

PHIRI

Population Health Information
Research Infrastructure



Health Agencies' Infodemics Challenges: Engagement Pre/During Pandemic

A Case Study on Facebook Pages

of 4 International Agencies:

WHO-Global, WHO-Europe, UNICEF, ECDC



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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101018317

Team PT

Leonor Bacelar-Nicolau

Paulo Nogueira

Miguel de Araújo Nobre

Rodrigo Feteira Santos

Cecília Elias

Andreia Costa

Thank you to:

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Crowdtangle regarding data collection

Background

- Infodemics management aims to address the flow of inaccurate and wrong information that may spread through social media, during an epidemic, potentially causing an indirect and harmful effect on peoples' behaviour and health, making more difficult the intervention of public health agents.



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Infodemic



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Managing the COVID-19 infodemic: Promoting healthy behaviours and mitigating the harm from misinformation and disinformation

Joint statement by WHO, UN, UNICEF, UNDP, UNESCO, UNAIDS, ITU, UN Global Pulse, and IFRC

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Call for Action: Managing the Infodemic

A global movement to promote access to health information and mitigate harm from health misinformation among online and offline communities

11 December 2020 | Statement | Reading time: 3 min (713 words)

Please join us by signing the Call for Action—a global movement to promote access to health information and to mitigate harm from health misinformation among online and offline communities.

[Sign the Call for Action](#)



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Background

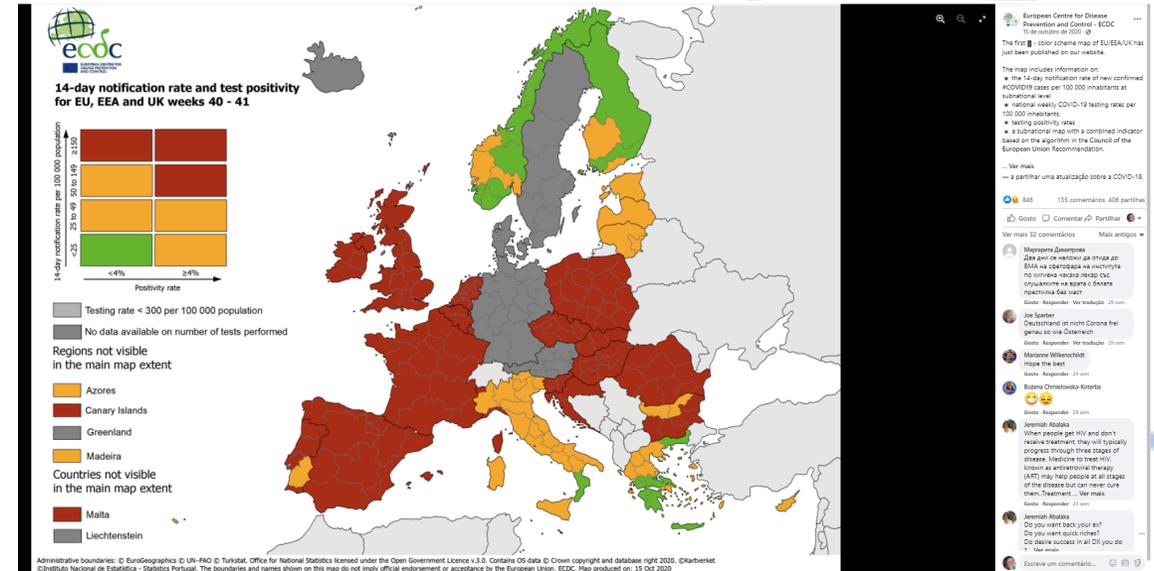
- It becomes crucial to identify and counter-attack damaging information by ensuring that evidence-based correct information reaches the public and is disseminated.



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Background

- But was COVID-19 pandemic a real trigger to transform the social media strategy of international public health agencies and to change the way the public interacts with them online?



Data and Methods

- Dataset: 10,431 Facebook posts, retrieved through CrowdTangle tools
- Period: Publication between April 29, 2018 and April 29, 2021

Column 1	Page Name	User Name	Facebook Id	Page Category
1	European Centre for Disease Pre...	ECDC.EU	128888153806307	GOVERNMENT O...
2	WHO Regional Office for Europe	WHOEurope	171223536255246	MEDICAL & HEA...
3	World Health Organization (WHO)	WHO	154163327962392	NONPROFIT ORG...
4	UNICEF	unicef	68793499001	NONPROFIT ORG...
5	World Health Organization (WHO)	WHO	154163327962392	NONPROFIT ORG...
6	UNICEF	unicef	68793499001	NONPROFIT ORG...
7	European Centre for Disease Pre...	ECDC.EU	128888153806307	GOVERNMENT O...
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9	UNICEF	unicef	68793499001	NONPROFIT ORG...
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24	World Health Organization (WHO)	WHO	154163327962392	NONPROFIT ORG...

