

Vaccine Hesitancy

Session 4: COVID-19 Vaccine Development and Rollout

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Goals of today's session

- Introduce the topic of vaccine hesitancy, historically, locally, and globally
- Clearly distinguish vaccine hesitancy (attitudes/perceptions/psychological state) from vaccine uptake/under-immunization (behavior)
- Provide context about and study results from the National Research
 Programme 74 study on vaccine hesitancy and under-immunization in Switzerland
- Talk about vaccine hesitancy and implementation around COVID-19 vaccination, globally and locally

Among ten threats to global health in 2019

Vaccine hesitancy

Vaccine hesitancy – the reluctance or refusal to vaccinate despite the availability of vaccines – threatens to reverse progress made in tackling vaccine-preventable diseases. Vaccination is one of the most cost-effective ways of avoiding disease – it currently prevents 2-3 million deaths a year, and a further 1.5 million could be avoided if global coverage of vaccinations improved.

Measles, for example, has seen a 30% increase in cases globally. The reasons for this rise are complex, and not all of these cases are due to vaccine hesitancy. However, some countries that were close to eliminating the disease have seen a resurgence.





Accessed June 2, 2019 https://www.who.int/emergencies/tenthreats-to-global-health-in-2019

This isn't a new phenomenon



Clarifying terminology

- WHO Strategic Advisory Group of Experts (SAGE) on Vaccine Hesitancy defined vaccine hesitancy as a "delay in acceptance or refusal of vaccination despite availability of vaccination services" (MacDonald, 2015, p. 4163)
- This definition has been criticized for the following reasons:
 - 1. VH is often discussed as a behavior, whereas hesitancy is a psychological state
 - 2. VH is used as an umbrella term that incorrectly includes people who have actively chosen not to vaccinate
 - 3. VH can be wrongly be used as a causal explanation for underimmunization, whereas social determinants of health, such as pragmatics, access, inadequate services, or policies, may play more import roles in uptake (Bedford et al., 2018)

Clarifying terminology (continued)

- From a global perspective, a systematic review showed that, "(...) there was no universal algorithm; the independent and relative strength of influence of each factor is complex and context-specific varying across time, place and vaccines" (Larson et al. 2014, p. 2155)
- It is important to distance ourselves from the pro- and anti- vaccine dichotomy by "getting past polarization in the public discourse" (Brunson and Sobo, 2017)
- Anti/pro stances do not accurately reflect the range of views people have: ambivalence; vaccine-specific views; context-specific views; views can change over time



Social science literature: multifaceted deteriminants

- Influences can come from personal, social, and cultural networks (Brunson 2013, Poland & Brunson 2015, Peretti-Watel et al. 2015)
- Multitude of available information: 'information overload' (Yaqub et al. 2014, Witteman et al. 2012, Kata 2010, Betsch et al. 2012, Sobo et al. 2016)
- Divergence in sociological variables related to under-immunization:
 - I.e. White, educated, upper-middle class women vs. Black, less educated, impoverished women in the United States (Reich 2016)
- Medical practitioners' influence
 - Trust between providers and patients (good relationships): key factors (Salmon et al. 2008, Opel et al. 2013, Verger et al. 2015)
 - Other important factors: time, information, communication styles (Opel et al. 2013, Davis et al. 2001, Kimmel et al. 2003, Bryant et al. 2009, Opel et al. 2012)
 - The literature focuses on biomedicine and biomedical approaches

The Swiss Context: Vaccination Coverage

- Vaccination is on a voluntary basis
- Swiss Federal Office of Public Health (FOPH) makes recommendations and communicates them to the public
- Generally high coverage (depending on the vaccine) which has remained stable, or slightly increased, over the last 20 years
 - We tend to miss the herd immunity target of 95% for measles
 - Large variability in human papillomavirus (HPV) vaccine coverage between the cantons [(19% (Appenzell Innerrhoden) to 79% (Valais)]
- Generally: French and Italian-speaking cantons > German-speaking cantons
- Measles cases tend to cluster around anthroposophic schools (i.e. Rudolf Steiner, Waldorf) and certain complementary and alternative medicine (CAM) providers

