iCARE Global Study: Preliminary results and policy implications

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On behalf of the iCARE Study Team*

*www.mbmcm-cmcm.ca/covid19/
Disclosures

- **Grants**: GSK, AbbVie
- **Conferences and presentations**: AbbVie, Boehringer Ingelheim, Takeda, Pfizer, Merck, GSK, Astra-Zeneca, Novartis, Janssen, Bayer, Mundi Pharma, Bayer, Air Liquide, Astellas
- **Consultation**: AbbVie, Takeda, Astellas, Boehringer Ingelheim, Astra-Zeneca, Janssen
Background

• In the absence of a vaccine, treatment or cure, the key to slowing the spread of COVID-19 is adherence to public health policies.
• However, adherence to many policies comes with significant personal, social and economic costs that may undermine adherence.
• Understanding the psychosocial determinants of adherence may help inform policy and communication strategies around the world.
Insights from behavioral science

The birth of iCARE

• On March 11, 2020, less than 2 weeks after returning from spring break in New York, the pandemic had hit Montreal and our lockdown began.

• By March 18th, it became apparent that public adherence to rapidly emerging and evolving policies was key to ‘flattening the curve’ - and we just wanted to help.

• We said:
  • Let’s put an international team together and create a behavioral-science-informed survey to answer the following research questions:
Questions and objective:

• **Questions:**
  • What are the sociodemographic, psychological, behavioral, physical/mental health, and economic *determinants of COVID-19-related policy adherence*
  • Which *policies, launched where, when, and for whom*, are most (and least) associated with adherence and most (and least) effective at reducing infection rates and mortality

• **Objective:**
  • To provide *data-driven recommendations to local and international governments* on how to optimize policy and communication strategies to improve policy adherence and health, economic, and quality of life outcomes associated with COVID-19
Methods: design

• We designed an international, multi-wave, cross-sectional, observational cohort study
• Includes a global convenience sample (snowball sampling) and representative sampling in target countries
  • All continents (except Antarctica)
  • All phases of the pandemic curve
  • LMIC and HIC
  • A local investigator willing to take the lead on representative sampling
Methods: design

<table>
<thead>
<tr>
<th>Country</th>
<th>Continent</th>
<th>Income*</th>
<th>Curve</th>
<th>Country lead</th>
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<td>Australia</td>
<td>Oceania</td>
<td>HIC</td>
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<td>H. Teede, Monash U</td>
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</tbody>
</table>
Methods: survey

• We launched the first wave of the survey on March 27, 2020
  • Informed by the COM-B and Health Beliefs Models
• Modules:
  • Socio-demographics (aligned with other international studies)
  • Health status and health behaviors
  • Awareness of local public health policies and perceptions of government responses
  • Adherence to public health policy measures and behavioral intentions
  • COVID-19-related concerns
  • COVID-19-related impacts (health, mental health, social, work, economic) – wave 2
• External data:
  • Country-level policies (Oxford Policy Tracker)
  • Cases, deaths and recoveries (Johns Hopkins)
  • Google mobility data
Survey Q’s mapped onto COM-B

- **Physical capability**: Q3, Q19 – 1-8, Q20, Q23, Q26
- **Psychological capability**: Q4, Q10 – 4-12, Q19 – 9-11, Q21
- **Reflective motivation**: Q5, Q6, Q7, Q9, Q10 – 1,2,3, Q11, Q12, Q17, Q25, Q51
- **Automatic motivation**: Q16 – 1-5, 7-10, Q27-30, Q33
- **Physical opportunity**: Q22, Q36, Q37-39, Q40-43, Q45, Q46, Q48, Q16 – 6, 11-14, 17
- **Social opportunity**: Q1, Q2, Q13, 14, 15; Q18, Q24, Q31, Q32, Q34, Q35, Q44, Q47, Q49-50, Q16 – 15, 16, 18-21