Data and Methods

- 4 Facebook Pages: WHO Global, WHO Europe, UNICEF, ECDC



World Health Organization (WHO) ✓

@WHO · Organização sem fins lucrativos

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bit.ly



UNICEF ✓

@unicef · Organização sem fins lucrativos

cleaning hands
wearing masks
coughing, sneezing safely
keeping distant
opening windows

We are **to beat COVID-19**

WE ARE IN THIS TOGETHER

#InThisTogether

World Health Organization

We **recommend** using face masks when:

- You are in a **confined or crowded** public space
- You are **vulnerable** to severe COVID-19
- You have a **sick person** in your household

#COVID19

mensagem

ecdc



European Centre for Disease Prevention and Control - ECDC ✓

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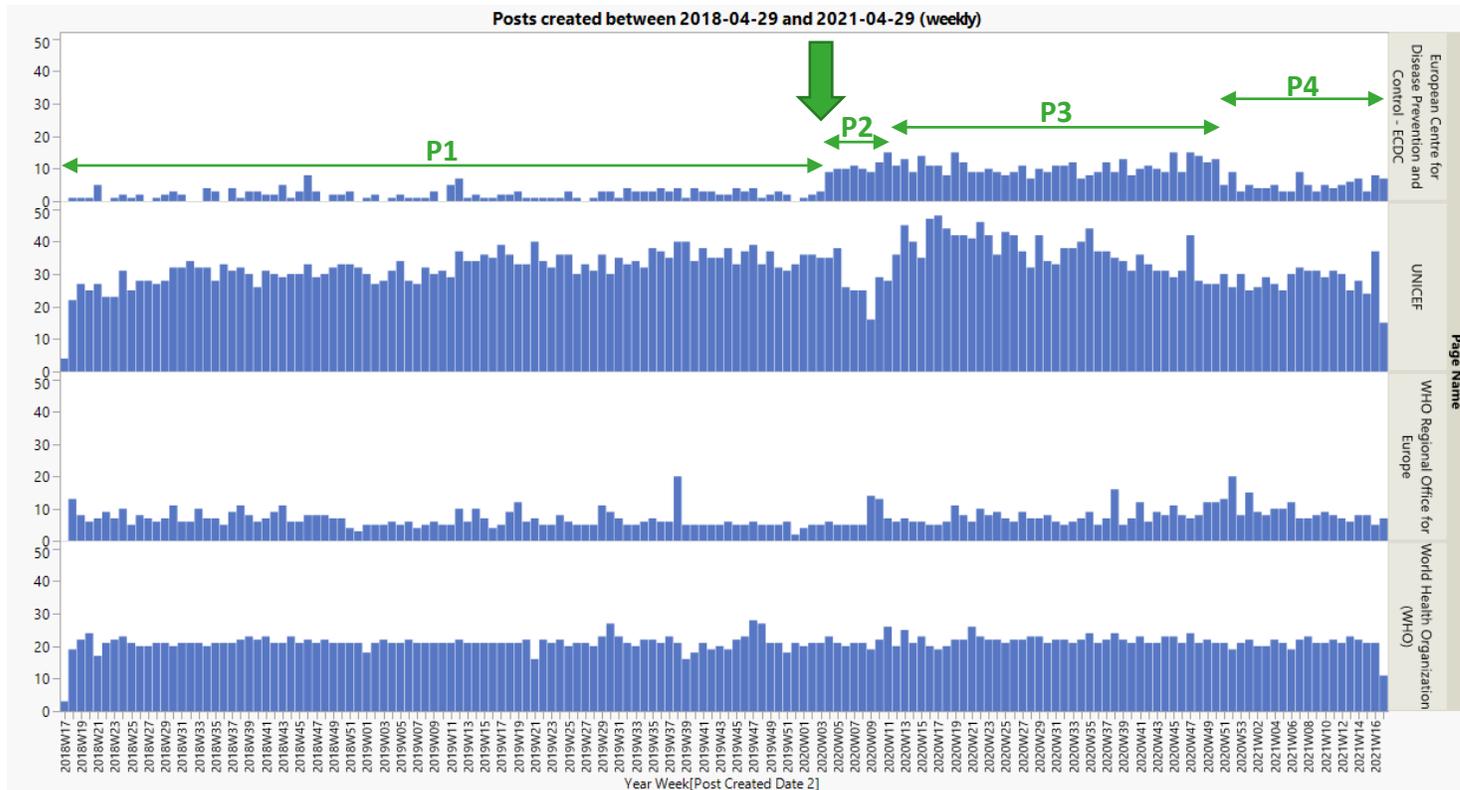
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Data and Methods

