BellAge, Inc. is collaborating with the states of New York, Florida, Michigan, and Washington; the city of Los Angeles; and leading non-profit organizations to help consumers prevent infections, hospitalizations, and deaths from COVID-19.

Our approach has been to offer CV19 CheckUp, a free, anonymous, digital learning tool for consumers. It provides individuals with a personalized analysis about their risks of getting and spreading COVID-19, what they can do to reduce those risks, and where to turn for help with their unmet needs. At the same time, CV19 CheckUp collects data about consumer attitudes, knowledge, behaviors, and circumstances. Its large and growing knowledge base allows BellAge to offer reports and analyses that help policy makers develop and update public education, communications, and intervention strategies.

To date, more than 70,000 individuals have completed the CV19 CheckUp survey. This report is based on different samples derived from more than 37,900 consumers who have used CV19 CheckUp since late October 2020.

**Key Findings**

1. Most adults (79%) dangerously underestimate the lethal threat risk that COVID-19 poses to older adults.

2. When informed of the true magnitude of the lethal threat risks, most of respondents (63%) say they would modify their behaviors to keep older friends and loved ones safe.

3. One-in-two older adults aged 75 and older dangerously underestimate their own risks of hospitalization and death from COVID-19.

4. The more people (regardless of their age) underestimate the lethal threat risks to older adults, the less likely they are to want to be vaccinated.

(Continued on page 2.)

**About BellAge, Inc. and BellAge Labs**

Both organizations share the same mission: to help millions of older adults age well through decision support related to healthy behaviors and pivotal moments of choice.

BellAge Inc. is a public benefit company that develops and provides expert systems to government and private organizations so they can better serve their citizens and customers.

BellAge Labs is a tax-exempt organization working to ensure everyone benefits from innovative solutions that can help them age well.

For more information go to bellage.org
Lethal Threat Risks

Key Finding #1: Most adults (77%) dangerously underestimate the lethal threat risk they pose to older adults, and half of them grossly underestimate the risk. CV19 CheckUp asks people of all ages to estimate how much more likely older adults are to die if they get COVID-19 compared to a young adult (18 to 29).

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Actual Relative Risk</th>
<th>% Underestimating Risk</th>
<th>Relative Risk Estimates by 50% of All Respondents</th>
<th>% Correctly estimating Risks</th>
<th>% Overestimating Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>65-74</td>
<td>90x</td>
<td>80.1%</td>
<td>2x - 10x</td>
<td>13.9%</td>
<td>6.0%</td>
</tr>
<tr>
<td>75-84</td>
<td>220x</td>
<td>79.1%</td>
<td>2x - 25x</td>
<td>15.6%</td>
<td>5.3%</td>
</tr>
<tr>
<td>85+</td>
<td>630x</td>
<td>79.1%</td>
<td>2x - 50x</td>
<td>20.9%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Source: Relative risk data from Centers for Disease Control and Prevention; consumer responses from 3,121 CV19 CheckUp users from 2/12/21 to 3/17/21.

Key Finding #2: After being informed about the lethal threat risks, most respondents (62.6%) say they would have modified their behaviors to keep older friends and loved ones safe.

<table>
<thead>
<tr>
<th>If I had known the facts about the lethal threat risks before the holidays . . .</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>I definitely or probably would not have visited with older adults.</td>
<td>30.3%</td>
</tr>
<tr>
<td>I still would have visited with older adults, but would have taken greater</td>
<td>32.3%</td>
</tr>
<tr>
<td>precautions to avoid close contact with them.</td>
<td></td>
</tr>
<tr>
<td>I still would have visited with older adults and not done anything differently.</td>
<td>37.1%</td>
</tr>
</tbody>
</table>

Source: Consumer responses to CV19 CheckUp from 2/12/21 to 3/17/21 from people who indicated they had visited with older relatives over the holidays (n = 1,233)

(Continued on page 3.)
Severity Risks

Key Finding #3: Many older adults, especially those 75 and older, dangerously underestimate their personal risks of hospitalization and death from COVID-19. CV19 CheckUp asks people to estimate their chances of being hospitalized if they were to get COVID-19 and then compares their responses to calculations developed by Mathematica Policy Research.

