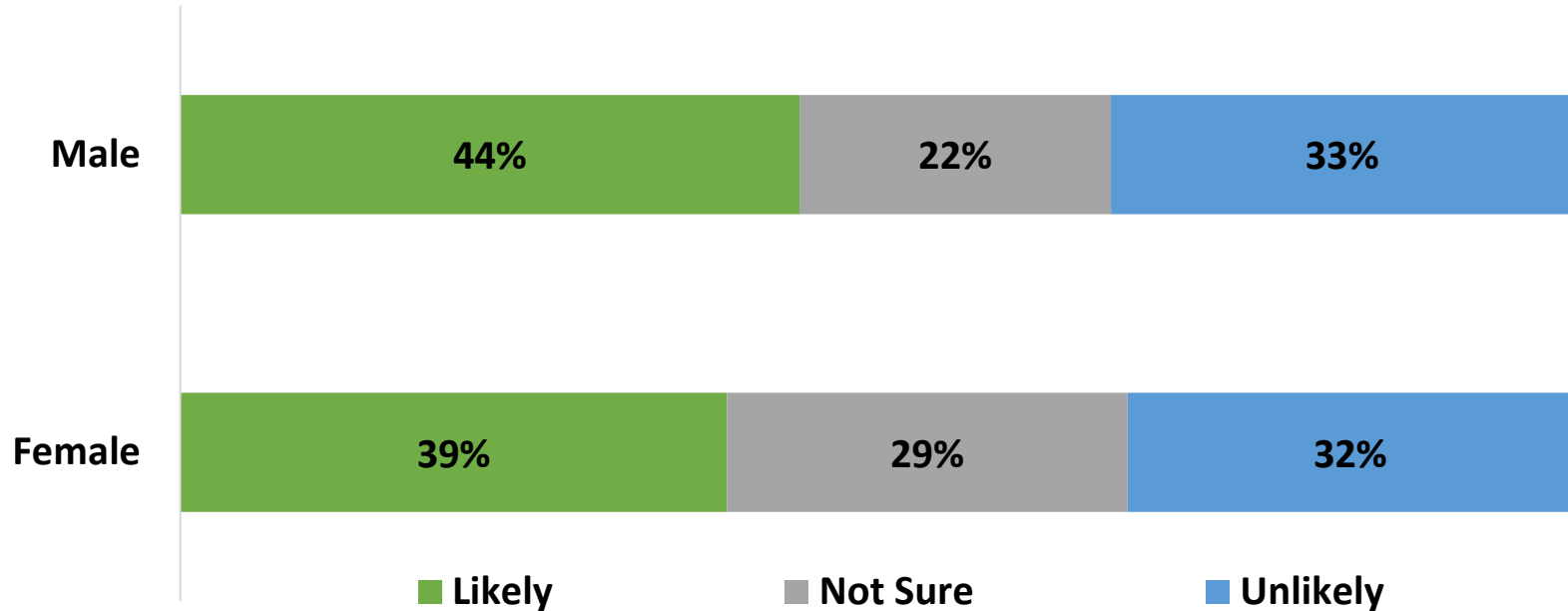
*Includes very and somewhat likely responses

