## Norwegians' understanding of the key concepts, attitudes, and intended behaviors

Table 1. Estimates of the percentage of Norwegian adults who understand each Key Concept

|  | Sample |  | Post-stratified <br> Estimate (95\% CI) |
| :---: | :---: | :---: | :---: |
| Increasing the amount of a treatment does not necessarily increase its benefits and may cause harm | $\begin{aligned} & 191 / \\ & 211 \end{aligned}$ | (91\%) | 92\% (88\% to 96\%) |
| The people being compared should be cared for similarly apart from the treatments being studied | $\begin{aligned} & 186 / \\ & 211 \end{aligned}$ | (88\%) | 87\% (81\% to 93\%) |
| Competing interests may result in misleading claims | $\begin{aligned} & 176 / \\ & 210 \end{aligned}$ | (84\%) | 84\% (77\% to 91\%) |
| Weigh the benefits and savings against the harms and costs of acting or not | $\begin{aligned} & 179 / \\ & 210 \end{aligned}$ | (85\%) | 83\% (77\% to 90\%) |
| Personal experiences or anecdotes alone are an unreliable basis for most claims | $\begin{aligned} & 182 / \\ & 210 \end{aligned}$ | (87\%) | 82\% (74\% to 90\%) |
| If possible, people should not know which of the treatments being compared they are receiving | $\begin{aligned} & 178 / \\ & 210 \end{aligned}$ | (85\%) | 78\% (69\% to 86\%) |
| Attention should focus on all important effects of treatments, and not surrogate outcomes | $\begin{aligned} & 141 / \\ & 178 \end{aligned}$ | (79\%) | 76\% (67\% to 85\%) |
| Small studies may be misleading | $\begin{aligned} & 176 / \\ & 210 \end{aligned}$ | (84\%) | 74\% (66\% to 83\%) |
| Treatments that are new or technologically impressive may not be better than available alternatives | $\begin{aligned} & 156 / \\ & 210 \end{aligned}$ | (74\%) | 70\% (62\% to 79\%) |
| Opinions alone are not a reliable basis for claims | $\begin{aligned} & 159 / \\ & 210 \end{aligned}$ | (76\%) | 68\% (59\% to 77\%) |
| Fair comparisons of treatments in animals or highly selected groups of people may not be relevant | $\begin{aligned} & 111 / \\ & 172 \end{aligned}$ | (65\%) | 67\% (57\% to 77\%) |
| It is important to assess outcomes in all (or nearly all) the people in a study | $\begin{aligned} & 139 / \\ & 211 \end{aligned}$ | (66\%) | 64\% (56\% to 72\%) |
| The treatments compared should be similar to those of interest | $\begin{aligned} & 107 / \\ & 172 \end{aligned}$ | (62\%) | 56\% (44\% to 68\%) |


| Identifying effects of treatments depends on making comparisons | $\begin{aligned} & 143 / \\ & 210 \end{aligned}$ | (68\%) | 56\% (47\% to 65\%) |
| :---: | :---: | :---: | :---: |
| An outcome may be associated with a treatment but not caused by it $\ddagger$ | $\begin{aligned} & 490 / \\ & 771 \end{aligned}$ | (64\%) | 56\% (50\% to 61\%) |
| Reviews of studies comparing treatments should use systematic methods | $\begin{aligned} & 120 / \\ & 211 \end{aligned}$ | (57\%) | 51\% (42\% to 59\%) |
| Outcomes should be assessed in the same way in all the groups being compared | $\begin{aligned} & 116 / \\ & 211 \end{aligned}$ | (55\%) | 50\% (42\% to 58\%) |
| Earlier detection of 'disease' is not necessarily better | 75 / 178 | (42\%) | 39\% (30\% to 48\%) |
| Relative effects of treatments alone can be misleading | 52 / 178 | (29\%) | 34\% (25\% to 43\%) |
| Deeming results to be "statistically significant" or "nonsignificant" can be misleading | 49 / 178 | (28\%) | 33\% (24\% to 42\%) |
| Average differences between treatments can be misleading | 50/178 | (28\%) | 30\% (20\% to 39\%) |
| Large, dramatic effects are rare | 63 / 211 | (30\%) | 28\% (20\% to 36\%) |
| Consider how certain you can be about each advantage and disadvantage | 49 / 172 | (28\%) | 22\% (13\% to 31\%) |
| Widely used treatments or those that have been used for decades are not necessarily beneficial or safe $\ddagger$ | $\begin{aligned} & 164 / \\ & 771 \end{aligned}$ | (21\%) | 20\% (15\% to 25\%) |
| The use of $p$-values may be misleading; confidence intervals are more informative | $33 / 178$ | (19\%) | 18\% (10\% to 25\%) |
| Beliefs alone about how treatments work are not reliable predictors of the presence or size of effects | 39 / 211 | (18\%) | 17\% (12\% to 23\%) |
| Comparison groups should be as similar as possible $\ddagger$ | $\begin{aligned} & 149 / \\ & 771 \end{aligned}$ | (19\%) | 15\% (12\% to 19\%) |
| The results of one study considered in isolation can be misleading $\ddagger$ | 90 / 771 | (12\%) | 12\% (8\% to 16\%) |
| People's outcomes should be counted in the group to which they were allocated | 14 / 178 | (7.9\%) | 10\% (3.4\% to 17\%) |
| Results for a selected group of people within a study can be misleading | 17 / 178 | (9.6\%) | 6.5\% (3.1\% to 9.8\%) |