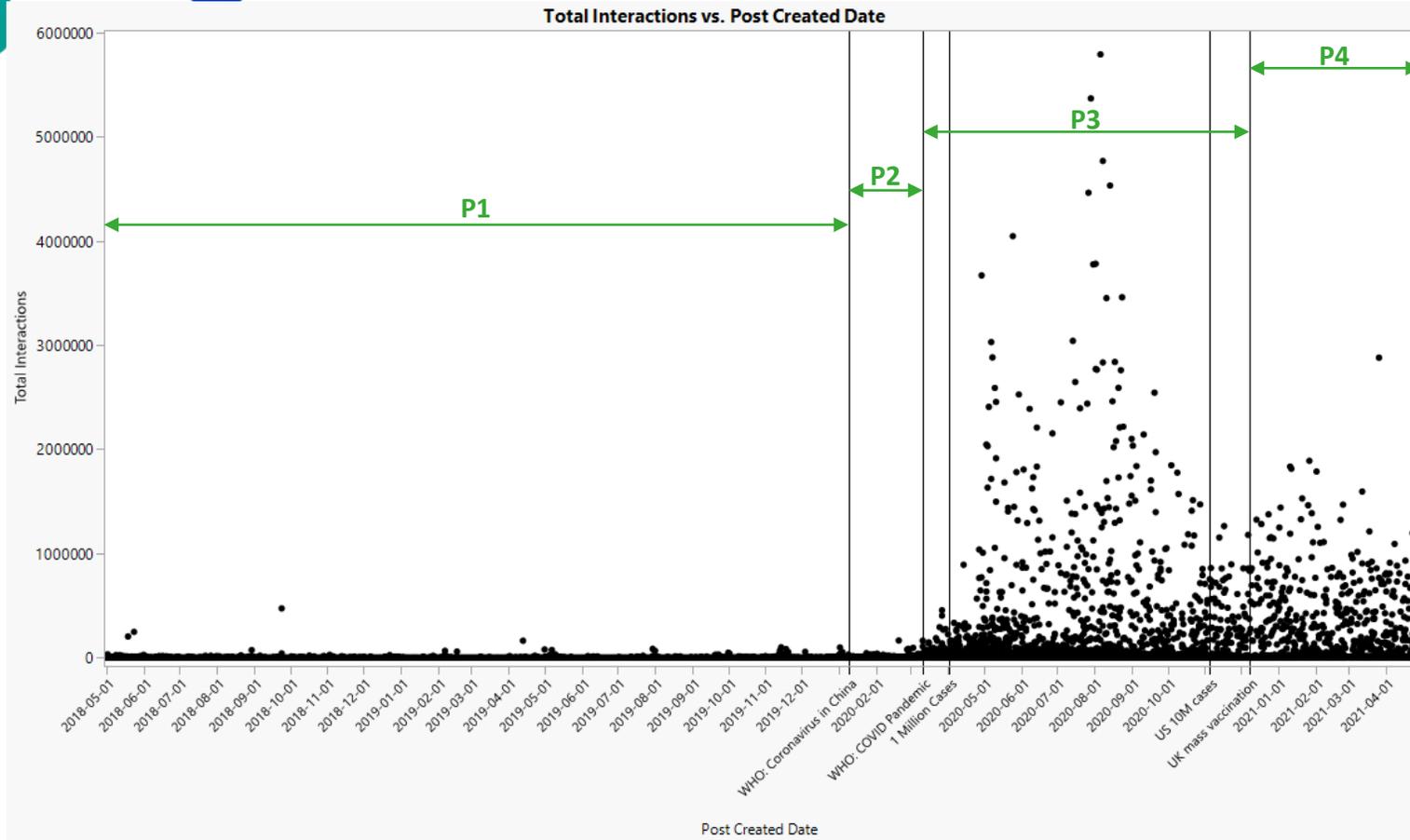
- Variables:
 - Relevant KPIs: total interaction, likes, comments, shares, relative engagement given the number of followers of the page at posting date
 - Publication date
 - Text of the message: posts including word “covid”
 - 4 periods:
 - P1 - before January 4, 2020, when WHO reported a cluster of pneumonia cases in Wuhan, China
 - P2 – January 4 to March 10, 2020, before WHO declaration of COVID-19 Pandemic
 - P3 – March 11 to December 7, 2020, pandemic before vaccination
 - P4 – December 8, 2020 to April 29, 2021, pandemic during mass vaccination
- An exploratory statistical analysis was applied with software JMP®Pro 15.2.0

Results: Posting activity

The number of posts published before and during the pandemic is not very different for UNICEF, WHO Global and WHO ROE, but increases for ECDC, perhaps indicating a change regarding its online communication strategy to reach out more directly to populations.