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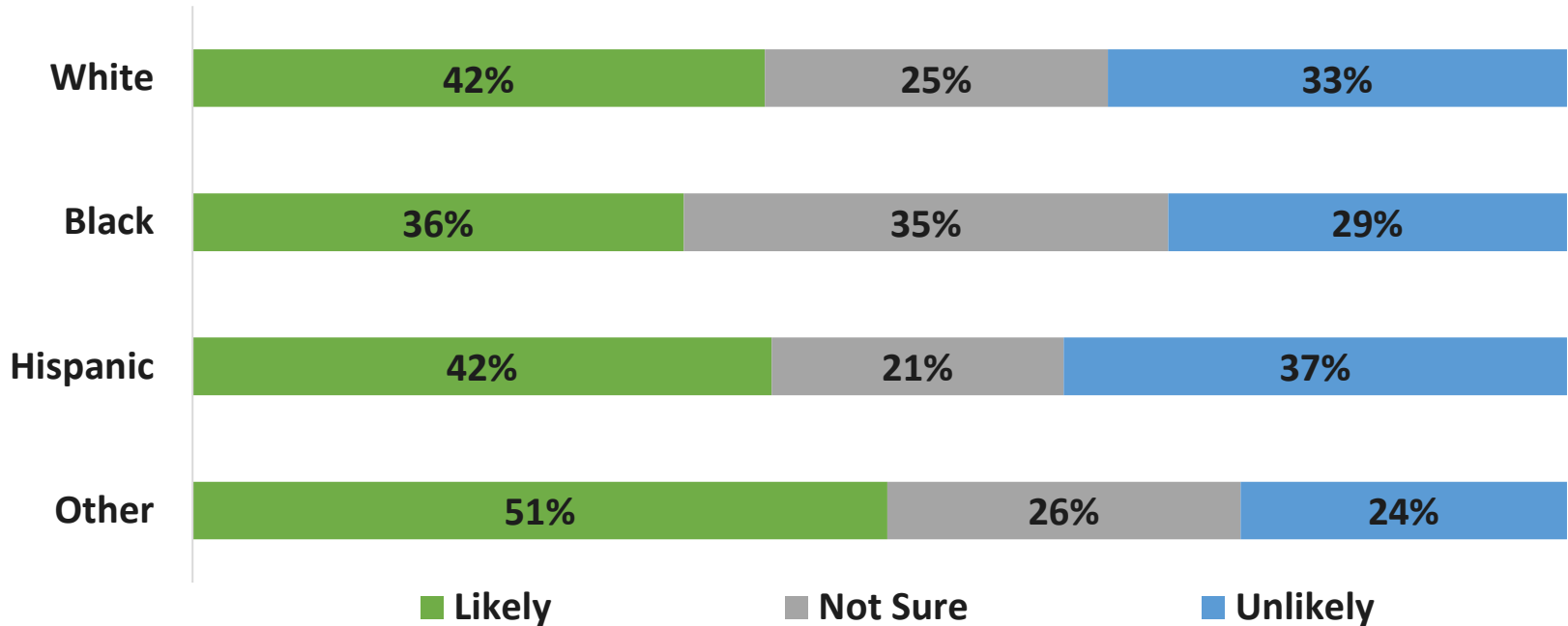
Likelihood of chikungunya vaccination by age group where disease risk is 1 in 150