$\ddagger$ Confidence intervals have been Bonferroni-corrected. $\square$

Table 2. Attitudes and intended behaviors.

|  | Sample |  | Post-stratified Estimate (95\% CI) |
| :---: | :---: | :---: | :---: |
| Willing to challenge claims? | $\begin{aligned} & 140 / \\ & 172 \end{aligned}$ | (81\%) | 75\% (66\% to 85\%) |
| Likely to research the basis of claims? | $\begin{aligned} & 130 / \\ & 172 \end{aligned}$ | (76\%) | 70\% (59\% to 81\%) |
| Willing to take part in research? | $\begin{aligned} & 541 / \\ & 771 \end{aligned}$ | (70\%) | 67\% (63\% to 72\%) |
| Easy to assess the relevance of study results? | $35 / 172$ | (20\%) | 21\% (9.1\% to 33\%) |
| Easy to assess if claims are based on research that compares treatments? | 42 / 172 | (24\%) | 18\% (12\% to 25\%) |
| Easy to find research based on studies that compare treatments? | $36 / 172$ | (21\%) | 18\% (8.7\% to 28\%) |
| Easy to assess the credibility of results of studies that compare treatments? | 32 / 172 | (19\%) | 16\% (5.7\% to 26\%) |

The above results are presented graphically in the figure below.

## Comparisons to Ugandans

Figure 1. The mean test scores of the Norwegian and Ugandan samples

|  |  |  |  |  |  |  | n | Mean Score (95\% CI) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ugandan Children (Intervention) |  |  |  | - |  |  | 3943 | 69\% (67\% to 71\%) |
| Ugandan Parents (Control) |  |  | - |  |  |  | 256 | 53\% (48\% to 57\%) |
| Ugandan Teachers (Control) |  |  |  | - |  |  | 59 | 68\% (61\% to 75\%) |
| Ugandan Teachers (Podcast) |  |  |  |  |  |  | 78 | 86\% (81\% to 92\%) |
| Norwegian Adults |  |  |  |  | - |  | 210 | 86\% (81\% to 91\%) |
| 0\% | 20\% | $\begin{gathered} 40 \% \\ \mathrm{Me} \end{gathered}$ | $60 \%$ <br> Score |  |  | 100\% |  |  |

Figure 2. The compared probability of passing in the Norwegian and Ugandan samples


Figure 3. The compared probability of mastery in the Norwegians and Ugandan samples


## Exploratory analyses

Table 3. Associations between demographic covariates and Norwegians' understanding of the key concepts

|  | Samp le |  | Interce pt | Mal <br> e | Resear ch trainin g | Researc <br> h <br> participa <br> nt | ISCED <br> Levels <br> 3-4 | ISCED <br> Levels <br> 5-8 | Medical educati on |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Treatments that are new or technologica Ily impressive may not be better than available alternatives | $\begin{aligned} & 156 / \\ & 210 \end{aligned}$ | $\begin{aligned} & \text { (74\% } \\ & \text { ) } \end{aligned}$ | $\begin{aligned} & \hline 1.3 \\ & (0.38 \\ & \text { to } 4.4) \end{aligned}$ | 1.6 (0.66 to <br> 3.7) | 1.4 (0.5 <br> to 3.8) | $\begin{aligned} & 1.4(0.51 \\ & \text { to } 3.8) \end{aligned}$ | $\begin{aligned} & 1.1 \\ & (0.31 \\ & \text { to } 4) \end{aligned}$ | $\begin{aligned} & 1.6 \\ & (0.44 \\ & \text { to } 5.7) \end{aligned}$ | $\begin{aligned} & 1.3 \\ & (0.43 \text { to } \\ & 3.7) \end{aligned}$ |


