

18th of December 2020



**An Evidence Based campaign modeling social norms and behavior  
to improve COVID-19 vaccine acceptance in healthcare workers in  
the Netherlands**

5.1.2e 5.1.2e & 5.1.2e

### **Scientific Expertise on Effective Health Campaigning**

We are living in extraordinary times and experiencing an unprecedented threat, due to the COVID-19 outbreak. This not only affects our health, but also torpedos our social and economic well being. The **purpose** of our movement, *Influencing for Health*, is to develop, utilize and study *evidence based health campaigns* as powerful tools to combat imminent public health issues, such as the Corona pandemic. In the absence of a vaccine or medication, changing behaviour currently is **our best weapon** in the battle against COVID-19. In a first study trial to use (social) media to improve personal hygiene, we reached more than 2 million people in the Netherlands and demonstrated significant improvement. One key success factor was to study the biggest gaps in understanding and awareness first, and design the intervention based on these findings and latest insights in the science of behavioural medicine and economics (via Duke University). In addition, we studied the results of the intervention in a follow up survey. This work has been published by the prestigious journal JAMA Open Network (Yousuf, JAMA ON 2020).

In a study performed in November 2020 in the Netherlands, we used (social) media to combat misinformation and hesitancy surrounding (Influenza) vaccinations. With this effort, we reached more than 2.500 people, mostly elderly (mean age 69 y/o), who are at greater risk for developing severe cases for COVID-19. By implementing (1) an informational and educational video with social norms modeling vs (2) an informational and educational video with social norms modeling *and active debunking of vaccination myths*, in a randomized fashion, we found that the addition of debunking strategies to social norm modelling and information resulted in substantially stronger rejection of misconceptions, including (1) vaccinations cause Autism Spectrum Disorders, (2) vaccinations weaken the immune system, and (3) influenza vaccination would hamper the COVID-19 vaccine efficacy. Addition, of debunking methods also resulted in enhanced trust in governmental initiatives. This study is under consideration by Nature Aging.

**Team****1. Project leaders**

5.1.2e Amsterdam UMC (VUmc), Amsterdam, NL

5.1.2e 5.1.2e, 5.1.2e Amsterdam UMC (VUmc), Amsterdam, NL

5.1.2e 5.1.2e, Influenza Stichting Nederland, Amersfoort, NL

**2. Advisory board**

5.1.2e University of Cambridge, Cambridge, UK

5.1.2e Mount Sinai Hospital, New York, NY, USA

5.1.2e Duke University, Durham, NC, USA

5.1.2e VU University, Amsterdam, NL

5.1.2e NL Film / Levitate Film, Amsterdam, The Netherlands

5.1.2e Divimove / Content production, Boxmeer, The Netherlands

**3. Academic Team**

5.1.2e Columbia Business School, Columbia University, New York, NY, USA

5.1.2e 5.1.2e Center for Advanced Hindsight, Duke University, Durham, NC, USA

5.1.2e UMCU, Utrecht, NL

5.1.2e Amsterdam UMC (VUmc), Amsterdam, NL

5.1.2e Amsterdam UMC (VUmc), Amsterdam, NL

## Background

Recent news indicated that vaccination against COVID-19 will start on the 8th of January 2021. The firsts to receive the vaccination will be healthcare workers, ones mostly working with elderly and disabled patients (home care). A major challenge will be to convince a sufficient proportion of healthcare workers and citizens worldwide to accept vaccination for COVID-19. In 2019, the World Health Organization (WHO) declared vaccine hesitancy as one of the top ten global health threats. Vaccination has a tremendous impact on the health of the global population and saves an estimated 3-4 million lives globally every year, many of which are children. However, history is filled with examples where, false or true, concerns about the safety and necessity of vaccination led to drops in immunisation coverage and resurgence of disease. The WHO recently declared an "infomedic", seeing an uprising in anti-vax myths and individuals who actively spread fake news messages fueling distrust of scientific expertise, governments and health organizations. One striking example is the renewed vaccine hesitancy against measles vaccination, which has led to recent measles outbreaks in the United States, whereas measles had been largely eradicated. This disinformation and distrust movement has been excelling even more during the COVID-19 pandemic, and could pose great challenges to public acceptance of the emerging vaccines against COVID-19.

Utilizing traditional routes of messaging through institutions or physicians to improve vaccination rates for influenza seems ineffective. For instance, a randomised trial using patient portal reminders to boost influenza vaccination coverage showed a significant but clinically very small increase from 37.5% to 38.2% vaccination coverage, using 3 reminders. These data suggest that a large scale effort using low cost email reminders from patient portals is an *ineffective* way to promote influenza vaccination coverage (Szylagi, JAMA Int Med 2020).