Results: Total interaction (likes, comments, shares)

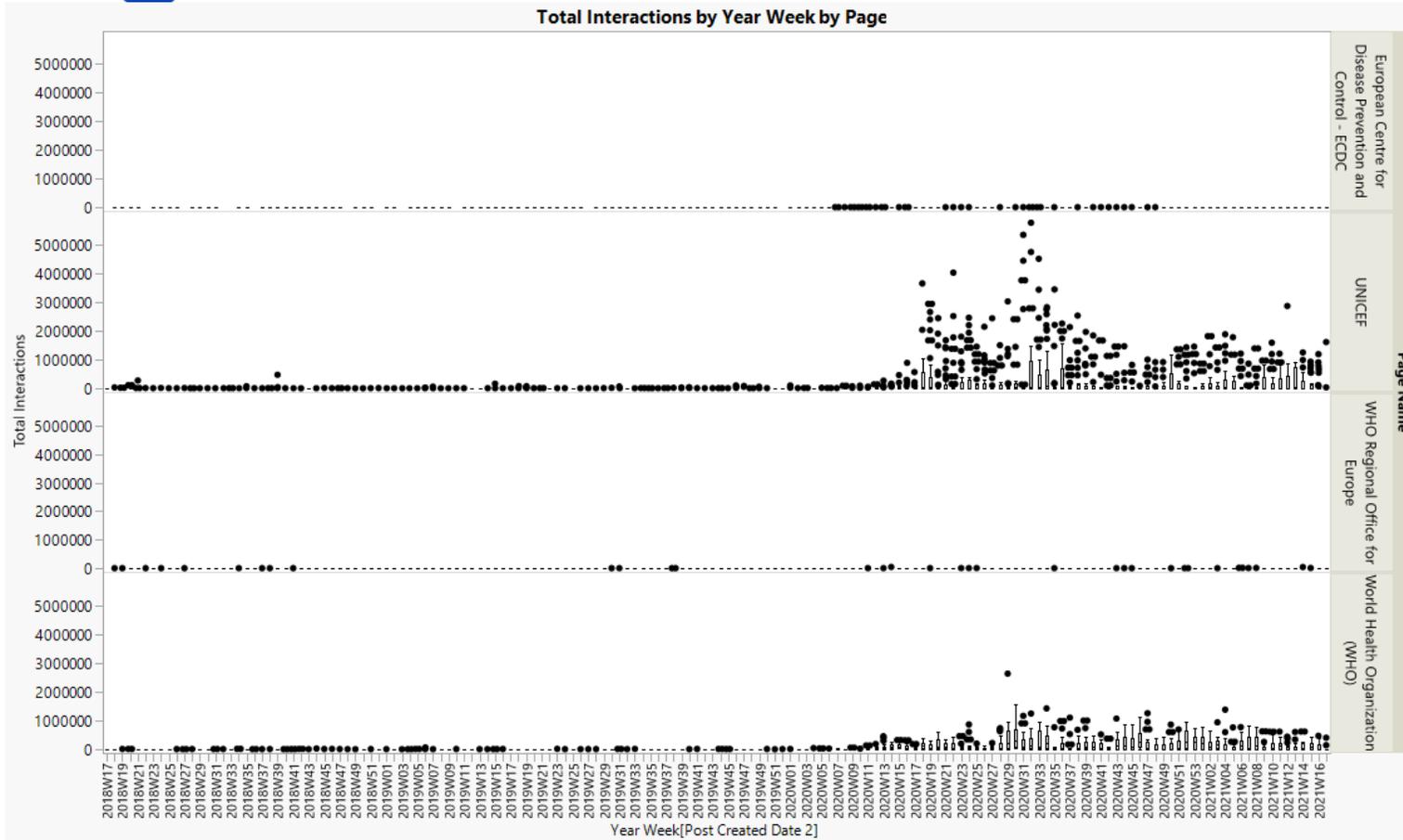


Engagement with Facebook posts was quite small during P1 (less than 2,600 interactions per post).

Compared to P1, it

- almost doubled throughout P2 (5,110 interactions per post),
- was 57 times higher on P3 when the pandemic was declared (148,611 interactions per post) and
- 52 times higher on P4, with the beginning of mass vaccination (136,081 interactions per post).

Results: Total interaction by Page



UNICEF and WHO Global present a higher relative engagement than WHO ROE and ECDC, perhaps due to a larger audience, but maybe also to a more effective digital strategy after the pandemic was declared.