| Competing interests may result in misleading claims | $\begin{aligned} & 176 / \\ & 210 \end{aligned}$ | $\begin{aligned} & \text { (84\% } \\ & \text { ) } \end{aligned}$ | $\begin{aligned} & 7(1.5 \\ & \text { to } 33) \end{aligned}$ | 1 (0.39 to 2.7) | $2(0.82$ <br> to 5) | 0.45 <br> (0.13 to <br> 1.6) | $\begin{aligned} & 0.74 \\ & (0.14 \\ & \text { to } 3.9) \end{aligned}$ | $\begin{aligned} & 0.75 \\ & \text { (0.15 } \\ & \text { to } 3.9 \text { ) } \end{aligned}$ | $\begin{aligned} & 0.95 \\ & \text { (0.29 to } \end{aligned}$ <br> 3.1) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Opinions alone are not a reliable basis for claims | $\begin{aligned} & 159 / \\ & 210 \end{aligned}$ | $\begin{aligned} & (76 \% \\ & ) \end{aligned}$ | $\begin{aligned} & \hline 1.4 \\ & (0.42 \\ & \text { to } 4.5) \end{aligned}$ | $\begin{aligned} & 1.3 \\ & (0.53 \\ & \text { to 3) } \end{aligned}$ | $2.6(1.1$ <br> to 6.3) | 0.77 <br> (0.26 to <br> 2.3) | $\begin{aligned} & \hline 0.84 \\ & (0.22 \\ & \text { to } 3.2) \end{aligned}$ | $\begin{aligned} & 2(0.5 \\ & \text { to } 8.3) \end{aligned}$ | $1.2$ (0.37 to <br> 3.7) |
| Personal experiences or anecdotes alone are an unreliable basis for most claims | $\begin{aligned} & 182 / \\ & 210 \end{aligned}$ | $\begin{aligned} & \text { (87\% } \\ & \text { ) } \end{aligned}$ | 4.4 (1.1 <br> to 17) | $\begin{aligned} & 0.22 \\ & (0.06 \\ & 1 \text { to } \\ & 0.76) \end{aligned}$ | $5.6$ <br> to 26) | 0.63 (0.17 to 2.3) | 2.7 <br> (0.62 <br> to 12) | 4.3 <br> (1.2 to <br> 16) | $0.72$ (0.15 to <br> 3.3) |
| Weigh the benefits and savings against the harms and costs of acting or not | $\begin{aligned} & 179 / \\ & 210 \end{aligned}$ | $\begin{aligned} & \text { (85\% } \\ & \text { ) } \end{aligned}$ | $\begin{aligned} & 3.3 \\ & (0.78 \\ & \text { to } 14) \end{aligned}$ | $\begin{aligned} & 0.95 \\ & (0.35 \\ & \text { to } \\ & 2.5) \end{aligned}$ | $\begin{aligned} & 1.5 \\ & (0.54 \\ & \text { to } 4.3) \end{aligned}$ | $\begin{aligned} & 1.3 \text { (0.31 } \\ & \text { to } 5.4) \end{aligned}$ | $\begin{aligned} & 1.4 \\ & (0.33 \\ & \text { to } 6.3) \end{aligned}$ | $\begin{aligned} & 1.4 \\ & (0.34 \\ & \text { to } 5.8) \end{aligned}$ | $\begin{aligned} & 1.7 \\ & \text { (0.48 to } \end{aligned}$ <br> 5.8) |
| Widely used treatments or those that have been used for decades are not necessarily | $\begin{aligned} & 164 / \\ & 771 \end{aligned}$ | $\begin{aligned} & \text { (21\% } \\ & \hline \end{aligned}$ | $\begin{aligned} & 0.23 \\ & (0.11 \\ & \text { to } \\ & 0.52) \end{aligned}$ | $\begin{aligned} & 0.99 \\ & (0.61 \\ & \text { to } \\ & 1.6) \end{aligned}$ | $\begin{aligned} & 1.8(1 \\ & \text { to } 3.1) \end{aligned}$ | 0.95 <br> (0.58 to 1.6) | $\begin{aligned} & 1(0.45 \\ & \text { to } 2.3) \end{aligned}$ | $\begin{aligned} & \hline 0.98 \\ & (0.45 \\ & \text { to } 2.1) \end{aligned}$ | $0.71$ (0.4 to <br> 1.3) |