This calls for effective methods to counteract misinformation and behavior regarding vaccine hesitancy.

### **Influencing For Health: How we work**

With the brightest minds in behavioural science, medical science and media, we study and design Public Health campaigns, based on public surveys, with the aim to repair the uncovered gaps in the understanding and behaviour. Another unique aspect of our studies is that the interventions will be delivered by powerful social influencers and mass media. Finally, we investigate campaign effectiveness by doing follow-up assessment of awareness and understanding of the vaccinations and their preventive effect. **The interventions** will be designed in a collaborative effort by a global scientific team, consisting of scientists, including [REDACTED] and [REDACTED] [REDACTED] (Duke University), [REDACTED] (Columbia University) [REDACTED] (Cambridge University), [REDACTED] [REDACTED] (Mount Sinai Heart), [REDACTED] and [REDACTED] (Amsterdam UMC), [REDACTED] (Erasmus MC) [REDACTED] or [REDACTED] (VU Amsterdam). The research consortium has scientifically reported on the use of a daily drama series on television, as a means to influence awareness on health in youth ([REDACTED] and the reframing of second hand smoke harm to influence public opinion ([REDACTED]). A general model of the study set up is given below in the figure.

### **Study proposal to investigate the effects of a large scale behavioral campaign and intervention, to improve willingness to take a Covid-19 vaccine in the Netherlands**

In the current proposal, we will use a stepwise approach to improve willingness to take a COVID-19 vaccine, and decrease vaccine hesitancy in healthcare workers in the Netherlands

#### **Objectives**

- A. Improve knowledge and awareness about the COVID-19 vaccine in healthcare workers
- B. Actively debunk misinformation about the COVID-19 vaccine in healthcare workers
- C. Improve the vaccine acceptance of the COVID-19 vaccine in healthcare workers

**Estimated project duration:** 6 weeks

**To be executed steps**

**Step 1 - December 2020**

**Obtaining Medical Ethical Review Board permission**

Adapting the survey to investigate the current gaps in understanding and awareness of the impact of COVID-19 and the benefits of COVID-19 vaccination) - Amsterdam UMC, Duke University, Cambridge

**Step 2 - December 2020**

**Investigate the current gaps in understanding and awareness.** For this purpose we will distribute the adapted survey designed under step 1, to assess COVID-19 burden awareness, the benefits of COVID-19 vaccination and the confidence to adopt vaccination as a concept in general. Distribution via the various health care worker Societies (nurses, doctors etc). These data will help to better understand the awareness of the impact of the benefits of COVID-19 vaccination. In addition, we aim to uncover a general confidence in vaccination as a whole - Amsterdam UMC, Media Partners, Social Influencer

**Step 3 - December 28-29th 2020 and January 4th - 6th 2021**

**Design of intervention based on diagnostic survey outcome.** Analyse and utilize information obtained through the survey collected via step 2 to design an intervention with the aim to repair the most prominent gaps. Intermediate result reporting to VWS. Design and script writing of an intervention video, using the expertise of a well known social influencer (5.1.2e) and movie producer (5.1.2e). Video will be shot January 4th, editing on January 5th and 6th, launch January 7th-8th.

**Step 4 - January 7th - end of January 2021**

(1) Distribution of the video and webinar through the various healthcare worker societies (nurses, doctors etc.), (2) Media attention through Tijd voor MAX, with (5.1.2e) (5.1.2e) who will specifically

target viewers who are healthcare workers to elevate vaccine acceptance.

#### Step 5 - February 2021

**Measurement of the impact of intervention.** Assessment of the impact of the intervention through a follow-up survey, containing identical questions as the diagnostic survey, plus questions on the level of exposure to the interventions. Distribution of the follow-up survey via the Societies involved.

**Analysis and reporting.** Analysis of the data, reporting to parties that supplied the funding, press release and scientific reporting - Amsterdam UMC

#### Budget

Activity	Hours	Cost per hour	Total	
METC	25			
Survey adaption to healthcare workers	35			
Behavioral Design for intervention and campaign	40			
Clinical Epidemiologist for analysis and survey development	45			
Project Specific Researcher assistants	150			
Content production - Evidence based script writing - Evidence based video production - Webinar for healthcare workers	NA	5.1.1c	5.1.1c	
Principal Investigator				
5.1.2e	48			
Project supervision and management				
5.1.2e	100			
				ex. BTW
				inc. BTW