Results: Mean interaction

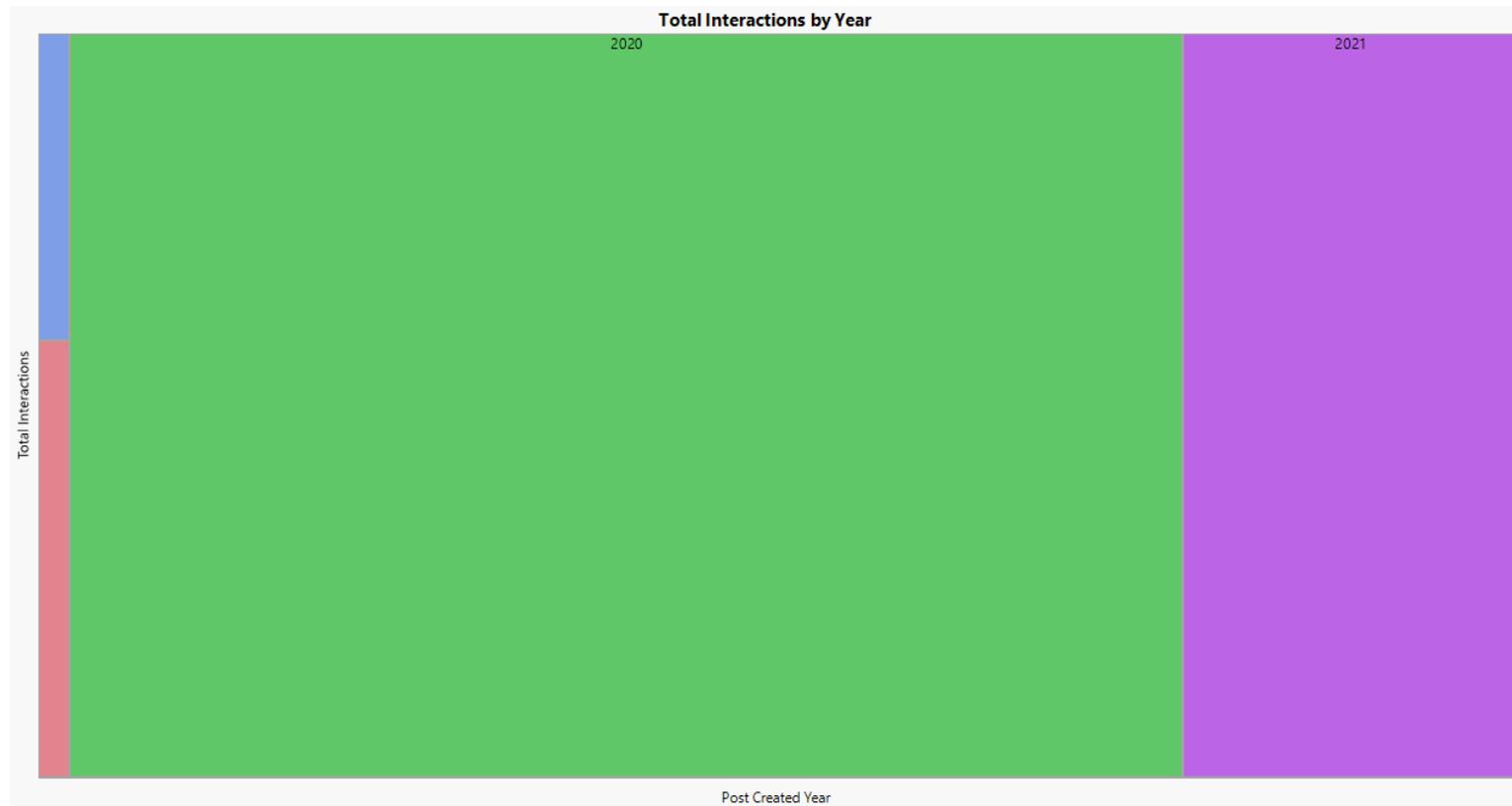
The mean interaction per post increased between 1.2 and 3.0 times for all the agencies when comparing P2 with P1.

However, when comparing P3 with P1, it increased 5.0 and 9.7 for ECDC and WHO ROE, respectively, but 52.8 and 71.3 for WHO Global and UNICEF.