| beneficial or safe |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| An outcome may be associated with a treatment but not caused by it | $\begin{aligned} & 490 / \\ & 771 \end{aligned}$ | $\begin{aligned} & \text { (64\% } \\ & \text { ) } \end{aligned}$ | $\begin{aligned} & 0.55 \\ & (0.29 \\ & \text { to } 1.1) \end{aligned}$ | 1.1 (0.69 to 1.6) | 2.4 (1.5 to 4) | $\begin{aligned} & 1.4(0.83 \\ & \text { to } 2.2) \end{aligned}$ | $\begin{aligned} & 1.7 \\ & (0.83 \\ & \text { to } 3.3) \end{aligned}$ | $2.5$ <br> (1.3 to <br> 4.8) | $1.2$ (0.69 to 1.9) |
| Small studies may be misleading | $\begin{aligned} & 176 / \\ & 210 \end{aligned}$ | $\begin{aligned} & \text { (84\% } \\ & \text { ) } \end{aligned}$ | $\begin{aligned} & 1.3 \\ & (0.38 \\ & \text { to } 4.4) \end{aligned}$ | $\begin{aligned} & 0.61 \\ & (0.24 \\ & \text { to } \\ & 1.6) \end{aligned}$ | $\begin{aligned} & 3.1(1.1 \\ & \text { to } 9.1) \end{aligned}$ | 0.78 <br> (0.21 to <br> 2.8) | $\begin{aligned} & 2.2 \\ & (0.61 \\ & \text { to } 7.6) \end{aligned}$ | $\begin{aligned} & 6.6(2 \\ & \text { to } 22) \end{aligned}$ | 3.9 <br> (0.68 to <br> 22) |
| If possible, people should not know which of the treatments being compared they are receiving | $\begin{aligned} & 178 / \\ & 210 \end{aligned}$ | $\begin{aligned} & \text { (85\% } \\ & \text { ) } \end{aligned}$ | $\begin{aligned} & 1.8 \\ & (0.58 \\ & \text { to } 5.6) \end{aligned}$ | $\begin{aligned} & 0.9 \\ & (0.32 \\ & \text { to } \\ & 2.5) \end{aligned}$ | $\begin{aligned} & 0.67 \\ & (0.19 \\ & \text { to } 2.4) \end{aligned}$ | $\begin{aligned} & 1.1(0.32 \\ & \text { to } 3.8) \end{aligned}$ | $\begin{aligned} & 1.8(0.5 \\ & \text { to } 6.4) \end{aligned}$ | $\begin{aligned} & 7.3 \\ & (1.9 \text { to } \\ & 28) \end{aligned}$ | $\begin{aligned} & 0.82 \\ & \text { (0.23 to } \end{aligned}$ <br> 3) |
| The results of one study considered in isolation can be misleading | $\begin{aligned} & \hline 90 / \\ & 771 \end{aligned}$ | $\begin{aligned} & \text { (12\% } \\ & \text { ) } \end{aligned}$ | 0.16 <br> (0.061 <br> to <br> 0.41) | $\begin{aligned} & 0.79 \\ & (0.43 \\ & \text { to } \\ & 1.5) \end{aligned}$ | $1.2(0.7$ <br> to 2.2) | $\begin{aligned} & 1.3(0.61 \\ & \text { to } 2.6) \end{aligned}$ | $1 \text { (0.39 }$ <br> to 2.6) | $\begin{aligned} & 0.85 \\ & (0.35 \\ & \text { to } 2.1) \end{aligned}$ | $0.48$ (0.22 to <br> 1) |
| Identifying effects of treatments depends on | $\begin{aligned} & 143 / \\ & 210 \end{aligned}$ | $\begin{aligned} & \text { (68\% } \\ & \text { ) } \end{aligned}$ | $\begin{aligned} & 0.73 \\ & (0.23 \\ & \text { to } 2.3) \end{aligned}$ | $\begin{aligned} & 0.74 \\ & (0.32 \\ & \text { to } \\ & 1.7) \end{aligned}$ | $5.4(1.9$ <br> to 15) | $\begin{aligned} & 1.7(0.54 \\ & \text { to } 5.2) \end{aligned}$ | $\begin{aligned} & 0.8 \\ & (0.24 \\ & \text { to } 2.6) \end{aligned}$ | $3.2 \text { (1 }$ <br> to 10) | 0.58 <br> (0.18 to <br> 1.9) |