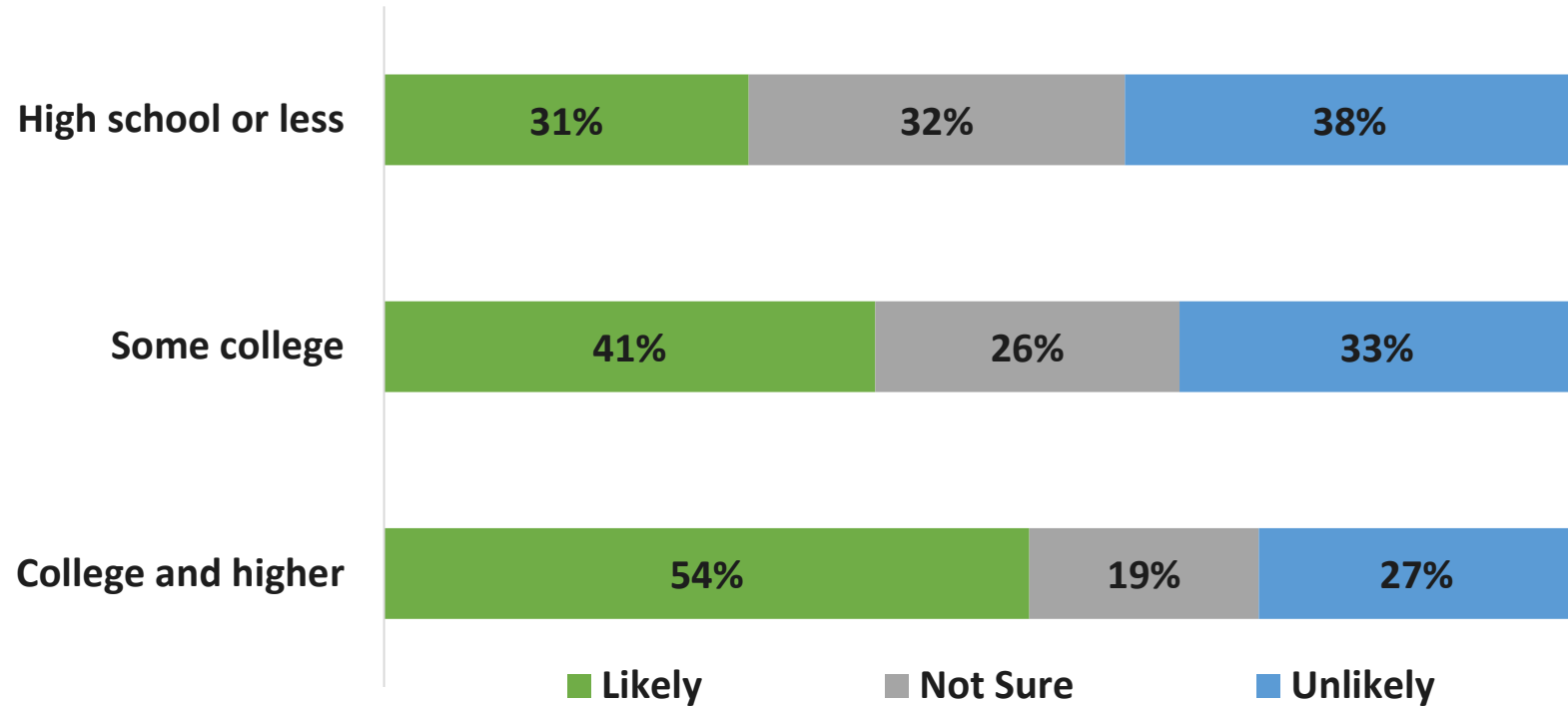
Likelihood of chikungunya vaccination by sex where disease risk is 1 in 150