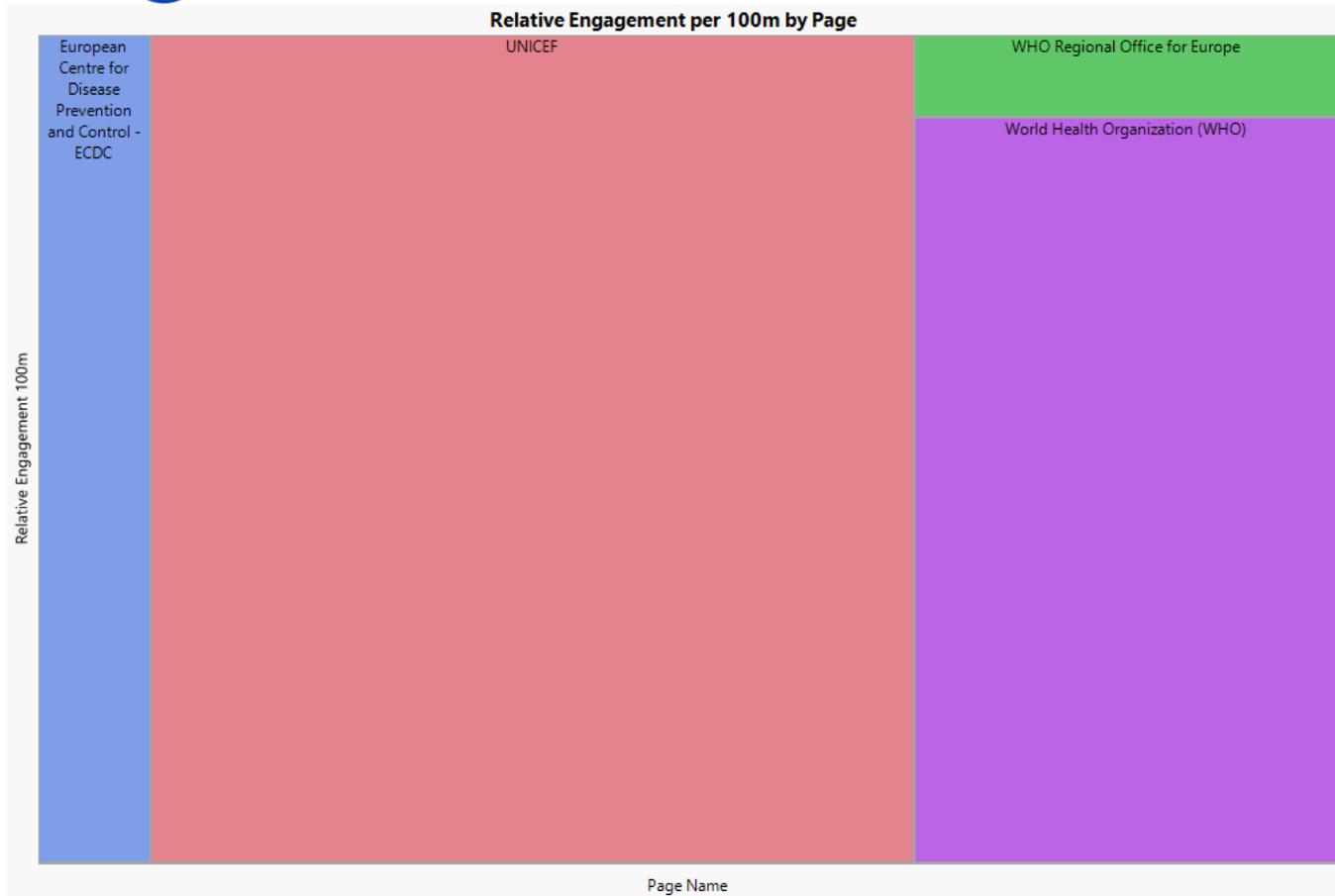
	ECDC		UNICEF		WHO ROE		WHO Global	
	Mean Interaction per Post	Comparing with P1	Mean Interaction per Post	Comparing with P1	Mean Interaction per Post	Comparing with P1	Mean Interaction per Post	Comparing with P1
P1 Before WHO Wuhan An <Jan9	61.31		3 016.97		75.64		3 011.92	
P2 Before Pandemic Jan9-Mar10	141.46	2.31	5 003.21	1.66	92.81	1.23	9 067.85	3.01
P3 Pandemic before Vacc Mar11-Dec7	306.89	5.01	215 014.88	71.27	735.00	9.72	159 070.66	52.81
P4 Vaccination	309.35	5.05	188 421.85	62.45	1 145.89	15.15	161 370.84	53.58

Results: Total interaction by Year

2020 dominates the total number of interactions over the study period, but the first quarter of 2021 is “promissing” regarding engagement.