The Swiss Context: CAM attitudes, use, and practices

- Favorable attitudes towards complementary and alternative medicine (CAM) (i.e. 25-50% of the population report use and/or expresses positive attitude towards CAM services)
- Reimbursement through basic mandatory health insurance when provided by medical doctors with training in:
 - Anthroposophic Medicine
 - Traditional Chinese Medicine/Acupuncture
 - Homeopathy
 - Phytotherapy (herbal medicine)
- Researchers have found associations between VH, under-immunization, and CAM use but have not established a causal relationship
 - → **This relationship has (until now) been understudied in Switzerland**

National Research Program 74

- National study, 4 years (2017 2021)
- Two research phases: Mixed-methods approach
 - 1) Qualitative phase (German and French-speaking CH)
 - Semi-structured interviews
 - Parents
 - Providers (CAM and biomedical)
 - Observation of medical consultations
 - 2) Quantitative phase (German, French, and Italian-speaking CH)
 - PACV15 Telephone survey^(Opel et al. 2013) + other questions based on qualitative findings
- Year 4 Pilot Intervention
 - Working with providers and their vaccination knowledge and clinical vaccination communication practices



Overall findings from Swiss study on vaccine hesitancy (NRP74)



BMJ Open, 2019



Social Science & Medicine, 2019



Social Science & Medicine, 2020



Qualitative findings from Swiss study on vaccine hesitancy

- Majority of CAM providers were not categorically opposed to vaccination
 - They expressed ambivalent/favorable vaccination attitudes
 - Most framed vaccination decisions as choices at individual/family levels rather than focusing on public health
- Biomedical doctors described difficult consultations with vaccine hesitant patients, describing them as 'problem patients'
 - This elicited many dilemmas about the roles of 'good' and 'bad' doctors and 'good' and 'bad' patients
- Parents emphasized the importance of trust, affect, and choice, with many explaining how trust was a prerequisite for productive vaccination consultations
 - Some parents described biomedicine and health authorities as being influenced by financial interests
 - Many parents criticized 'one-size-fits-all' approaches
 - Vaccine hesitant parents sought out the "truth" and perceived CAM providers as offering "neutral information"
- Several publications currently in final drafting and publication pipeline strategies stay tuned!
 - Healthcare professional and healthcare authorities' perspectives on HPV vaccination strategy, programs, and implementation in Switzerland
 - Longitudinal inter-professional focus group discussions with various biomedical and CAM practitioner and health authority/federal vaccination commission stakeholders

Quantitative findings from Swiss study on vaccine hesitancy (NRP74)

Several publications currently in final drafting and publication pipeline stages – stay tuned!

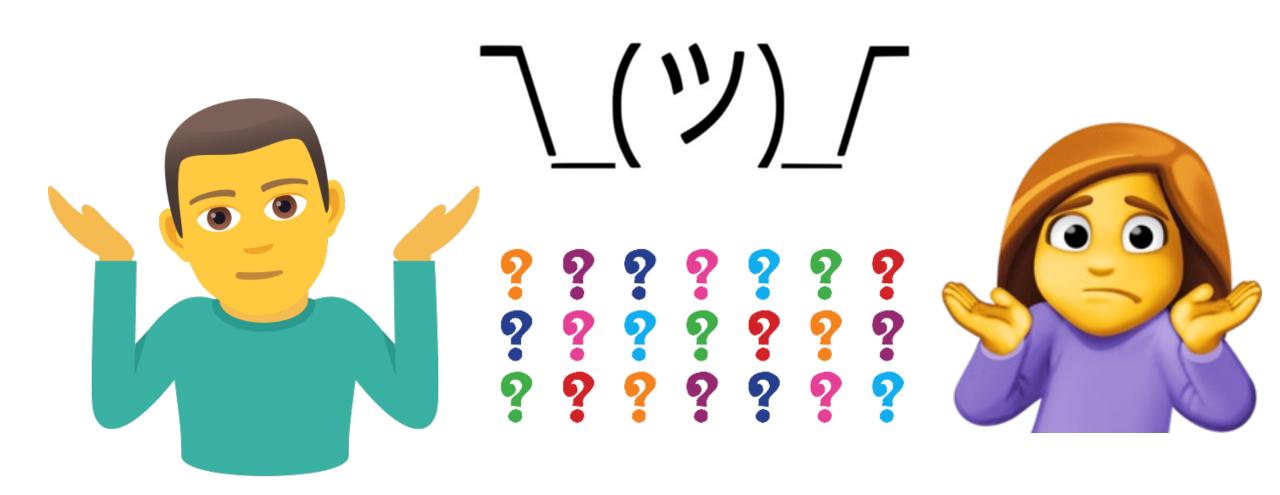
Total quantitative sample:

- 1,390 parents of children 0-11 years old (childhood vaccination sub-studies)
- 1,001 adolescents/youth 15-26 years of age: 588 male, 413 female (HPV vaccine sub-studies)
- 112 physicians/providers (72 biomedical-only physicians, 40 physicians with additional CAM training)

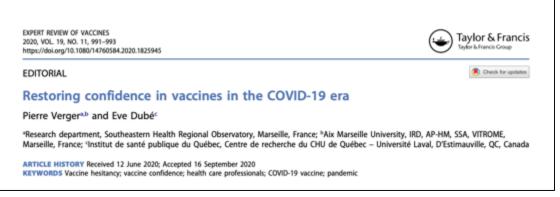
Results concerning:

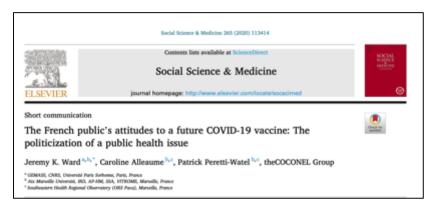
- Adolescent, youth, knowledge, awareness on HPV vaccination
- Parents' information seeking behaviors and satisfaction in and trust of medical providers
- Moral Foundations Questionnaires and associations between vaccine hesitancy and uptake
- Latent class analysis of different sociodemographic profiles: are there certain profiles (latent classes) associated with vaccination uptake behaviors and/or attitudes?

So...what about vaccine hesitancy and COVID-19...?

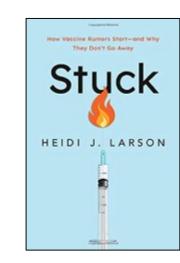


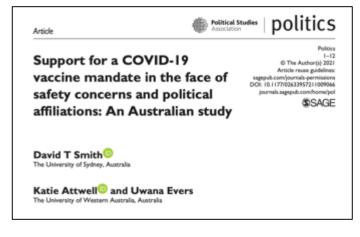
On an international scale, some helpful references

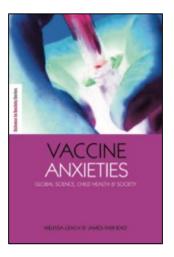












Ongoing COVID-19 vaccination related research in Switzerland (1) - Stay tuned!

Quantitative study

Sample: General population in Switzerland (national data)

Methods: longitudinal study, monthly surveys (January 2021 – ongoing)

Objectives:

- 1. Estimate the prevalence of COVID-19 vaccine uptake and intended COVID-19 vaccine uptake
- 2. Estimate the prevalence of adverse events following COVID-19 vaccination
- 3. Measure pre-defined reasons for COVID-19 vaccine uptake intentions (i.e. chronic conditions, desire to protect others, allergies, etc.)
- 4. Measure trust in public health institutions and pharmaceutical companies
- 5. Measure in-depth predictors of vaccination intention
 - 23 survey items related to COVID-19 vaccine beliefs, attitudes, recommendations, and information sources of recommendations

Results: More soon!





Corona Immunitas
https://www.corona-immunitas.ch/
Data regularly reported to
Swiss Federal Office of Public Health
Contact: Prof. Viktor von Wyl
University of Zürich
viktor.vonwyl@uzh.ch

Ongoing COVID-19 vaccination related research in Switzerland (2) - Stay tuned!

