

Journal club

1400/2/8

Dr. Zendedel

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International estimates of intended uptake and refusal
of COVID-19 vaccines: A rapid systematic review and
meta-analysis of large nationally representative
samples

vaccine

April 8, 2021

Introduction

- The coronavirus has been spreading worldwide since early 2020
- Vaccination is one way to control pandemic
- The effect of vaccination shows when $\frac{3}{4}$ population vaccinated
- The intention to vaccination change by the time

Introduction(cont.)

- The proportion of the population willing to be vaccinated against COVID-19
- Vaccination intentions have declined as the pandemic has progressed
- Socio-demographic inequalities in intended vaccine uptake

Method

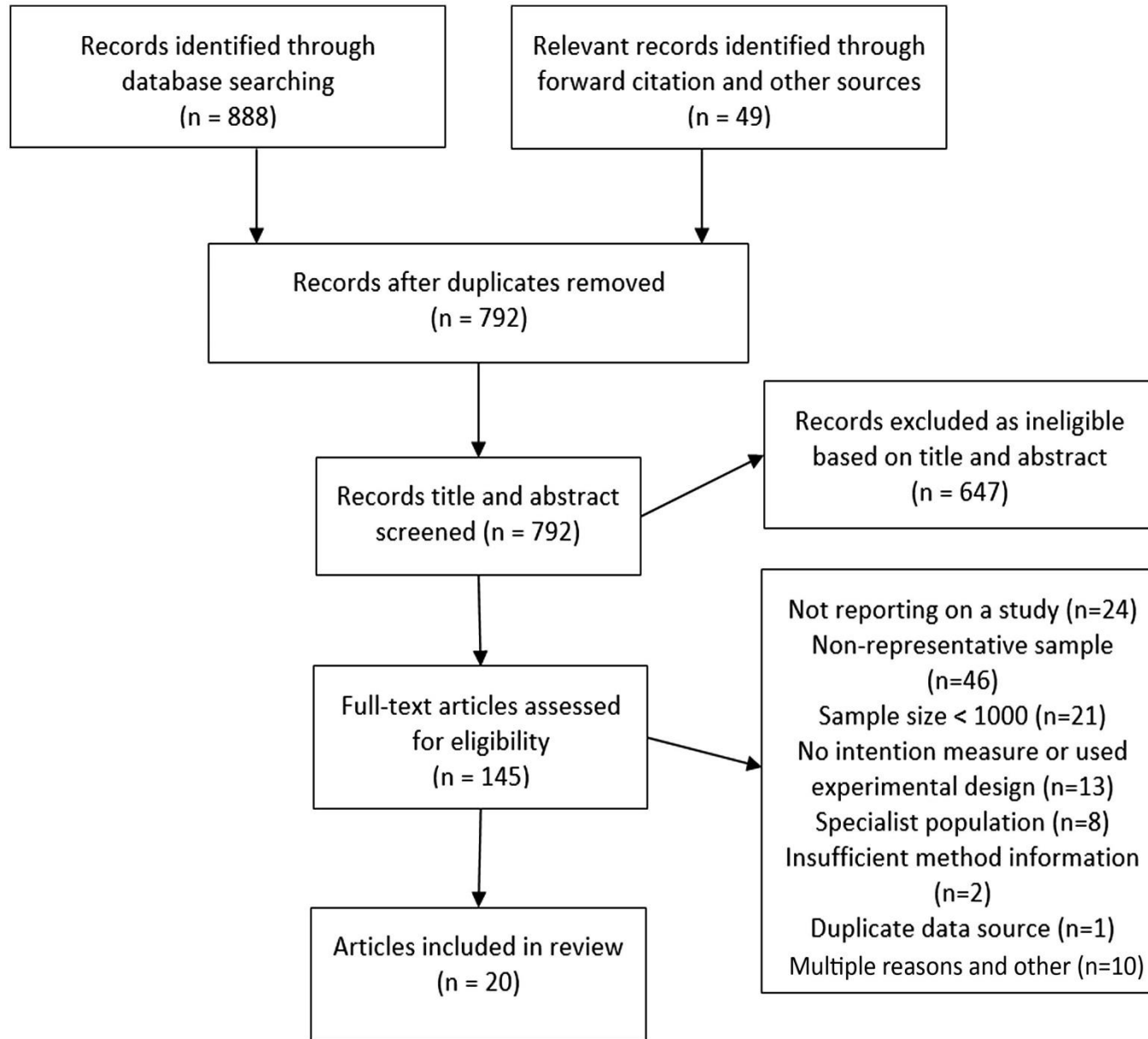
- Use rapid review method
- Eligible criteria
 - Published & preprint articles
 - National representative sampling
 - Report intention to vaccination
 - No news article based on opinion polls