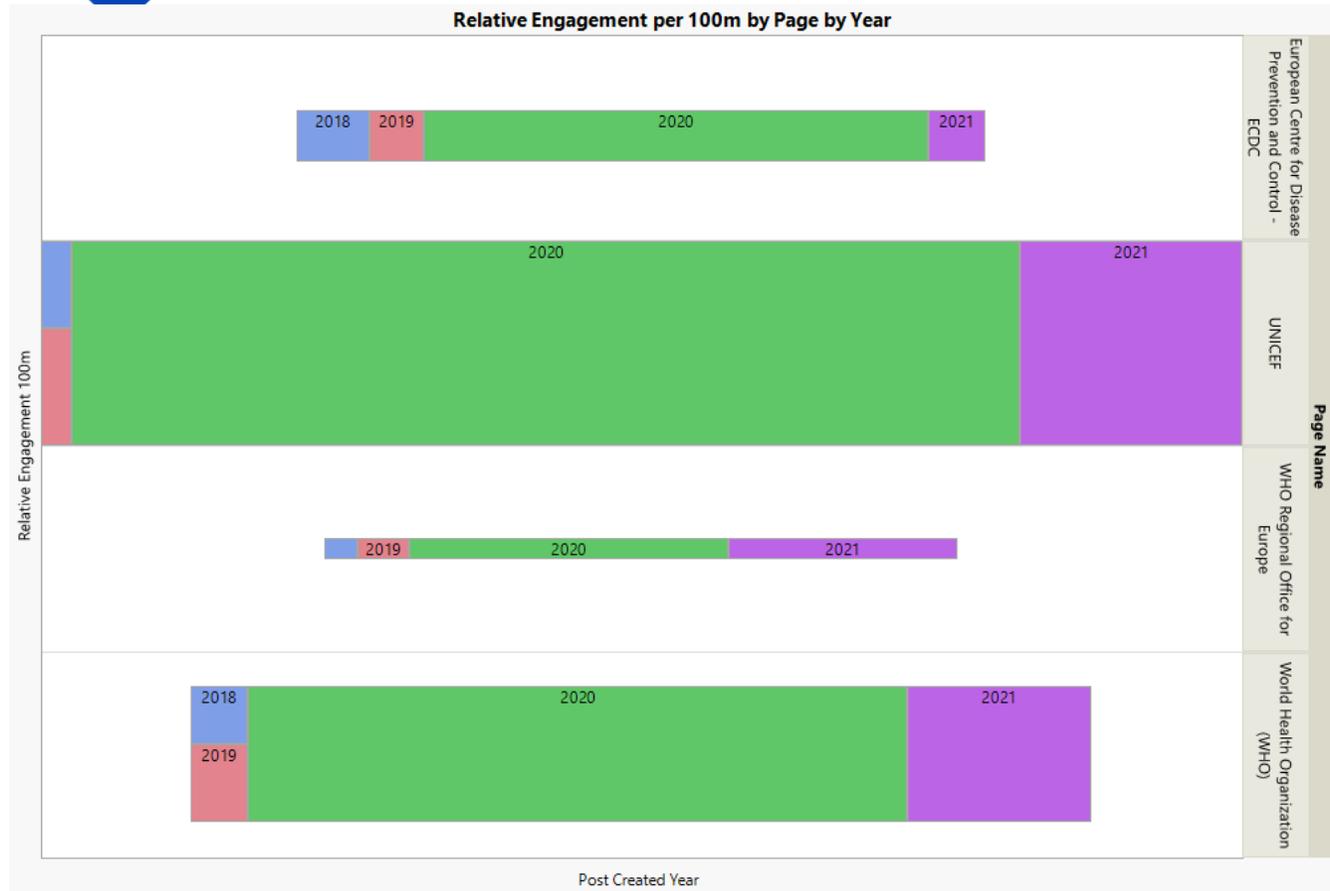
Results: Relative Engagement by Page



Relative engagement (per 100.000 people who liked each page) shows UNICEF to have an especially effective communication performance, followed by WHO Global.

ECDC presents a more effective engagement performance than WHO Europe.