Qualitative study

<u>Sample</u>: Staff working in nursing homes & institutes for people with disabilities (Ticino data) <u>Research question</u>: How do staff in nursing homes in institutes for people with disabilities in Ticino make COVID-19 vaccination decisions?

Aims:

- 1. Explore individual agency and rationality: motivations, beliefs, attitudes, "good reasons"
- 2. Illustrate norms and social worlds influencing these choices

<u>Theory & methods</u>: grounded theory approach & in-depth, qualitative telephone interviews with heterogenous sample of 25 study participants

Results: More soon!



Corona Immunitas

https://www.corona-immunitas.ch/

Dr. Marta Fadda

Università della Svissera italiana

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Conclusions: Looking forward

- Clear guidance from the health authorities and public health authorities will be essential
- Maintaining trust in public health officials, scientists, and healthcare professionals is fundamental
- Clear, transparent communication about what we know and what we cannot yet know is key
- In order to have high-quality, equitable implementation programs, we need to have high-quality, interdisciplinary research to understand how individuals make vaccination-related decisions.
 - This takes resources (time, energy, money) and strong social science researchers who can engage effectively in transdisciplinary settings and stakeholders who are willing to listen to social science researchers

Thank you!

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Claudine Burton-Jeangros, Sociology, University of Geneva Benedikt Huber, Pédiatrie Intégrative, Kantonsspital Fribourg Constanze Pfeiffer, Sonja Merten, Swiss TPH, University of Basel Kristen Jafflin, Institut für Soziologie, University of Basel, Swiss TPH Andrea Buhl, University of Basel

Bernhard Wingeier, Daniel Krüerke, Klinik Arlesheim **Mirjam Mäusezahl-Feuz,** Bundesamt für Gesundheit BAG/OFSP

Andreas Zeller, Universitäres Zentrum für Hausarztmedizin beider Basel Christoph Berger, Co-Chefarzt, Infektiologie, Kinderspital Zürich, Präsident Eidg. Kommission für Impffragen (EKIF)

Dedicated group of medical and pharmacy students from the University of Basel







UNIVERSITÉ



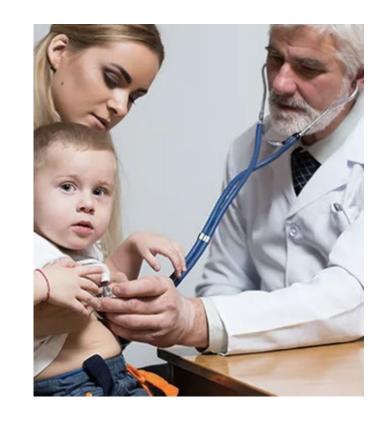






NRP 74's Qualitative Research Questions

- 1. How do parents make vaccination decisions for their children in Switzerland?
- 2.How do medical providers (CAM and biomedical) consider what recommendations to make to their patients regarding vaccinations in Switzerland?
- 3. How do medical providers discuss children's vaccines with parents in Switzerland?



Interview Guides – Topics Covered

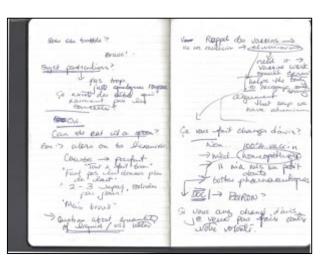
Medical Providers

- Background, training, contextual information about the provider
- Thoughts on vaccination, information sources on vaccinations, benefits and risks, public health and individual choice considerations
- Swiss recommendations and vaccination rates
- Interactions with patients about vaccination
- Questions patients have, time spent on consultations, recommendations, etc.

