

1 **Public opinion on global rollout of COVID-19 vaccines**

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30 To the editor - High-income countries' (HIC) COVID-19 vaccination programs have
31 benefited from their ability to secure contracts for preferential supply for several
32 vaccines.¹ For the rest of the world, vaccine access is much less certain. While G20
33 leaders have pledged to ensure fair distribution of COVID-19 vaccines worldwide,
34 substantial challenges remain. The COVAX Facility aims to ensure all countries will
35 have equal access and competes with high-income countries to acquire doses, but
36 some low-income countries (LIC) may need to wait until at least next year before
37 even the most vulnerable 20% of their populations are vaccinated.²

38 There are increasing calls for HIC to donate a proportion of their vaccine doses. In
39 the H1N1 pandemic there was a co-ordinated effort among HIC to make a vaccine to
40 protect the world's poorest, including a pledge by President Obama to donate 10% of
41 the United States' vaccine supply; this was supported by the general public.³

42 A key factor that could shape the willingness of governments to make COVID-19
43 vaccines available to LICs is their public's willingness to support donations. We
44 provide evidence on this issue with an international internet-based survey⁴ that was
45 conducted between 24 Nov and 28 Dec 2020. The overall study involved 15,536
46 individuals from 13 countries who completed an anonymous survey using Qualtrics
47 web-based software. Quota sampling (and in five countries additional weighting) was
48 used to obtain a sample that reflected the distribution of age, education, gender and
49 region in each country.

50 We obtained information from 8,209 adult individuals from a subset of seven high-
51 income countries (Australia, Canada, France, Italy, Spain, UK, US). The survey used
52 a Visual Analogue Scale to measure agreement (from 0: 'very much disagree' to
53 100: 'very much agree') with three prioritization principles for the global allocation of
54 COVID-19 treatments and vaccines. We asked if these should be first provided for:
55 (i) "those who need them most"; (ii) "those who cannot afford to buy them"; (iii) "those
56 who live in the country in which they are first developed". Secondly, we adapted a
57 question previously used in the context of H1N1³ and asked whether respondents
58 supported donating some COVID-19 vaccine doses for distribution to poor countries
59 with insufficient resources to buy their own vaccines. Those willing to donate
60 indicated whether they favoured an amount greater than, equal to, or less than 10%
61 of their country's doses. Proportions and means, including 95% CIs, are reported,

62 and the data used to estimate these statistics are available from the authors upon
63 request.

64 Regarding the global allocation criteria for vaccines, the highest average level of
65 agreement is based on need (with average agreement ranging from 70 (95% CI 68-
66 71) to 80 (95% CI 78-81); then affordability (62 (95% CI 60-64) to 70 (95% CI 68-
67 71)); and finally whether the country developed the vaccine (28 (95% CI 26-29) to 58
68 (95% CI 56-60)). This ranking is consistent across all countries. Table 1 shows the
69 opinions regarding donation of purchased vaccines. The proportions supporting
70 donation were more than double the proportions who did not support donating.

71 While current supplies are limited, many HIC have pre-purchased supplies
72 exceeding their population size. For example, the US has reserved more than 1.2
73 billion doses⁵ and Canada has premarket commitments covering more than nine
74 doses per person.¹ Redistributing some of these supplies would have global
75 benefits. It would reduce the risk of the emergence and spread of new variants and,
76 according to predictions, benefit the economy, both globally and in donor countries.⁶
77 In contrast, the economic cost of vaccine nationalism (where a few countries push to
78 gain preferential access) is potentially high, with a recent report suggesting it could
79 cost up to \$1.2 trillion per year to the world's economy.⁷

80 While we did not investigate opinions regarding the timing of donations, national
81 vaccination strategies should be taking into account these broader benefits. Notably,
82 countries such as Norway⁸ have already pledged to distribute vaccines at the same
83 time as vaccinating their own populations. Such policies are likely to maximize global
84 health benefits. A recent modelling study suggests that allocating doses
85 internationally in proportion to countries' population sizes would be a close to optimal
86 strategy in terms of averting deaths.⁹

87 Like prevalence studies, these opinions represent a single point in time but,
88 importantly, our survey was conducted at a time when the distribution of COVID-19
89 vaccines was no longer a hypothetical question. More broadly, understanding and
90 potentially influencing public opinion will be important components of any strategies
91 to combat COVID-19 and prevent future pandemics.¹⁰ This global problem requires
92 global solutions and our survey indicates that redistribution of some pre-purchased
93 vaccine to countries most in need has public support.

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Authors contributions:

Philip M Clarke, Raymond Duch: Overall design of the CANDOUR study;
 Laurence SJ Roope, Mara Violato, Peter Loewen: Design of the questionnaire;
 Jean-Francois Bonnefon, Alessia Melegaro, Jorge Friedman: Interpretation of the results;
 Adrian Barnett: Statistical analysis;
 All authors contributed to the manuscript and approved the final version.

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Table 1 - Preferences of public regarding donation of vaccines governments has purchased by country

Country % (95 CI)	Willing to donate				Not willing to donate	Don't Know	Prefer not to say
	< 10%	10%	> 10%	Any level*			
Australia	10 (8 12)	21 (18 23)	20 (18 22)	51 (48 54)	20 (17 22)	27 (24 29)	3 (2 4)
Canada	15 (13 17)	26 (23 28)	15 (13 18)	56 (53 59)	20 (18 23)	22 (19 24)	2 (1 3)
France	11 (9 13)	16 (14 19)	21 (18 23)	48 (45 51)	20 (17 22)	28 (25 31)	4 (3 5)
Italy	13 (11 15)	19 (16 21)	22 (19 25)	54 (50 57)	15 (13 18)	28 (25 31)	3 (2 4)
Spain	11 (9 13)	25 (23 28)	18 (16 21)	55 (52 58)	15 (13 17)	23 (21 26)	7 (5 8)
United Kingdom	14 (12 16)	21 (19 24)	16 (13 18)	51 (48 54)	26 (23 29)	22 (19 24)	1 (1 2)
United States	10 (8 12)	19 (16 22)	22 (20 25)	52 (48 55)	17 (15 20)	25 (22 28)	6 (4 8)

Notes: *Any level combines responses from <10%, 10% and >10% categories; Based on data from CANDOUR study, for details see <https://oxford-candour.com/>; Sample sizes: Australia (1364); Canada (1150); France (1145); Italy (1081); Spain (1153); UK (1165); US (1150).