| making comparisons |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Comparison groups should be as similar as possible | $\begin{aligned} & 149 / \\ & 771 \end{aligned}$ | $\begin{aligned} & \text { (19\% } \\ & \text { ) } \end{aligned}$ | $\begin{aligned} & 0.045 \\ & (0.0094 \end{aligned}$ <br> to $0.21)$ | 1.2 (0.72 to 1.9) | $\begin{aligned} & 1.8(1.1 \\ & \text { to } 2.9) \end{aligned}$ | $\begin{aligned} & 1.1(0.68 \\ & \text { to } 1.8) \end{aligned}$ | $\begin{aligned} & \hline 3.7 \\ & (0.85 \\ & \text { to } 16) \end{aligned}$ | 4.1 (1 <br> to 17) | 0.95 <br> (0.56 to <br> 1.6) |
| Increasing the amount of a treatment does not necessarily increase its benefits and may cause harm | $\begin{aligned} & 191 / \\ & 211 \end{aligned}$ | $\begin{aligned} & \text { (91\% } \\ & \text { ) } \end{aligned}$ | $\begin{aligned} & 11(1.2 \\ & \text { to } 110) \end{aligned}$ | 1.6 <br> (0.47 <br> to <br> 5.5) | $\begin{aligned} & 1.1 \\ & (0.36 \\ & \text { to } 3.1) \end{aligned}$ | $\begin{aligned} & 2.3(0.68 \\ & \text { to } 7.5) \end{aligned}$ | $\begin{aligned} & 1.1 \\ & (0.11 \\ & \text { to } 11) \end{aligned}$ | $\begin{aligned} & 0.45 \\ & (0.065 \\ & \text { to } 3.2 \text { ) } \end{aligned}$ | $\begin{aligned} & 0.9 \\ & \text { (0.27 to } \end{aligned}$ <br> 3) |
| Beliefs alone about how treatments work are not reliable predictors of the presence or size of effects | $\begin{aligned} & \hline 39 / \\ & 211 \end{aligned}$ | $\begin{aligned} & \text { (18\% } \\ & \text { ) } \end{aligned}$ | $\begin{aligned} & 0.043 \\ & (0.0065 \end{aligned}$ <br> to $0.28)$ | 1.7 <br> (0.64 <br> to <br> 4.3) | $\begin{aligned} & 1.5 \\ & (0.57 \\ & \text { to } 3.7) \end{aligned}$ | $\begin{aligned} & 1.7(0.65 \\ & \text { to } 4.2) \end{aligned}$ | $\begin{aligned} & 4.4 \\ & (0.52 \\ & \text { to } 38) \end{aligned}$ | $\begin{aligned} & 2.9 \\ & \text { (0.4 to } \end{aligned}$ 22) | 1.1 <br> (0.38 to <br> 3.4) |
| Large, dramatic effects are rare | $\begin{aligned} & 63 / \\ & 211 \end{aligned}$ | $\begin{aligned} & \text { (30\% } \\ & \text { ) } \end{aligned}$ | $\begin{aligned} & 0.42 \\ & (0.14 \\ & \text { to } 1.3) \end{aligned}$ | 0.8 (0.36 to 1.8) | $\begin{aligned} & 1.3 \\ & (0.46 \\ & \text { to } 3.5) \end{aligned}$ | $\begin{aligned} & 3 \text { (1.3 to } \\ & 6.9) \end{aligned}$ | $\begin{aligned} & 0.64 \\ & \text { (0.2 to } \\ & 2.1 \text { ) } \end{aligned}$ | $\begin{aligned} & 0.99 \\ & \text { (0.3 to } \\ & 3.3 \text { ) } \end{aligned}$ | 0.47 <br> (0.17 to <br> 1.3) |
| The people being compared | $\begin{aligned} & 186 / \\ & 211 \end{aligned}$ | $\begin{aligned} & \text { (88\% } \\ & \text { ) } \end{aligned}$ | $\begin{aligned} & 5.9(1.8 \\ & \text { to } 19) \end{aligned}$ | $\begin{aligned} & 0.93 \\ & (0.32 \end{aligned}$ | $\begin{aligned} & 3.2 \\ & (0.85 \\ & \text { to 12) } \end{aligned}$ | $\begin{aligned} & 1.1(0.43 \\ & \text { to } 2.8) \end{aligned}$ | $\begin{aligned} & 1.5 \\ & (0.26 \\ & \text { to 8) } \end{aligned}$ | 1.2 (0.23 <br> to 6.3) | $\begin{aligned} & 0.31 \\ & (0.086 \\ & \text { to 1.1) } \end{aligned}$ |


| should be <br> cared for <br> similarly <br> apart from <br> the |  |  |  |  |  |  | to |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |


| Fair <br> comparisons <br> of <br> treatments <br> in animals or <br> highly <br> selected <br> groups of <br> people may <br> not be <br> relevant | $\begin{aligned} & 111 / \\ & 172 \end{aligned}$ | $\begin{aligned} & \text { (65\% } \\ & \text { ) } \end{aligned}$ | $\begin{aligned} & 3.9 \\ & (0.76 \\ & \text { to } 20) \end{aligned}$ | $\begin{aligned} & 2.5 \\ & (0.94 \\ & \text { to } \\ & 6.4) \end{aligned}$ | $\begin{aligned} & 0.77 \\ & \text { (0.3 to } \end{aligned}$ <br> 2) | 0.37 <br> (0.12 to <br> 1.1) | $\begin{aligned} & 0.31 \\ & (0.05 \\ & \text { to 2) } \end{aligned}$ | $\begin{aligned} & 0.86 \\ & (0.13 \\ & \text { to } 5.6) \end{aligned}$ | $\begin{aligned} & 0.33 \\ & (0.14 \text { to } \\ & 0.79) \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| The treatments compared should be similar to those of interest | $\begin{aligned} & 107 / \\ & 172 \end{aligned}$ | $\begin{aligned} & \text { (62\% } \\ & \text { ) } \end{aligned}$ | $\begin{aligned} & 1.4 \\ & (0.27 \\ & \text { to } 7.4) \end{aligned}$ | $\begin{aligned} & 0.78 \\ & (0.28 \\ & \text { to } \\ & 2.2) \end{aligned}$ | $\begin{aligned} & 0.88 \\ & (0.38 \\ & \text { to } 2.1) \end{aligned}$ | $\begin{aligned} & 0.63 \\ & (0.22 \text { to } \\ & 1.8) \end{aligned}$ | $\begin{aligned} & 0.95 \\ & (0.15 \\ & \text { to } 5.8) \end{aligned}$ | $\begin{aligned} & 2(0.3 \\ & \text { to } 13) \end{aligned}$ | $\begin{aligned} & 0.66 \\ & (0.28 \text { to } \end{aligned}$ <br> 1.6) |
| Consider how certain you can be about each advantage and disadvantag e | $\begin{aligned} & 49 / \\ & 172 \end{aligned}$ | $\begin{aligned} & \text { (28\% } \\ & \text { ) } \end{aligned}$ | $\begin{aligned} & 0.21 \\ & \text { (0.036 } \\ & \text { to } 1.2 \text { ) } \end{aligned}$ | 1.6 (0.52 to 4.9) | $\begin{aligned} & 0.94 \\ & (0.42 \\ & \text { to } 2.1) \end{aligned}$ | 0.74 <br> (0.27 to <br> 2.1) | $\begin{aligned} & 0.41 \\ & (0.039 \\ & \text { to } 4.5) \end{aligned}$ | $\begin{aligned} & 2.6 \\ & (0.34 \\ & \text { to } 20) \end{aligned}$ | $\begin{aligned} & 0.62 \\ & \text { (0.2 to } \\ & 1.9 \text { ) } \end{aligned}$ |
| Deeming results to be "statistically significant" or "nonsignifica | $\begin{aligned} & \hline 49 / \\ & 178 \end{aligned}$ | $\begin{aligned} & \text { (28\% } \\ & \text { ) } \end{aligned}$ | $\begin{aligned} & 0.57 \\ & (0.14 \\ & \text { to } 2.3) \end{aligned}$ | 3.2 <br> (1.2 <br> to <br> 8.4) | $\begin{aligned} & 0.51 \\ & (0.21 \\ & \text { to 1.3) } \end{aligned}$ | $\begin{aligned} & 1.1(0.43 \\ & \text { to } 3.1) \end{aligned}$ | 0.3 (0.07 <br> to 1.3) | $\begin{aligned} & 0.38 \\ & (0.11 \\ & \text { to } 1.3) \end{aligned}$ | 1.9 <br> (0.52 to <br> 7.1) |