Parents

- Family backgrounds, sociodemographic information, parental roles in health decisions, daycare/school
- Children's health, healthcare, and lifestyle
- Thoughts on vaccination, information sources, and experiences with them
- Vaccination decision-making process
- School and daycare roles in vaccination
- Patient-provider interactions concerning vaccinations

Medical Consultation Observations



Ethnographic observations: note taking

Narrative format

The doctor then changed subjects as she walked over to the other side of the examination table to tell the mother that there were scheduled booster vaccinations for today ("rappel des vaccins") and asked if they were going to continue the vaccination schedule that they had agreed on. The mother looked a bit hesitant to say what she was about to say but then mentioned that she had been wondering about the aluminum that was in vaccinations. She looked embarrassed to say that she had seen a homeopathic doctor and that he had been quite adamant in telling the mother that there was aluminum in vaccines. The doctor seemed a bit annoyed that she had to address this question but then she slowly explained that the other provider was correct that there was aluminum in some vaccines. She explained that there was aluminum in vaccines in small amounts so that the vaccinations could correctly prompt the immune system to react and to activate in order to make the necessary antibodies as a reaction to the vaccine. The doctor also then explained that there was another argument about aluminum that says that we are exposed to aluminum in many different ways throughout our lifetime and that the amount in vaccines was not anything to worry about.

The observation:

- What was the reason for the consultation?
- Who initiated the vaccination discussion?
- Was there a certain reason for discussing vaccinations?
 - o Regular doctor's visit?
 - o Issue of vaccination specifically brought up by parent?
 - o Child or other children ill with a vaccine-preventable disease?
 - o Other?
- Which vaccinations were discussed?
 - DTP-HIB-IPV (Diphtheria, pertussis, Haemophilus infuenzae, Polio)
 - MMR (measles, mumps, rubella)
 - HPV
 - Other
- How was the discussion regarding vaccinations initiated/lead (by the physician)?
 - Presumptive (i.e. "Today we are going to do some vaccines")
- Participatory (i.e. "What do you think about doing vaccinations today?")
- Did the parent(s) ask any questions about vaccines? What were they?

Medical Consultation
Observation Guide

Qualitative Study Participants

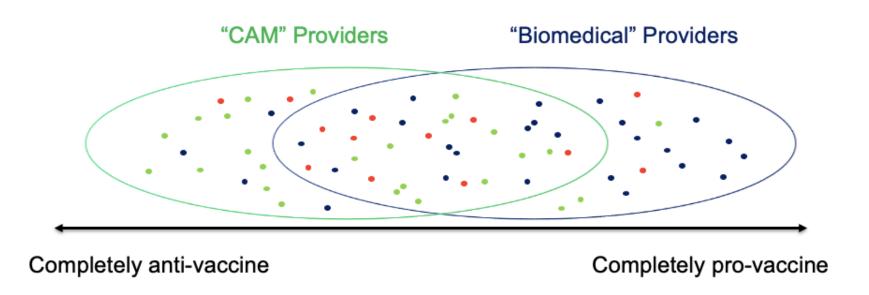
Providers	Romandie	Deutschschweiz	Total
Biomedical	11	9	20
CAM*	7	10	17
Total	18	19	37
Parents	Romandie	Deutschschweiz	Total
No expressed vaccine hesitancy	2	6	8
Expressed vaccine hesitancy	11	11	22
Total	13	17	30
Medical Consultation Observations	Romandie	Deutschschweiz	Total
Biomedical	7	9	16
CAM	10	8	18
Total	17	17	34

Overview of results

- 1) Findings from interviews/observations with **CAM providers**
- 2) Findings from interviews/observations with biomedical providers
- 3) Findings from interviews/observations with parents



Vaccine hesitancy-acceptance spectrum



Parents who consult both "CAM" and "biomedical" providers

Parents who consult "biomedical" providers

Parents who consult "CAM" providers

1. "We treat humans, not herds!"

- CAM providers framed vaccination decisions as choices at individual and family levels rather than focusing on public health benefits and consequences.
- Findings challenge recurring narratives depicting CAM providers as categorically antivaccination
- CAM providers' approaches included taking time to understand parents' wishes, involving them in decisions, and taking their concerns seriously.