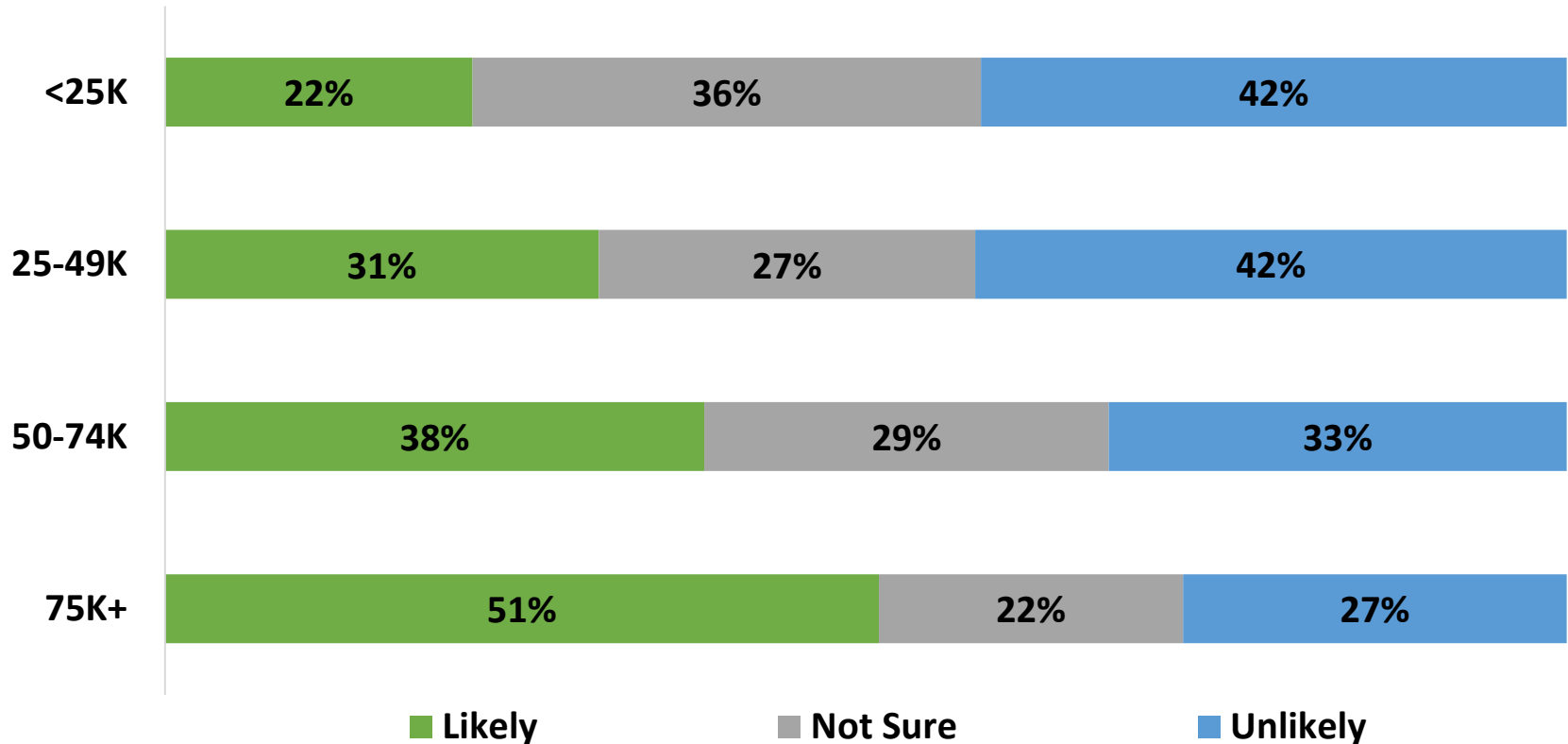
Likelihood of chikungunya vaccination by race/ethnicity where disease risk is 1 in 150



Likelihood of chikungunya vaccination by education where disease risk is 1 in 150



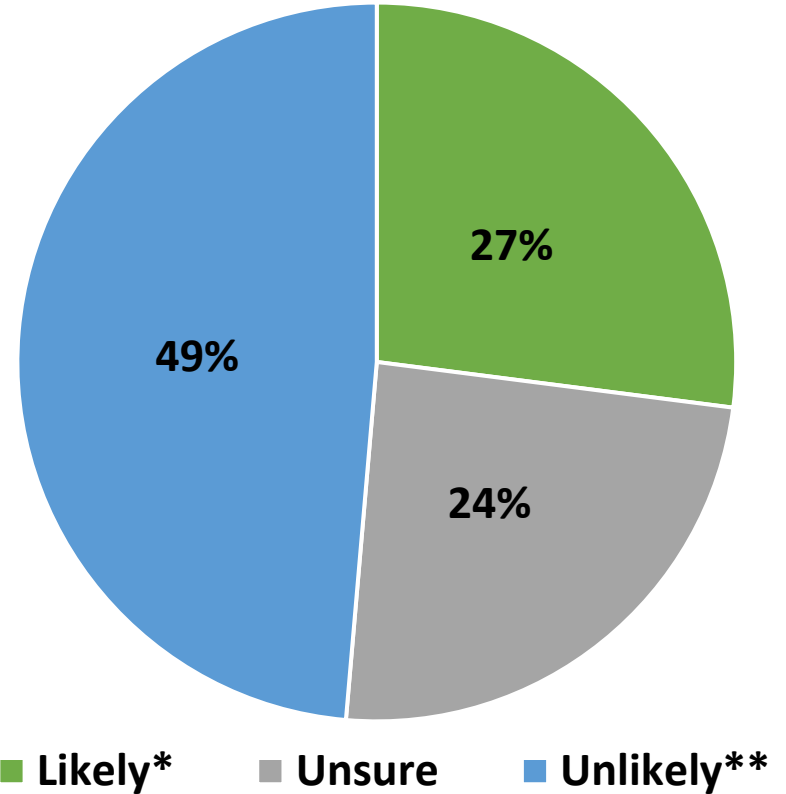
Likelihood of chikungunya vaccination by household income where disease risk is 1 in 150