| nt" can be misleading |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| The use of $p$ values may be misleading; confidence intervals are more informative | $\begin{aligned} & 33 / \\ & 178 \end{aligned}$ | $\begin{aligned} & \text { (19\% } \\ & \text { ) } \end{aligned}$ | $\begin{aligned} & 0.25 \\ & (0.036 \\ & \text { to } 1.7) \end{aligned}$ | 1.1 (0.36 to 3.6) | 1 (0.4 <br> to 2.7) | $0.52$ <br> (0.17 to 1.6) | $\begin{aligned} & 0.53 \\ & (0.085 \\ & \text { to } 3.3) \end{aligned}$ | $\begin{aligned} & 1.3 \\ & (0.29 \\ & \text { to } 6) \end{aligned}$ | 1.4 <br> (0.39 to <br> 4.9) |
| Relative effects of treatments alone can be misleading | $\begin{aligned} & 52 / \\ & 178 \end{aligned}$ | $\begin{aligned} & \text { (29\% } \\ & \text { ) } \end{aligned}$ | $\begin{aligned} & 0.95 \\ & (0.25 \\ & \text { to } 3.6) \end{aligned}$ | 1.1 (0.42 to <br> 2.7) | $\begin{aligned} & 0.73 \\ & (0.27 \\ & \text { to } 1.9) \end{aligned}$ | $\begin{aligned} & 0.35 \\ & (0.13 \text { to } \\ & 0.95) \end{aligned}$ | $\begin{aligned} & 0.72 \\ & (0.17 \\ & \text { to } 2.9) \end{aligned}$ | $\begin{aligned} & 0.35 \\ & (0.096 \\ & \text { to } 1.3) \end{aligned}$ | 3.1 <br> (0.86 to <br> 11) |
| Average <br> differences <br> between <br> treatments <br> can be <br> misleading | $\begin{aligned} & \hline 50 / \\ & 178 \end{aligned}$ | $\begin{aligned} & \text { (28\% } \\ & 1 \end{aligned}$ | $\begin{aligned} & 0.76 \\ & (0.19 \\ & \text { to 3.1) } \end{aligned}$ | $\begin{aligned} & 0.7 \\ & \text { (0.28 } \\ & \text { to } \\ & 1.7) \end{aligned}$ | $\begin{aligned} & \hline 0.87 \\ & (0.33 \\ & \text { to } 2.2) \end{aligned}$ | 0.97 <br> (0.33 to <br> 2.8) | $\begin{aligned} & \hline 0.75 \\ & (0.17 \\ & \text { to } 3.3) \end{aligned}$ | $\begin{aligned} & 0.73 \\ & \text { (0.2 to } \\ & 2.7 \text { ) } \end{aligned}$ | $\begin{aligned} & 0.25 \\ & (0.063 \\ & \text { to } 1) \end{aligned}$ |
| Results for a selected group of people within a study can be misleading | $\begin{aligned} & 17 / \\ & 178 \end{aligned}$ | $\begin{aligned} & \text { (9.6 } \\ & \%) \end{aligned}$ | 2.3e-09 <br> (8.2e- <br> 10 to <br> 6.2e- <br> 09) | $\begin{aligned} & 1.4 \\ & \text { (0.39 } \\ & \text { to } \\ & 5.2 \text { ) } \end{aligned}$ | 1.1 (0.28 <br> to 3.9) | $2(0.54$ to 7.3) | $\begin{aligned} & 1.1 e+0 \\ & 7 \\ & (27000 \\ & 00 \text { to } \\ & 4.3 e+0 \\ & 7) \end{aligned}$ | $3.7 e+0$ 7 (1.6e+ 07 to $8.5 e+0$ 7) | 2.2 <br> (0.34 to <br> 14) |
| Earlier detection of 'disease' is not | $\begin{aligned} & 75 / \\ & 178 \end{aligned}$ | $\begin{aligned} & \text { (42\% } \\ & \text { ) } \end{aligned}$ | $\begin{aligned} & 0.69 \\ & \text { (0.2 to } \\ & 2.4 \text { ) } \end{aligned}$ | $\begin{aligned} & 0.64 \\ & (0.27 \\ & \text { to } \\ & 1.5) \end{aligned}$ | $1.3$ (0.52 <br> to 3.3) | $\begin{aligned} & 2(0.89 \\ & \text { to } 4.4) \end{aligned}$ | $\begin{aligned} & 0.72 \\ & (0.19 \\ & \text { to } 2.8) \end{aligned}$ | $\begin{aligned} & 1.1 \\ & (0.29 \\ & \text { to } 4.3) \end{aligned}$ | $\begin{aligned} & 0.68 \\ & \text { (0.22 to } \end{aligned}$ <br> 2.1) |