"We treat humans, not herds!": A qualitative study of complementary and alternative medicine (CAM) providers' individualized approaches to vaccination in Switzerland



Michael J. Deml^{a,b}, Julia Notter^{b,c,1}, Paulina Kliem^{b,c}, Andrea Buhl^b, Benedikt M. Huber^d, Constanze Pfeiffer^{a,b}, Claudine Burton-Jeangros^{e,**}, Philip E. Tarr^{b,c,*}

Vaccination as "veterinary medicine"

Dr. Laurin (anthroposophic medicine)

"We now know that there are not two individuals who are exactly the same. However, for me, vaccination comes from the practice of veterinary medicine. They're now referring to us as herds! (...) That's not human medicine for me, especially when it's practiced in a mandatory way."

Emphasizing individualized choices

Dr. Ferrard (homeopathic medicine) on vaccination discussions with parents:

"I go over [the vaccines] one-by-one. And for each one, I ask [the patients] what type of information they had sought out. What information do they already have? What are their concerns about vaccinations? (...) I tell them the Federal Office of Public Health recommendations. Then, I tell them my information."

2. "Problem patients" and "physicians' failures"

• Will elaborate upon these findings on the Friday, April 23, 2021 session 'Deviant' health behaviors: resistance, passivity, ignorance. The social science perspective

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'Problem patients and physicians' failures': What it means for doctors to counsel vaccine hesitant patients in Switzerland



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3. "I don't want my stomach in knots every time I see my son's doctor!"

- Parents' decisions were framed against biomedical norms, discussions with partners, family members, and social networks, relationships to biomedicine/CAM, and information-seeking behaviors
- Decisions tended to be gendered mothers generally made the decision
- Not always a direct relationship between use of CAM, biomedicine, and (non)vaccination. Parents enacted different types of knowledge (i.e. experiential, relational, emotional, biomedical, CAM-like-epistemologies (i.e. natural/chemical free) in their decision-making
- Trust and distrust were fundamentally important for decisions about children's health and well-being and where parents sought healthcare
 - Choice and individualized information
 - Affect, emotion, and social proximity
- We particularly focused on parents' transition from seeking care from biomedical doctors to CAM doctors

Trust in information sources

Some parents' trust in their children's doctors outweighed other sources of information that might have otherwise influenced their vaccination choices. **Mrs. Crevoisier** explained:

I skimmed 1 or 2 books which I closed rather quickly. In one, it said one thing. In the other, it said exactly the opposite. (...) So, I said to myself, 'It's going to be my trust in the homeopathic doctor. He is my reference point. He is my partner for my children's health.

Changing pediatricians

Ms. Besse, 27-year-old mother of 1-year-old son:

I switched pediatricians recently (...). [The first one] had been very open to my choice to not vaccinate, but then, the father talked to her about it again. At our last check-up, she said to me, 'But you don't realize, he could die!' That really upset me because, while I accept that a pediatrician can disagree with me, she shouldn't make me feel guilty. It's not the role of a doctor. I need someone with whom I am at ease. (...) I don't want to have my stomach in knots every time I go see her because I have certain ideals!

Feeling "forced" to vaccinate

Mrs. Chappuis, 30-year-old mother of 2 daughters:

[The pediatrician] forced me to vaccinate against the flu and whooping cough, but I'm absolutely against the flu vaccine. I had my little 3-week-old baby in my arms, and the doctor said, 'You know, if she gets the flu, she can die. If she gets whooping cough, she can die, too. You're not vaccinated against these diseases." (...) She said to me, "If you don't do it, your child is going to die." What's a mother supposed to do? You don't want your child to die.

Mrs. Chappuis described how her children's homeopathic pediatrician had earned her trust by not taking her "for an idiot" and "taking the time to have a discussion." She explained how the pediatrician engaged in the vaccination consultation without judgment, "He told us right off, 'I happily vaccinate. I am willing to not vaccinate if you don't want to. There is no judgement. You decide. (...) We really made an informed choice. It was a real choice. It wasn't imposed upon us."