Likelihood of chikungunya vaccination where disease risk is 1 in 150: Summary

- 42% respondents likely to be vaccinated when disease risk is high
 - About a third unlikely to be vaccinated even in high-risk scenario
 - About a quarter unsure
- Main differences by group
 - Lower likelihood of vaccination among youngest age groups, those with lower education and household income levels
 - Blacks less likely to be vaccinated and more likely to report 'unsure'

Now imagine you are going on the same trip, but your chances are 1 in 15,000 of getting the disease. About 1 in 4 people who get the disease suffer from long-term joint pain. A vaccine is available that costs \$350 and is not covered by insurance. How likely would you be to get the vaccine? (n=4,138)



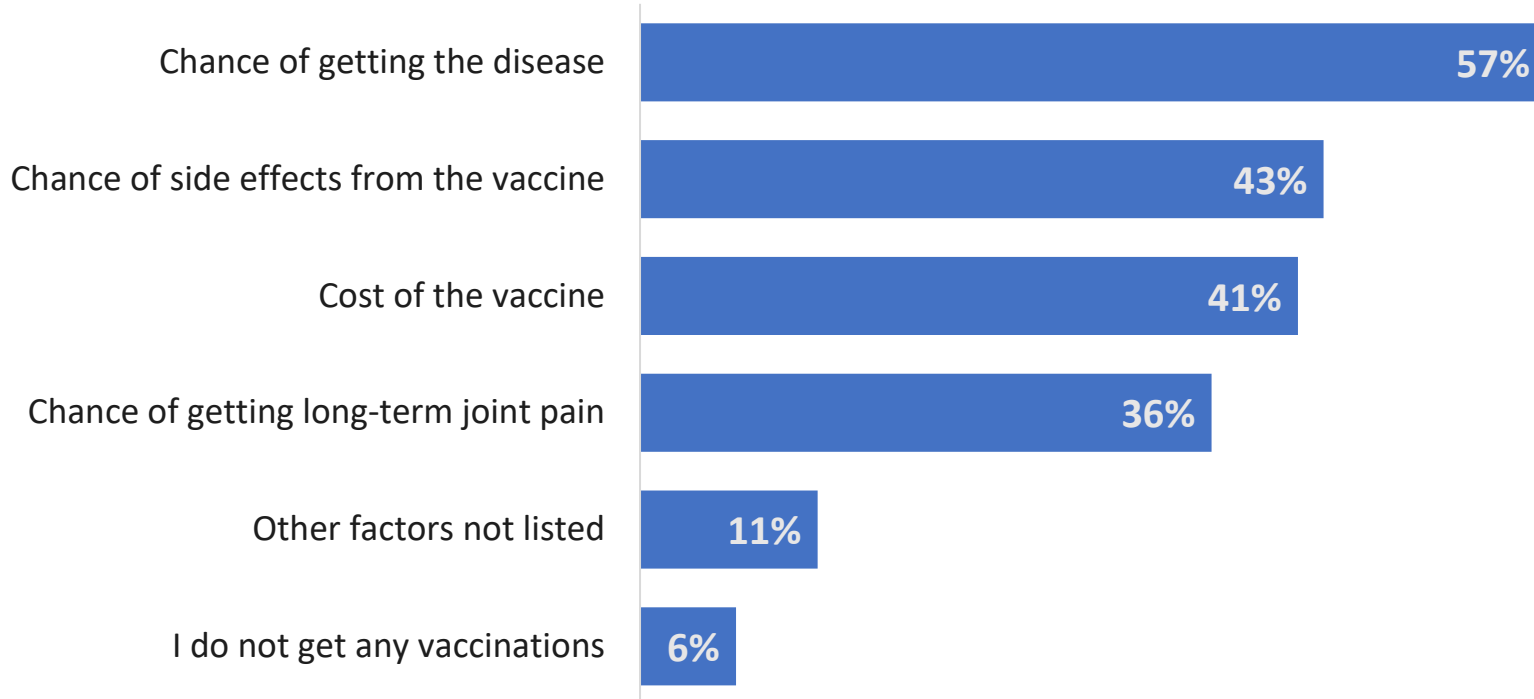
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Likelihood of chikungunya vaccination where disease risk is 1 in 15,000: Summary