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Correctly Estimate</th>
<th>Underestimate</th>
<th>Overestimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ages 75+ (n = 1,282)</td>
<td>30%</td>
<td>53%</td>
<td>17%</td>
</tr>
<tr>
<td>Ages 65-74 (8,677)</td>
<td>26%</td>
<td>34%</td>
<td>40%</td>
</tr>
</tbody>
</table>

Among people 75 and older:
- 66% of men underestimate their severity risk
- 68% of people with diabetes underestimate their risk
- 65% of people with kidney disease underestimate their risk

Based on responses from 9,959 people 65 and older who completed the CV19 CheckUp survey between 10/21/20 and 1/6/21

Vaccine Hesitancy

Key Finding #4: Vaccine hesitancy is highest among people, regardless of age, who severely underestimate the lethal risk of COVID-19 to older adults.
- Adults aged 75 to 84 are 220 times more likely to die from COVID-19 than those 18 to 29.
- Of the respondents who estimated that those aged 75 to 84 faced “2 times the risk,” 9.33% also said they definitely did not want the vaccine.
- Vaccine hesitancy declines dramatically the higher the respondent’s estimate. Of those who answered “630 times the risk,” just 0.82% said they definitely did not want the vaccine.
- This relationship is statistically significant on a 0.05 level and remains consistent when respondents estimated the comparative risk of adults aged 65 to 74 and those 85 or older.
Commentary

The Three Ingredients to Overcoming Vaccine Hesitancy: Science, Religion, And Love for Grandma
By James Firman, Ed.D. and Prabhjot Singh, M.D., Ph.D.

Within the next two months, it is likely that everyone who wants a COVID-19 vaccine will be able to get one. But a persistent public health challenge will remain: vaccine hesitancy. According to a recent national poll by NPR/PBS NewsHour/Marist, 30% of American adults do not plan to get vaccinated. Most resistant are Republican men (49%), people who voted for Donald Trump in 2020 (47%), White men without college degrees (40%), and White evangelical Christians (40%).

It’s become clear over the past year that government officials admonishing people and pleading with them to wear masks, practice social distancing, and get vaccinated will fail to move large segments of U.S. adults. They don’t see a compelling reason to get vaccinated and they don’t think the benefits outweigh the risks.

Our research leads us to conclude that the key to overcoming vaccine hesitancy is for people to understand two things: 1) the magnitude of the lethal threat risk that COVID-19 poses to their older relatives, and 2) that getting vaccinated virtually eliminates their risk of hospitalization and death from the virus.

The good news is that the COVID-19 vaccines are more effective than most people realize. As several of our nation’s most respected public health experts recently wrote in USA Today:

> All seven COVID-19 vaccines that have completed large efficacy trials—Pfizer, Moderna, Johnson & Johnson, Novavax, AstraZeneca, SputnikV, and Sinovac—appear to be 100% effective for serious complications. Not one vaccinated person has gotten sick enough to require hospitalization. Not a single vaccinated person has died of COVID-19. (emphasis added)

Combining Science and Religion to Change Behaviors
While there are deep ideological, political, and regional divides in knowledge and attitudes about COVID-19, almost everyone loves their parents and grandparents. If we want people to act more safely, make sure their older relatives get vaccinated, and have a compelling reason to get vaccinated themselves, we need to make the case on both scientific and religious/moral grounds.

Science makes one clear and compelling case: COVID-19 poses a lethal threat to older adults and the vaccines are almost 100% effective in preventing hospitalizations and deaths. By talking about grandma, grandpa, and great aunt Sally, these statistics become more meaningful and relevant.

The Ten Commandments provide two equally compelling religious and moral arguments: Thou shalt not kill, and honor thy father and thy mother.

James Firman is the co-founder and Chief Innovation Officer of BellAge. He served as President and CEO of the National Council on Aging for 25 years. Prabhjot Singh, M.D., Ph.D. is a physician focused on health system design who serves as associate clinical professor of medicine and global health at Mount Sinai’s Icahn School of Medicine and Chief Medical & Scientific Advisor to BellAge.

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