Conclusions from NRP74 Qualitative Results

- Public health framings around vaccination (i.e. 'one-size-fits-all') do not necessarily appeal to parents and all healthcare professionals
- Trust and emotions largely shape how people make vaccination decisions
- Addressing vaccine hesitancy and under-immunization require that (1) health systems
 ensure equitable access to vaccination and (2) that healthcare professionals can provide
 tailored messages that make sense to people in line with their values, emotions, and
 worldviews
- From a public health perspective, we should seriously consider:
 - adequate consultation time reimbursement, communication/knowledge training for both doctors in training and practicing doctors, shared decision-making, trends pushing for individualized approaches to healthcare, especially for issues with public health consequences

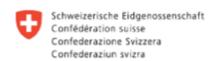
Conclusions from NRP74 Qualitative Results (continued)

- Researchers and practitioners should be attentive to the language they use when talking about vaccine hesitancy and vaccination choices (i.e. anti-vaxxers, irresponsible parents, etc.)
- Future work in Switzerland will benefit from quantitative methods seeking to examine some of these patterns and concepts on a larger scale:
 - i.e. satisfaction with medical encounters, healthcare provider selection, healthcare professionals' influence on vaccination attitudes and uptake, vaccine hesitancy's mediating effect on vaccination uptake, individuals' health information sources, and health information-seeking behaviors

Switching Gears -> Vaccine hesitancy and COVID-19

Discussion:

- What do you think are some of the similarities and differences between vaccine hesitancy for childhood vaccinations and vaccine hesitancy around COVID-19 vaccination?
- Based upon your reading of Dubé and MacDonald (2020), what are potential challenges we can anticipate in the coming months (maybe years?) around COVID-19 vaccination implementation?
- What have been some of the main issues we have seen so far?



Federal Office of Public Health FOPH

Coronavirus: Vaccination

News

The Comirnaty® vaccine from Pfizer/BioNTech was approved by Swissmedic on 19 December 2020. On the basis of the safety, efficacy and quality data the vaccine is suitable without age restrictions for all adults.

In the first phase, individual cantons can begin the first vaccinations for people in vulnerable groups on a step-by-step basis. Vaccinations will take place in specific settings such as old people's and care homes. Starting 4 January 2021, the vaccination of people in vulnerable groups and other priority groups will then start all over Switzerland.

Please find out from your canton where you can get the vaccination. You'll find a list of cantonal websites here: www.foph-coronavirus.ch/cantons 🗗

Watch the Swissmedic video ☑ to find out how the Pfizer/BioNTech vaccine works: How an mRNA vaccine works.

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https://www.bag.admin.ch/bag/en/home/krankheiten/ausbrueche-epidemien-pandemien/aktuelle-ausbrueche-epidemien/novel-cov/impfen.html

Vaccination acceptance and hesitancy in nursing homes and institutes for people with disabilities in Ticino





A qualitative study in Ticino 22.06.2021

Research question



How do staff employed in nursing homes and institutes for people with disabilities in Ticino make a decision about the covid-19 vaccination?



Aims

- Explore the **individual agency and rationality**: motivations, beliefs, attitudes, "good reasons"
- Illustrate norms and social worlds that influence the choice

A grounded theory design

- Useful to illuminate the experience of the individuals and how the social context shapes this experience
- Applied to unexplored and complex social phenomena
- Oriented to generate theories that are "grounded" in the data
- Importance of iterative design and constant comparison of data

Methods

- Comprehensive, interpretive study
- Combined purposive and snowball sampling methods
- Canton's involvement in recruiting participants in nursing homes
- In-depth, semi-structured interviews by phone (first on 3.2.2021)
- Interview grid developed based on literature and covid-19 specific features, **modified over time** based on the emergent findings
- Interviews are tape-recorded and transcribed verbatim
- Inductive analysis based on constant comparative method

Sample (N=25)

- 9 women, 13 men
- M_{age}=43.7 (range=26-61)
- 13 participants employed in institutes for people with disabilities and
 12 in nursing homes
- 11 social workers, 6 nurses, 1 physiotherapist, 1 socio-educational instructor, 1 administrative assistant, 1 trainee in social work, 2 laundry and cleaning employees, 2 directors
- 12 never get flu vaccination
- 16 signed up for the covid-19 vaccination or were f/p vaccinated

Main preliminary results: a "scientific story"

(Becker, 1998)

- 1. Contextual challenges for the vaccination decision
- 2. Decision-making styles
- 3. Supports/strategies to the decision-making process