- Level of risk is important factor in determining likelihood of vaccination with 27% being likely to vaccinate in low-risk scenario compared to 42% in higher risk scenario
- About a quarter of respondents unsure for both risk level scenarios
- Similar trends for different demographic factors between high and low risk scenarios, with responses more towards 'unlikely' end of scale

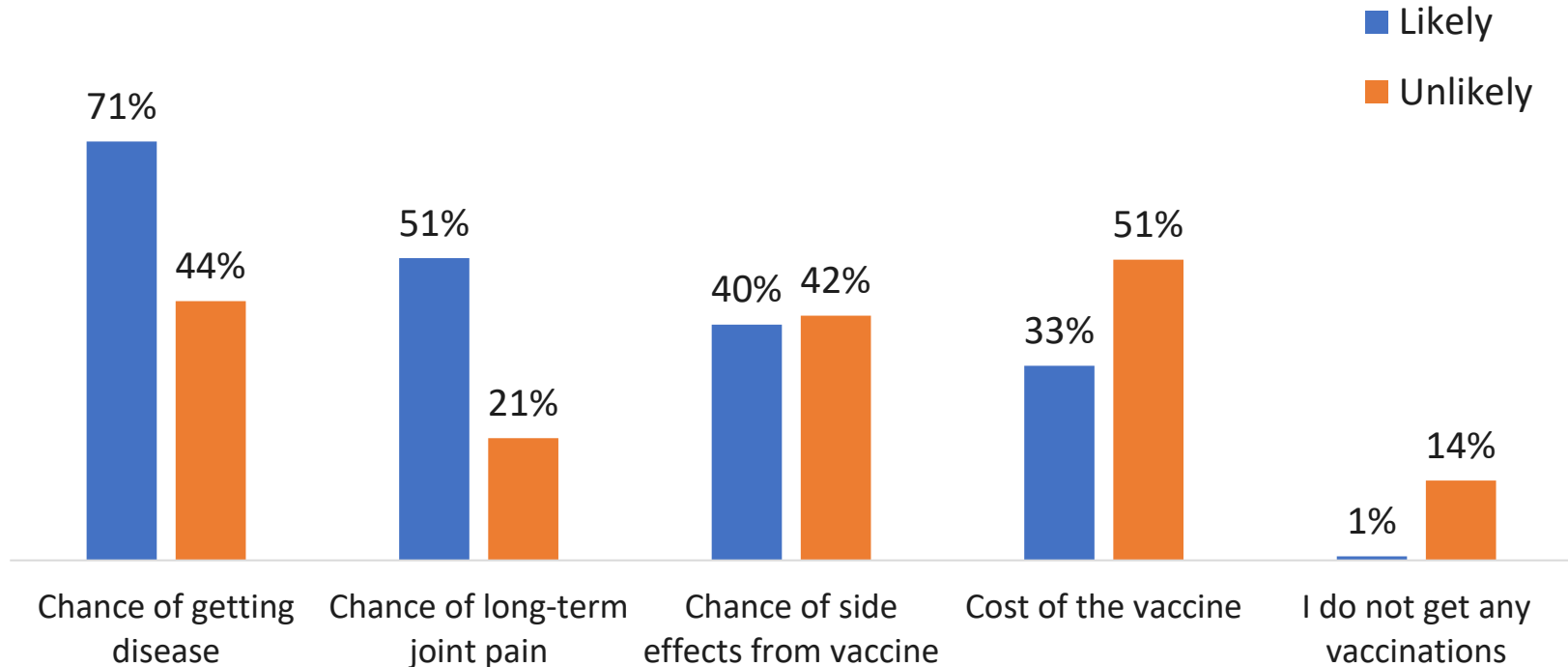
Which factors are most important to you in deciding whether or not to get the vaccine? (n=4,130)