| necessarily <br> better |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| People's outcomes should be counted in the group to which they were allocated | $\begin{aligned} & 14 / \\ & 178 \end{aligned}$ | $\begin{aligned} & \text { (7.9 } \\ & \%) \end{aligned}$ | $\begin{aligned} & 0.1 \\ & (0.029 \\ & \text { to } \\ & 0.37) \end{aligned}$ | $\begin{aligned} & 1.4 \\ & (0.29 \\ & \text { to } \\ & 7.2) \end{aligned}$ | $\begin{aligned} & 0.6 \\ & (0.16 \\ & \text { to } 2.3 \text { ) } \end{aligned}$ | $\begin{aligned} & 3.8 \text { (1 to } \\ & 14) \end{aligned}$ | $\begin{aligned} & 0.44 \\ & (0.071 \\ & \text { to } 2.7 \text { ) } \end{aligned}$ | $\begin{aligned} & 0.37 \\ & (0.071 \\ & \text { to 2) } \end{aligned}$ | $\begin{aligned} & 1.3 \\ & (0.17 \text { to } \\ & 9.5) \end{aligned}$ |
| Attention should focus on all important effects of treatments, and not surrogate outcomes | $\begin{aligned} & 141 / \\ & 178 \end{aligned}$ | $\begin{aligned} & \text { (79\% } \\ & \text { ) } \end{aligned}$ | $\begin{aligned} & 2.4 \\ & (0.72 \\ & \text { to } 8.3 \text { ) } \end{aligned}$ | 1 <br> (0.4 <br> to <br> 2.5) | $\begin{aligned} & 0.88 \\ & (0.32 \\ & \text { to } 2.5 \text { ) } \end{aligned}$ | $\begin{aligned} & 0.73 \\ & (0.24 \text { to } \\ & 2.2) \end{aligned}$ | $1.2(0.3$ to 5) | $\begin{aligned} & 1.8 \\ & (0.48 \\ & \text { to } 6.8) \end{aligned}$ | $2.1$ <br> (0.49 to <br> 9.2) |

Figure 4. Associations between demographic covariates and Norwegians' understanding of the key concepts


Table 4. Associations between demographic covariates and Norwegians' attitudes and intended behaviours

|  | Sampl e |  | Interce pt | Mal <br> e | Researc <br> h <br> training | Research participa nt | ISCED <br> Levels <br> 3-4 | ISCED <br> Levels <br> 5-8 | Medical educati on |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Willing to take part in research? | $\begin{aligned} & \hline 541 / \\ & 771 \end{aligned}$ | (70 <br> \%) | $\begin{aligned} & 1.6 \\ & (0.83 \text { to } \end{aligned}$ 3.1) | 1.1 <br> (0.7 <br> 2 to <br> 1.7) | $\begin{aligned} & 1.1 \\ & (0.71 \text { to } \\ & 1.8) \end{aligned}$ | 1.4 (0.8 <br> to 2.3) | $0.96$ (0.47 to 1.9) | $\begin{aligned} & \hline 1.3 \\ & (0.67 \\ & \text { to } 2.6) \end{aligned}$ | $\begin{aligned} & 1.1(0.64 \\ & \text { to } 1.8) \end{aligned}$ |
| Willing to challenge claims? | $\begin{aligned} & 140 / \\ & 172 \end{aligned}$ | (81 <br> \%) | 4.7 <br> (0.42 to <br> 52) | 1.9 <br> (0.6 <br> 3 to <br> 5.7) | $\begin{aligned} & 1.7 \\ & \text { (0.49 to } \\ & 5.9 \text { ) } \end{aligned}$ | $\begin{aligned} & 1 \text { (0.31 to } \\ & 3.3 \text { ) } \end{aligned}$ | $\begin{aligned} & 0.16 \\ & (0.021 \\ & \text { to } 1.2) \end{aligned}$ | $\begin{aligned} & 1(0.11 \\ & \text { to } 9.3) \end{aligned}$ | $\begin{aligned} & 1.8(0.44 \\ & \text { to } 7.5) \end{aligned}$ |
| Likely to research the basis of claims? | $\begin{aligned} & 130 / \\ & 172 \end{aligned}$ | $\begin{aligned} & \text { (76 } \\ & \%) \end{aligned}$ | $1.2(0.2$ <br> to 6.9) | 3 <br> (1.1 <br> to <br> 8.2) | $1.3$ (0.45 to <br> 4) | $\begin{aligned} & 1.5(0.42 \\ & \text { to } 5) \end{aligned}$ | $\begin{aligned} & 0.53 \\ & (0.1 \text { to } \\ & 2.8) \end{aligned}$ | $\begin{aligned} & 1.8 \\ & (0.33 \\ & \text { to } 10) \end{aligned}$ | $\begin{aligned} & 2.8(0.65 \\ & \text { to } 12) \end{aligned}$ |