**CAPABILITY**
Improves ability to change

**MOTIVATION**
Increases desire to change

**BEHAVIOUR**
Outcome of importance

Q8

@ibtnetwork #ibtn2020
Survey Q’s mapped onto COM-B

- **Health condition**: Physical capability
- **Awareness**: Psychological capability
- **Motivators/concerns**: Reflective motivation
- **Impact (emotions)**: Automatic motivation
- **Socio-demogs. (job sector, ins)**: Physical opportunity
- **Gov’t policies, info sources**: Social opportunity

**CAPABILITY**
Improves ability to change

**MOTIVATION**
Increases desire to change

**BEHAVIOUR**
Outcome of importance

**Behaviours**
Methods: survey schedule

Wave 1

March 27th 2020

n=28,721

9 waves of the survey

Global Survey + Monthly results summary

Representative samples in targeted countries

Canada, Australia, Brazil, Colombia, Ireland, Italy, South Africa, Sweden, UK, USA
Methods: survey schedule

Wave 1

March 27th 2020

n=28,721

n=3000

Wave 1

n=1000

n=3000

n=3000
Methods: survey schedule
Methods: survey schedule

Wave 3

9 waves of the survey

Global Survey + Monthly results summary

Representative samples in targeted countries


@ibtnetwork #ibtn2020
Progress to date

• When we launched on March 27th, we had 93 international collaborators from 26 countries
• We now have **158 international collaborators** from **38 countries**
• Survey is available in **36 languages**
## Recruitment to date

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<th>Variable</th>
<th>Wave 1</th>
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<td>Period</td>
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<tr>
<td>Global sample (n)</td>
<td>28,721</td>
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<tr>
<td>Canadian representative sample</td>
<td>3000</td>
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<tr>
<td>UK representative sample</td>
<td>3000</td>
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<tr>
<td>AU representative sample</td>
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<td>Total:</td>
<td>35,787</td>
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<tr>
<td>Grand Total:</td>
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## Recruitment by country

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<td>Period</td>
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<tr>
<td>Canada</td>
<td>7488</td>
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<tr>
<td>US</td>
<td>913</td>
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<tr>
<td>Brazil</td>
<td>740</td>
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<tr>
<td>Columbia</td>
<td>627</td>
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<tr>
<td>France</td>
<td>2487</td>
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<tr>
<td>Italy</td>
<td>1332</td>
</tr>
<tr>
<td>Taiwan</td>
<td>844</td>
</tr>
<tr>
<td>Kenya</td>
<td>680</td>
</tr>
</tbody>
</table>

Others: 13,610
Preliminary data from first wave (March 27-April 15)
- n=20,537
  - Primarily female, mean age = 41
  - Mostly employed pre-COVID
  - Mostly well educated
  - Mostly middle-upper income
  - One third have health condition
  - 12% are essential service workers
  - 10.7% who got tested were COVID+

Variable | Global Mean (%) | N=20,537
---|---|---
**Sociodemographics**
Sex (female) | 69%
Age
8-29 | 26.5%
30-69 | 68%
70+ | 5%
Current employment status
Employed | 74%
Unemployed | 18%
Student | 8%
Household income*
Bottom third | 12%
Middle third | 50%
Top third | 27%
Residential dwelling*
Rural | 1.5%
Suburban | 24%
Urban | 60%
**Key subgroups**
At-risk health condition± | 33%
Depressive disorder | 9%
Anxiety disorder | 16%
Essential service worker | 12%
**COVID-19 status**
Got tested for COVID-19 | 2.3%
Of those who got tested - results were positive for COVID-19 | 10.7%

*where % do not add up to 100%, ‘prefer not to answer’ was not coded; ± includes cardiovascular disease, chronic lung disease, cancer, autoimmune disease, hypertension, diabetes, obesity, other chronic inflammatory condition
Results plan

- Perception of government policies
- Adherence to prevention measures
- COVID-19-related concerns
- Association between strength of concerns and adherence
- Motivators of adherence
What do you think of the actions taken by your government or local health authority to prevent and/or reduce the spread of COVID-19?