Results: Relative Engagement by Page by Year

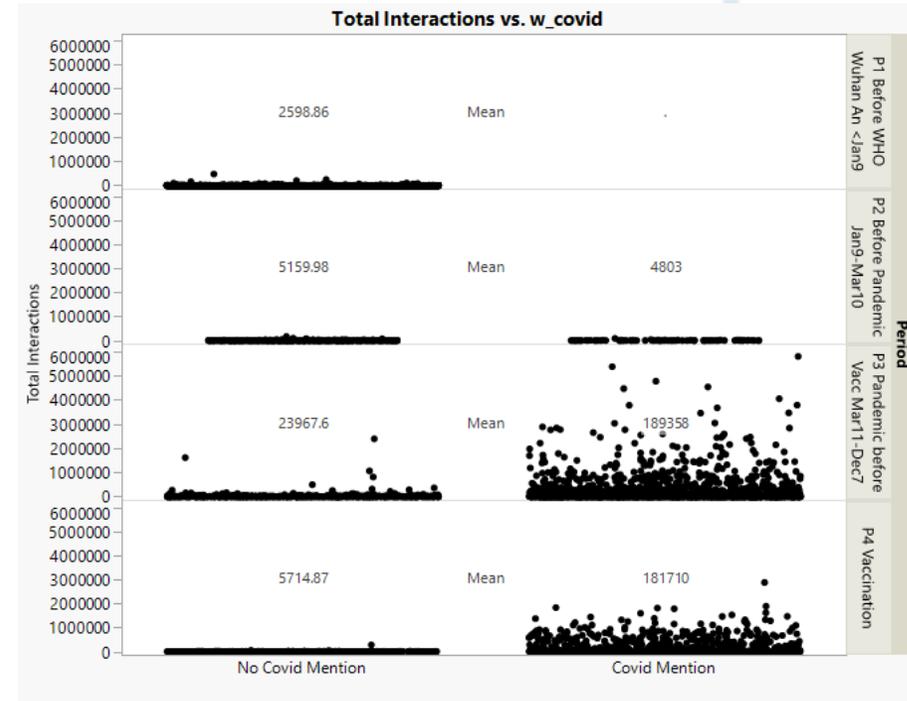
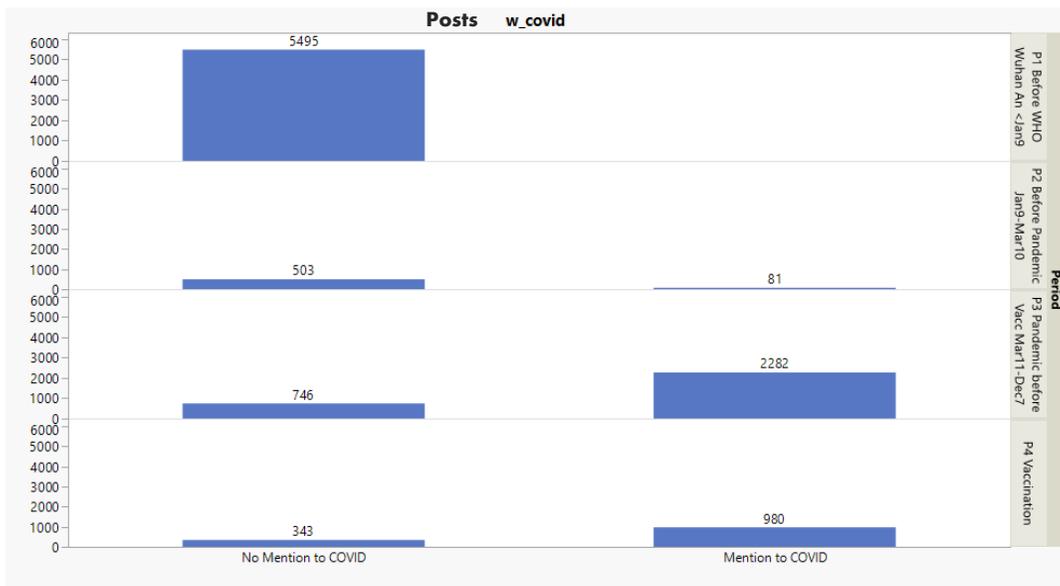


The distribution by year of relative engagement within each institution seems to present a similar pattern.

Although WHO Europe may be having a better performance on the first quarter of 2021, compared with 2020.

Results: “Covid” mention

During P3, the first pandemic period, posts including “COVID” in their text presented 7.9 times more mean engagement than posts with no “COVID” mention, while during P4, with mass vaccination undergoing, posts including “COVID” in their text presented 31.8 times more mean engagement than posts with no “COVID” mention.



Conclusions

- The COVID-19 pandemic and social media such as Facebook allowed international agencies to reach out more directly to populations, that are eager to obtain health information and appease their doubts and fears.
- An effective digital strategy is increasingly becoming a powerful health promotion tool to prevent the harmful effects of infodemics.
- An even greater effort is necessary in the future to further improve the digital performance on social media.

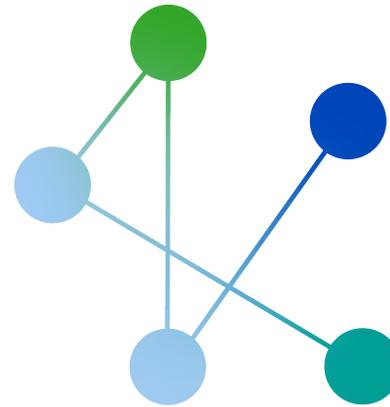


About PHIRI

The Population Health Information Research Infrastructure for COVID-19 (PHIRI) aims to identify, access, assess and reuse for research population health and non-health data in Member States and across Member States that can underpin public health policy decisions relevant to Covid-19.

PHIRI is funded by the EU's Horizon 2020 research and innovation programme.

The PHIRI project covers 41 partners in 30 European countries.



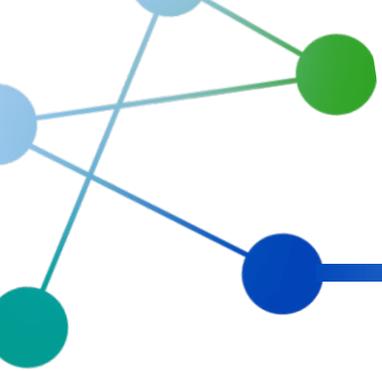
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www.phiri.eu

PHIRI.coordination@Sciensano.be

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Thank you!

Corresponding author:
Leonor Bacelar-Nicolau
lnicolau@medicina.ulisboa.pt