| Easy to assess if claims are based on research that compares treatment s? | $\begin{aligned} & 42 / \\ & 172 \end{aligned}$ | $\begin{aligned} & (24 \\ & \%) \end{aligned}$ | 5.4e-09 <br> (3.3e- <br> 09 to <br> 8.8e- <br> 09) | $\begin{aligned} & 1.3 \\ & (0.5 \\ & 2 \text { to } \\ & 3.1) \end{aligned}$ | $\begin{aligned} & 2.1 \\ & \text { (0.83 to } \\ & 5.4 \text { ) } \end{aligned}$ | $\begin{aligned} & 1.5(0.49 \\ & \text { to } 4.8) \end{aligned}$ | $\begin{aligned} & 2.3 e+07 \\ & (89000 \\ & 00 \text { to } \\ & 6 e+07) \end{aligned}$ | $4.5 \mathrm{e}+0$ <br> 7 <br> (2e+07 <br> to $9.9 \mathrm{e}+0$ <br> 7) | $\begin{aligned} & 0.96 \\ & \text { (0.33 to } \end{aligned}$ <br> 2.8) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Easy to find research based on studies that compare treatment s? | $\begin{aligned} & 36 / \\ & 172 \end{aligned}$ | $\begin{aligned} & (21 \\ & \%) \end{aligned}$ | $\begin{aligned} & 0.15 \\ & (0.031 \\ & \text { to } 0.75) \end{aligned}$ | $\begin{aligned} & 0.9 \\ & (0.3 \\ & 6 \text { to } \\ & 2.3) \end{aligned}$ | $1.6$ (0.47 to 5.2) | 5.7 (1.9 to 17) | $\begin{aligned} & 0.59 \\ & (0.095 \\ & \text { to } 3.7) \end{aligned}$ | $\begin{aligned} & 0.7 \\ & (0.11 \\ & \text { to } 4.7) \end{aligned}$ | $\begin{aligned} & 1(0.24 \\ & \text { to } 4.1) \end{aligned}$ |
| Easy to assess the credibility of results of studies that compare treatment s? | $\begin{aligned} & 32 / \\ & 172 \end{aligned}$ | $\begin{aligned} & \text { (19 } \\ & \text { \%) } \end{aligned}$ | $\begin{aligned} & 0.18 \\ & (0.032 \\ & \text { to } 0.97) \end{aligned}$ | 3.8 <br> (1 <br> to <br> 14) | $\begin{aligned} & 4.4(1.4 \\ & \text { to } 14) \end{aligned}$ | $\begin{aligned} & 1.2(0.25 \\ & \text { to } 5.7) \end{aligned}$ | $\begin{aligned} & 0.057 \\ & (0.0049 \\ & \text { to } 0.68) \end{aligned}$ | $\begin{aligned} & 0.32 \\ & (0.041 \\ & \text { to } 2.5) \end{aligned}$ | $\begin{aligned} & 0.94 \\ & \text { (0.19 to } \end{aligned}$ <br> 4.7) |
| Easy to assess the relevance of study results? | $\begin{aligned} & 35 / \\ & 172 \end{aligned}$ | $\begin{aligned} & (20 \\ & \%) \end{aligned}$ | $\begin{aligned} & 0.26 \\ & (0.044 \\ & \text { to } 1.6) \end{aligned}$ | $\begin{array}{\|l\|} \hline 1.8 \\ (0.5 \\ 8 \text { to } \\ 5.9) \end{array}$ | $\begin{aligned} & 1.7 \\ & \text { (0.58 to } \\ & 4.8 \text { ) } \end{aligned}$ | $\begin{aligned} & 1.4(0.48 \\ & \text { to } 4.2) \end{aligned}$ | $\begin{aligned} & 0.36 \\ & (0.032 \\ & \text { to } 4) \end{aligned}$ | $\begin{aligned} & \hline 0.44 \\ & (0.048 \\ & \text { to } 4) \end{aligned}$ | $\begin{aligned} & 2.4(0.71 \\ & \text { to } 8.1) \end{aligned}$ |

Figure 5. Associations between demographic covariates and Norwegians' attitudes and intended behaviours