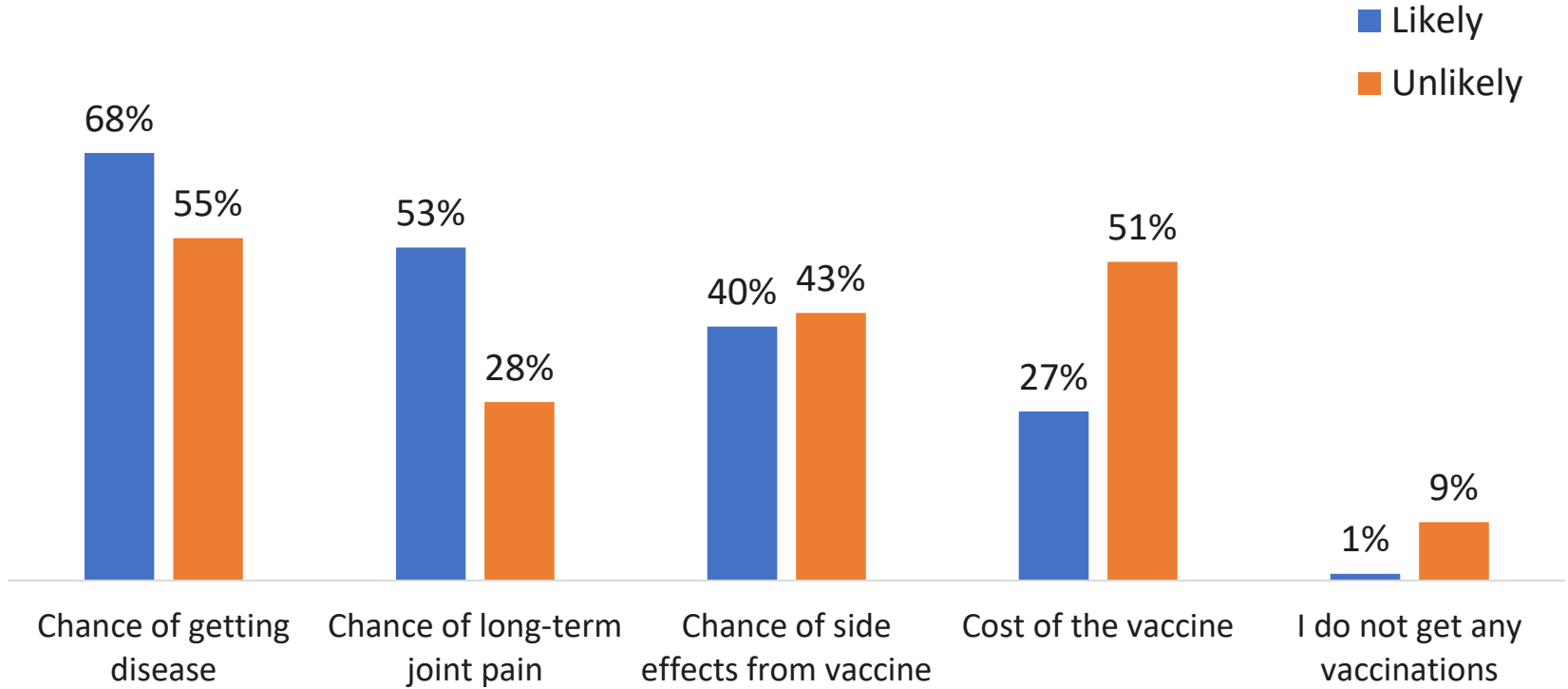
Differences in factors influencing vaccination by demographics