Method (cont.)

- PubMed, Scopus databases
- open science framework, MedrXiv & SSRN preprint servers
- Minimize the bias by
 - Select studies that sample size > 1000
 - For analysis demographic predictor use studies have greater than 2500 participant

Method (cont.)

- Extract
 - bibliographic information, country, sampling procedure , sample size, month of survey, vaccination intentions
 - Result base on yes Vs. no or yes Vs. no Vs. unsure
 - results from the most recent wave
 - demographic predictors of vaccination intentions



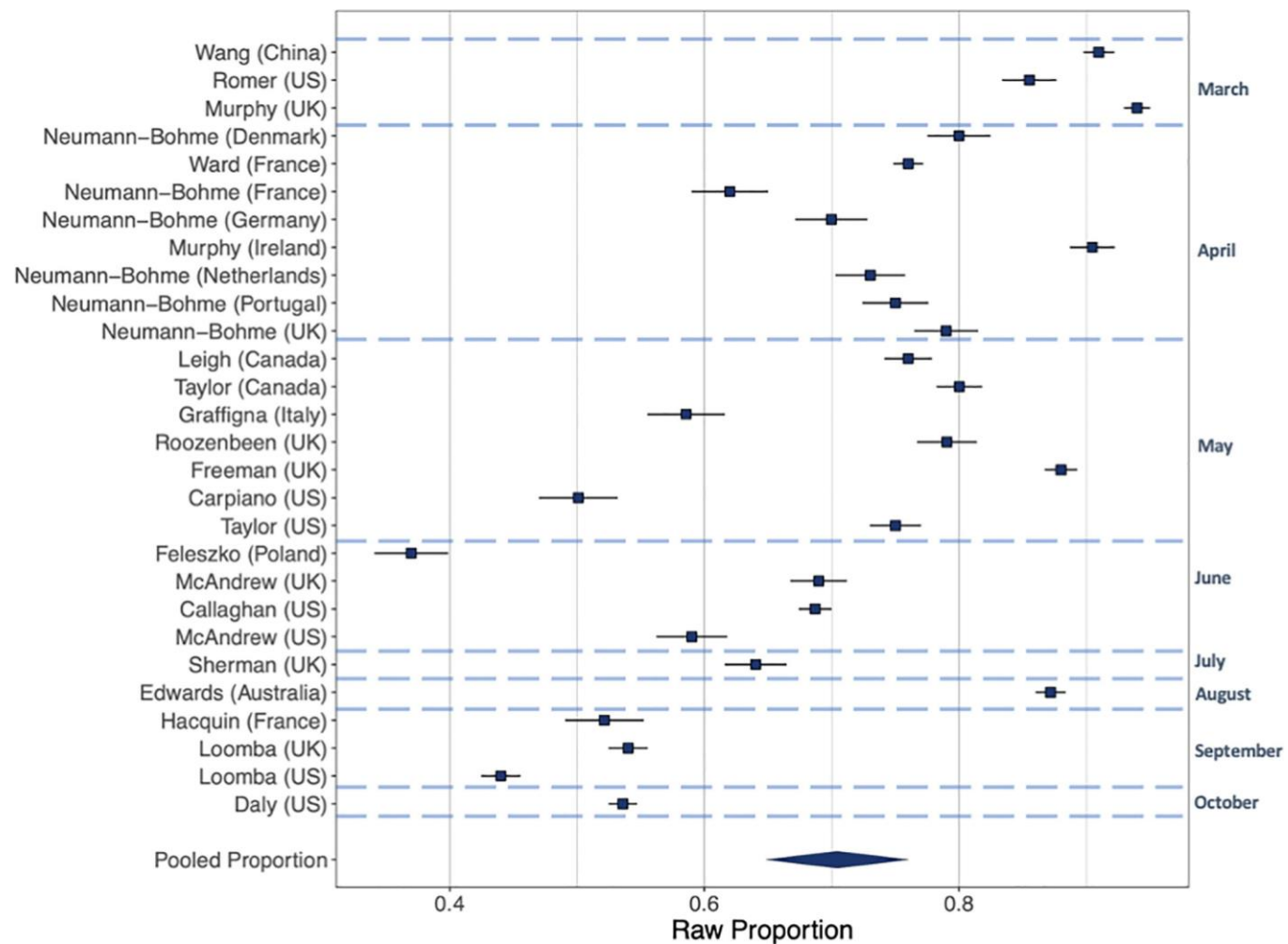
Result

- the 28 samples included, the majority were from the UK and North America
- Sample sizes ranged from 1000 to 7547 (median = 1198)
- 12 articles were in peer-reviewed journals and 16 were pre-prints
- 18 studies are in early (may-march) phase and 10 studies in late (June-October)

Result(cont.)

Based on pooled analysis

- Intention to vaccinate (0.729)
- Refuse vaccine (0.143)
- Unsure (0.221)



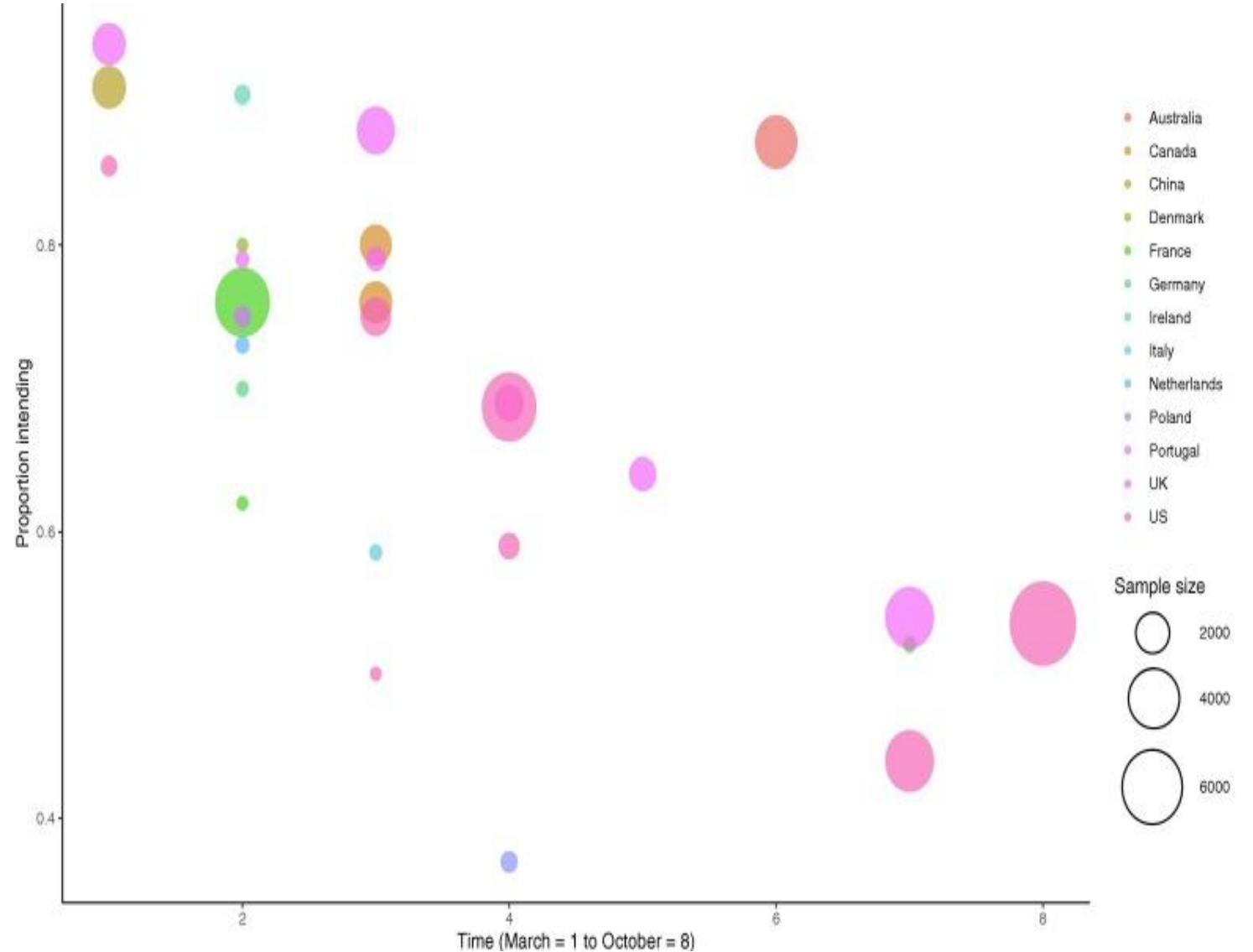
intentions to vaccinate across the 28 samples