Fewer younger aged groups are satisfied with the policies – those from younger age groups find them too lenient, p<.001

More people from Brazil, France and the US find policies too lenient, p<.001
Indicate the **frequency with which you have engaged in each action/behavior** in the last 7 days

With the exception of wearing a mask, most (**78%**) of respondents report adhering to major prevention measures at least most of the time.

More than **16%** of people with confirmed or suspected COVID-19 worldwide report **NOT self-isolating** at least most of the time.
Indicate the **frequency with which you have engaged in each action/behavior** in the last 7 days

Adherence is worse among *younger age groups* compared to older (few are wearing a mask), $p<.001$

Adherence is better among *higher income* groups compared to lower (few are wearing a mask), $p<.001$
Indicate the frequency with which you have engaged in each action/behavior in the last 7 days

Self-reported adherence to prevention measures (most of the time) by COUNTRY

- Over 75% of people from all countries except Taiwan and Kenya are social distancing at least most of the time (p<.001)
Indicate the **frequency with which you have engaged in each action/behavior** in the last 7 days

Self-reported adherence to prevention measures (most of the time) by COUNTRY

- Over **75% of people from all countries** except Taiwan and Kenya are **social distancing** at least most of the time ($p<.001$)

- At least **80% of people from all countries** are **hand washing** at least most of the time
Indicate the frequency with which you have engaged in each action/behavior in the last 7 days

Self-reported adherence to prevention measures (most of the time) by COUNTRY

- Over 75% of people from all countries except Taiwan and Kenya are social distancing at least most of the time (p<.001)
- At least 80% of people from all countries are hand washing at least most of the time
- Few countries are wearing masks; only those from Taiwan (88%) and Italy (60%) are doing this regularly
Please indicate the extent of your COVID-19 related concerns:

- Under 29’s were *most* concerned about *personal health*
Please indicate the extent of your COVID-19 related concerns:

- Under 29’s were most concerned about personal health.
- They were less concerned with others’ health, the economy, and getting back to normal compared to older age groups (p’s<.01)
Please indicate the extent of your COVID-19 related concerns:

France and Canada had the highest relative levels of concerns overall except for personal economic concerns.
Please indicate the extent of your COVID-19 related concerns:

Kenya, Brazil, and the US were among those with the lowest relative concerns for personal and others’ health; Kenya had the lowest concerns overall.
Association between concern (type) and adherence to COVID-19 preventive measures:

Interestingly, only economic concerns (personal and about the general economy) and ‘getting back to normal’ were significant predictors of better adherence to prevention measures.
What measures would most convince you to practice social distancing?

- Providing information about:
  1. How COVID-19 is spread
  2. How behaviour is slowing COVID-19 spread
  3. How behaviour is saving lives
What measures would least convince you to practice social distancing?

• Threats of:
  1. Quarantine
  2. Fines
  3. Arrest
Summary

• Most people (75%) are adhering to major prevention measures (hand washing, social distancing)
  • Except Taiwan and Kenya; only Taiwan (Italy) are wearing masks
  • Younger age groups (>29) are less adherent than older age groups
• But...16% of COVID+ are NOT self-isolating

• Though people were generally concerned about their personal health:
  • Only economic concerns and getting back to ‘normal’ were significantly associated with better adherence
• Reinforcing good behaviour (e.g., how behavior is saving lives) was more likely to motivate adherence than punishment
  • True worldwide
Some recommendations

• Public health messages should provide information about how adherence is helping (rather than threaten with fines or other punishments)
  • Should emphasize how behaviour now can help the economy and get us all back to ‘normal’ quicker

• Remaining issues and next steps:
  • Need to increase adherence to mask wearing (new policies)
  • Need to understand why so many COVID+ are not self-isolating:
    - capability? motivation? opportunity?
  • How are the impacts of the pandemic affecting behaviour over time?
Acknowledgments

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• iCARE co-lead:
  • Simon Bacon, PhD
• MBMC/iCARE Staff
  • Guillaume Lacoste, BA
  • Geneviève Szczepanik, PhD
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Thank you