- Not many differences by age
 - Youngest age group more concerned about costs and less about long-term joint pain
 - Middle aged (45-59 years) most concerned about vaccine side effects
- No meaningful differences by sex or race/ethnicity
- Importance of risk of disease and risk of long-term joint pain following infection increased with both education level and household income
- Conversely, proportion of respondents that do not receive vaccination decreased by increasing education and income

Factors influencing vaccination in high-risk scenario by likelihood of vaccination



Factors influencing vaccination in lower risk scenario by vaccine acceptance



Factors influencing likelihood of vaccination: Summary

- Most commonly reported factor was risk of getting disease, which is consistent with findings for high and low risk scenario questions
- Also important are risk of side effects, vaccine cost, and risk of long-term joint pain following infection
- Significant differences between those likely and unlikely to be vaccinated in importance of factors, with exception of concern about side effects
 - For “likely to be vaccinated” key factors were chance of disease and chance of long-term joint pain
 - For “unlikely to be vaccinated”, key factors were vaccine cost and chance of disease

Survey limitations

- Not a traveler population
 - Unknown how well these responses reflect attitudes of a traveler population
- Only very basic disease information provided
- No information on likelihood or type of side effects from vaccination
- Vaccine cost was estimate based on typical travel vaccine not actual cost

Potential value of a chikungunya vaccine among U.S. persons: Summary

- 42% of respondents likely to be vaccinated when disease risk is high; 27% when disease risk is low
 - About a quarter of participants were unsure in both scenarios
- Lower likelihoods of vaccination than reported in Valenva survey (81%), but were important differences in methods
 - Traveler vs general population
 - Different background information provided – more general information on chikungunya vs. information focusing on disease risks, sequela, and costs
 - Response to question on “likelihood of getting vaccine if recommended by healthcare provider” vs “likelihood of getting vaccine”

**Awareness of chikungunya and value of a
chikungunya vaccine to U.S. travel healthcare
providers (Valenza survey)**

Awareness of chikungunya and value of a vaccine to U.S. travel healthcare providers

- Online survey conducted in 2021 of 158 US travel healthcare providers
 - All participants routinely perform pre-travel health counseling and prescribe and/or administer relevant travel vaccines
 - Mix of provider types and practice settings relevant to travel health
- How familiar, if at all, are you with chikungunya disease?
 - Familiar with disease and have clinical knowledge of it (30%)
 - Have heard of it but don't know what it is (20%)
 - Majority not familiar (51%)

Value of chikungunya vaccine to U.S. travel healthcare providers

- Participants provided information:
 - Disease epidemiology, clinical presentation, types and duration of sequelae
 - Chikungunya vaccines likely available within few years
- Asked to indicate likelihood to recommend/prescribe a vaccine for chikungunya if recommended by ACIP
 - 15% Very likely
 - 73% Somewhat likely
 - 11% Neither likely nor unlikely
 - 1% Unlikely

Awareness of chikungunya and value of a vaccine to U.S. travel healthcare providers: Summary

- Low awareness of and familiarity with chikungunya among U.S. healthcare providers, even among those who work in travel medicine
- Following minimal education, 88% of providers surveyed would be likely to recommend/administer vaccine to travelers if recommended by ACIP
 - Explicit in question that vaccination would be recommended by ACIP
 - No estimates of risk of disease or possible risks of vaccination

Value of chikungunya vaccine to U.S. travelers and healthcare providers: Summary

- Awareness of chikungunya low among travelers and healthcare providers
- Healthcare providers likely to prescribe vaccination as recommended by ACIP and travelers interested in vaccination if recommended by provider
- Independent of healthcare provider recommendation, about 30–40% of U.S. persons interested in vaccination and remainder unsure or unlikely to be vaccinated
 - Variability in population perception of whether potential desirable effects outweigh undesirable effects
 - Risk of disease, vaccine cost, vaccine side effects, and risk of chronic arthralgia are influential factors in deciding on chikungunya vaccination