Result(cont.)

- ‘unsure’ response option in survey had significant different in intention to vaccination($X^2(1) = 16.82, p < .001$)
 - no unsure response option the proportion was 0.828
 - unsure was a response option the proportion was 0.635
- Unsure response don't effect on refuse response
- Proportion of unsure response don't change by the time

Results(cont.)

Over time intentions to vaccinate decreased (-0.25), and intentions not to vaccinate increased (0.16)



Result(cont.)

- samples varied by country
- to confirm time trend findings
- replicated the meta-regressions for the two countries with multiple samples collected during different months
- UK samples (n = 7, coefficient = -0.39 [95% CI: -0.57 to -0.22])
- US samples (n = 7, coefficient = -0.22 [95% CI: -0.38 to -0.05])

Result(cont.)

- Demographic predictors
 - 12/14 older age
 - 9/14 male gender
 - 7/14 high education level
 - 8/9 higher income level
 - 7/11 white ethnic group
 - 1/5 bad health condition
- When analyses were limited to the five higher quality studies (large sample size, no inclusion of attitudinal predictors) the role of demographic factors was more consistent

Discussion

- Decline intention to vaccination across the countries when pandemic progress
- Lin et al study that contribute other studies
 - has same result
 - But has different in demographic predictors

Discussion(cont.)

- socio-demographic patterning of vaccination intentions; being female, younger, of lower income or education level and belonging to an ethnic minority group
- Pregnancy can explain female intention that see in influenza vaccination
- The chronic disease not effect on intention to vaccination

Discussion(cont.)

- The intention to vaccination different across the countries but by the time estimate become closer in the countries
 - China 91% Vs. France 76 % in early
 - France 52% Vs. US 54%
- Misinformation about COVID-19
- Safety about vaccines

Strengths

- Study selection
 - Nationally representative
 - Sample size
- Chosen from preprint articles
- Attention to result that report
- Similarity across the countries

limitations

- Rapid method
- Late studies
- Unsure response option & time trend
- Don't attention to special groups
- Major studies from west countries

conclusion

Intentions to vaccinate when a COVID-19 vaccine becomes available have been declining across countries and there is an urgent need to address social inequalities in vaccine hesitancy and promote widespread uptake of vaccines as they become available

External link

- Elsevier
- <https://www.sciencedirect.com/science/article/pii/S0264410X21001407?via%3Dihub>
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